

The essential guide of Automation & Control

2011



The go to guide

for the most efficient selection

Make the most of your energy

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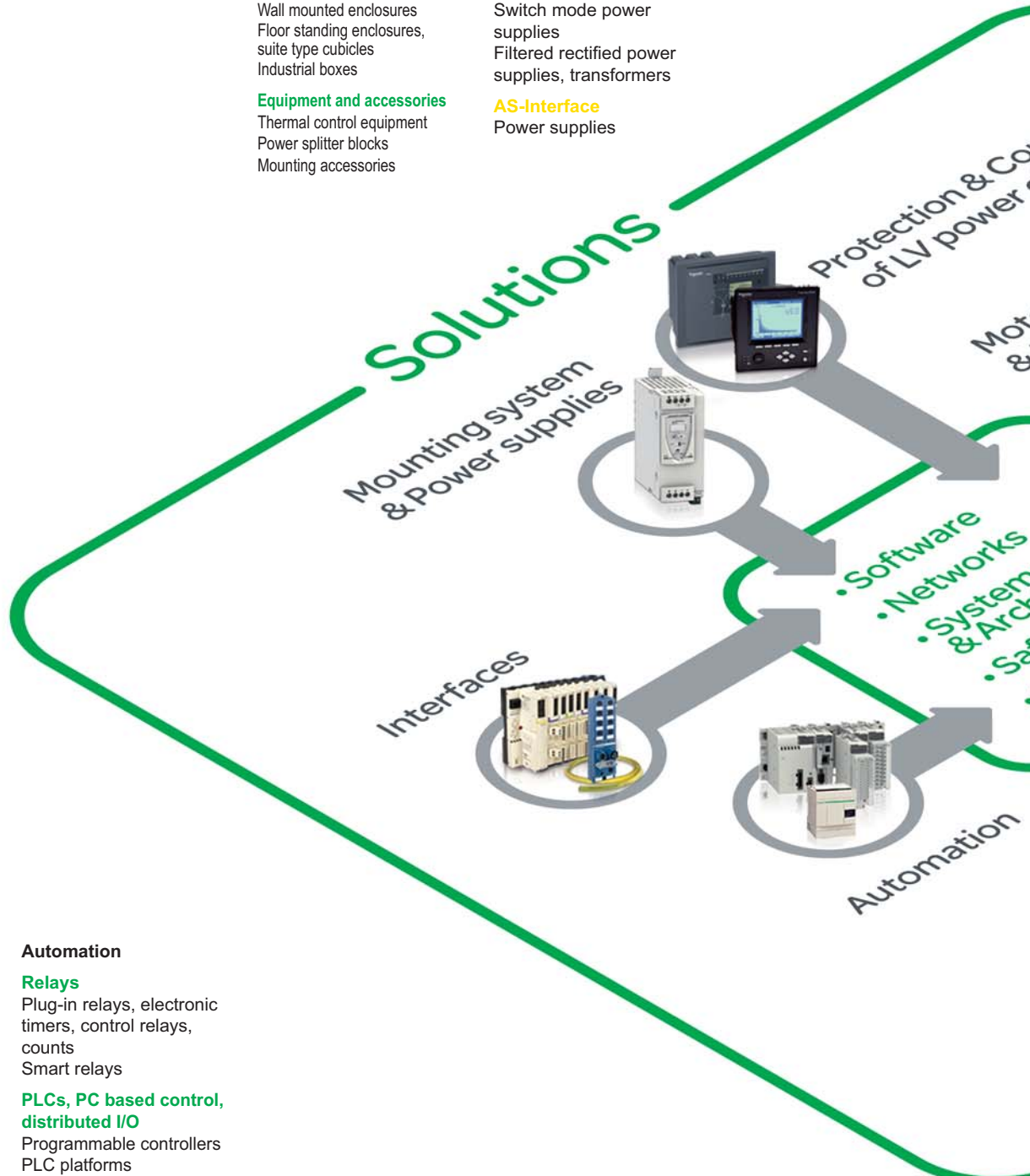
Power supplies

Power supplies

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AS-Interface

Power supplies



Automation

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Distributed I/O, I/O controllers

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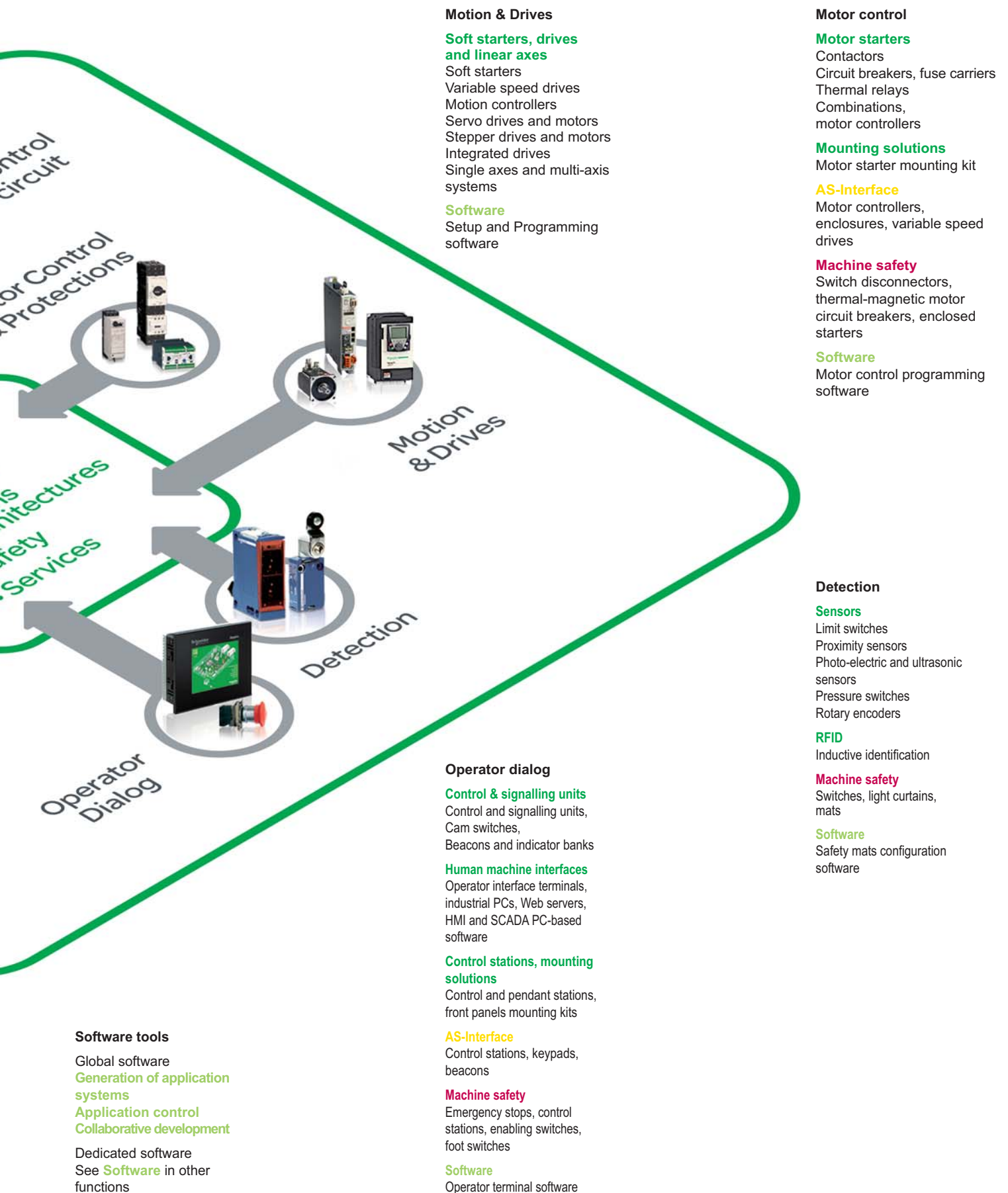
Systems & Architectures

Connecting Ethernet devices

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ation and Control functions

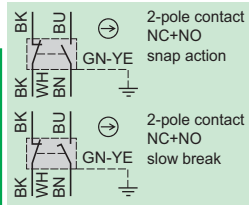


1 | Detection

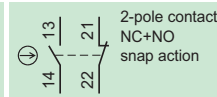


Limit switches	1/2 to 1/11
Detection by contact of rigid objects Object speed \leq 1.5 m/s, OsiSense XC	
Sensors for pressure control	1/12 to 1/17
Detection by contact with fluid Electronic or electromechanical pressure and vacuum switches, pressure sensors, OsiSense XM	
Inductive proximity sensors	1/18 to 1/28
Detection without contact of metal objects Sensor / object distance \leq 60 mm, OsiSense XS	
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Detection without contact of any object Detection from a few millimetres to several tens of metres, OsiSense XU	
Ultrasonic sensors	1/42 and 1/43
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Rotary encoders	1/44 and 1/45
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Radio frequency identification	1/46 and 1/47
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Sensors for explosive atmospheres See chapter 10 "Explosive Atmospheres"	

XCMD



XCKT



Miniature XCMD metal, pre-cabled; fixing by the body or by the head

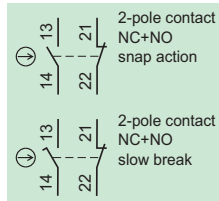
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Steel roller lever	Variable length thermoplastic roller lever	M12 head metal end plunger	
Mechanical durability (millions of operating cycles)	10	10	10	10	10	10	
Actuation speed (in m/s)	0.5	0.5	1.5	1.5	1.5	0.5	
Switches conforming to standard IEC 947-5-1 section 3	⊕	⊕	⊕	⊕	⊕	⊕	
Product certification	CE - UL - CSA - CCC						
Degree of protection conforming to IEC 60529	IP 66 and IP 67						
Rated operational characteristics	AC-15; B300 (Ue = 240 V, Ie = 1.5 A) / DC-13; R300 (Ue = 250 V, Ie = 0.1 A)						
Fixing centres (mm)	20					M12 x 1	
Body dimensions (mm) W x D x H	30 x 16 x 50						
Connection	Cable Pre-cabled, adjustable direction, length = 1 m (other lengths available on request)						
Complete switch	2-pole NC+NO snap action	XCMD2110L1	XCMD2102L1	XCMD2115L1	XCMD2116L1	XCMD2145L1	XCMD21F0L1
	2-pole NC+NO break before make, slow break	XCMD2510L1	XCMD2502L1	XCMD2515L1	XCMD2516L1	XCMD2545L1	XCMD25F0L1
	Connector	M12					
Complete switch	NC+NO snap action (M12-5 pins)	XCMD2110C12	XCMD2102C12	XCMD2115C12	XCMD2116C12	XCMD2145C12	XCMD21F0C12
	1C/O snap action (M12-4 pins) (1)	XCMD2110M12	XCMD2102M12	XCMD2115M12	XCMD2116M12	XCMD2145M12	XCMD21F0M12

(1) Although their design is identical to the pre-cabled switches, the switches incorporating an M12 4-pin connector cannot be marked with the symbol because they are single-pole C/O.

⊕ Positive opening operation.



XCKP/XCKD



⊕ Positive opening operation.

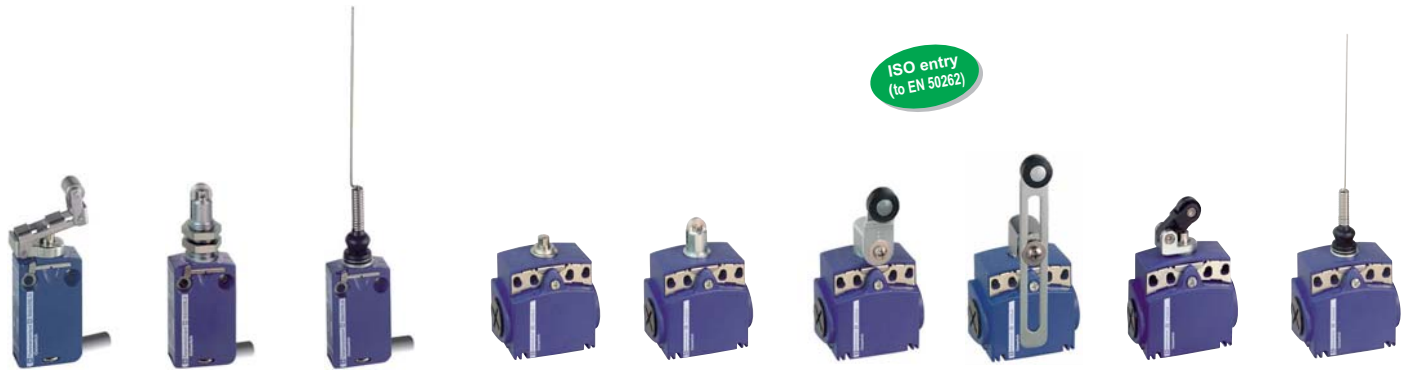


Compact XCKD metal and XCKP plastic conforming to standard EN 50047

Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	M18 head metal end plunger	M18 head steel roller plunger	
Mechanical durability (millions of operating cycles)	15	10	15	10	10	
Actuation speed (in m/s)	0.5	0.5	1	0.5	0.5	
Switches conforming to standard IEC 947-5-1 section 3	⊕	⊕	⊕	⊕	⊕	
Product certification	CE - CSA - CCC - GOST					
Degree of protection conforming to IEC 60529	IP 66 and IP 67					
Rated operational characteristics	AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (Ue = 250 V, Ie = 0.27 A)					
Cable entry	1 tapped entry for ISO M16 x 1.5 cable gland (3) or M12 connector					
Fixing centres (mm)	20	20	20	M18 x 1	M18 x 1	
Body dimensions (mm) W x D x H	31 x 30 x 65					
Metal switches						
Complete switch	2-pole NC+NO snap action	XCKD2110P16	XCKD2102P16	XCKD2121P16	XCKD21H0P16	XCKD21H2P16
	2-pole NC+NO break before make, slow break	XCKD2510P16	XCKD2502P16	XCKD2521P16	XCKD25H0P16	XCKD25H2P16
	2-pole NC+NO snap action (M12-5 pins)	XCKD2110M12	XCKD2102M12	XCKD2121M12	XCKD21H0M12	XCKD21H2M12
Plastic, double insulated switches						
Complete switch	2-pole NC+NO snap action	XCKP2110P16	XCKP2102P16	XCKP2121P16	XCKP21H0P16	XCKP21H2P16
	2-pole NC+NO break before make, slow break	XCKP2510P16	XCKP2502P16	XCKP2521P16	XCKP25H0P16	XCKP25H2P16
	2-pole NC+NO snap action (M12-4 pins)	XCKP2110M12	XCKP2102M12	XCKP2121M12	XCKP21H0M12	XCKP21H2M12

(3) For Pg 11 cable entries, replace P16 by G11. Example: XCKD2110P16 becomes XCKD2110G11.

For other cable entries, see customised assembly on page 1/34.



Compact XCKT plastic, 2 cable entries

Retractable steel roller lever plunger	M12 head steel roller plunger	"Cat's whisker"	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Thermoplastic roller lever plunger, horizontal actuation	"Cat's whisker"	"Cat's whisker"
10	10	5	15	10	10	15	5	5
0,5	0.1	1	0.5	0.5	1.5	1	1	1
⊖	⊖	–	⊕	⊕	⊕	⊕	–	–
CE - CSA - CCC - GOST								
IP 66 and IP 67								
AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (Ue = 250 V, Ie = 0.27 A)								
20	M12 x 1	20	20 or 40					
58 x 30 x 51								
2 tapped entries for ISO M16 x 1.5 cable gland (2)								
XCMD2124L1	XCMD21F2L1	XCMD2106L1	XCKT2110P16	XCKT2102P16	XCKT2118P16	XCKT2145P16	XCKT2121P16	XCKT2106P16
XCMD2524L1	XCMD25F2L1	XCMD2506L1	–	–	–	–	–	–
XCMD2124C12	XCMD21F2C12	XCMD2106C12	–	–	–	–	–	–
XCMD2124M12	XCMD21F2M12	XCMD2106M12	–	–	–	–	–	–

(2) For Pg 11 cable entries, replace P16 by G11. Example: XCKT2110P16 becomes XCKT2110G11.








Application - XCDR and XCPR with manual reset

Thermoplastic roller lever	Variable length Thermoplastic roller lever	Thermoplastic roller lever Ø 50 mm	"Cat's whisker"	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger, vertical actuation in 1 direction	Thermoplastic roller lever
10	10	10	5	1	1	1	1	1
1.5	1.5	1.5	1	0.5	0.5	1	1	1.5
⊖	⊖	⊖	–	⊕	⊕	⊕	⊕	⊕
CE - CSA - CCC - GOST								
IP 66 and IP 67								
AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (Ue = 250 V, Ie = 0.27 A)								
1 tapped entry for ISO M20 x 1.5 cable gland (4)								
20	20	20	20	20	20	20	20	20
31 x 30 x 95								
XCKD2118P16	XCKD2145P16	XCKD2139P16	XCKD2106P16	XCDR2110P20	XCDR2102P20	XCDR2121P20	XCDR2127P20	XCDR2118P20
XCKD2518P16	XCKD2545P16	XCKD2539P16	XCKD2506P16	XCDR2510P20	XCDR2502P20	XCDR2521P20	XCDR2527P20	XCDR2518P20
XCKD2118M12	XCKD2145M12	XCKD2139M12	XCKD2106M12	–	–	–	–	–
XCKP2118P16	XCKP2145P16	XCKP2139P16	XCKP2106P16	XCPR2110P20	XCPR2102P20	XCPR2121P20	XCPR2127P20	XCPR2118P20
XCKP2518P16	XCKP2545P16	XCKP2539P16	XCKP2506P16	XCPR2510P20	XCPR2502P20	XCPR2521P20	XCPR2527P20	XCPR2518P20
XCKP2118M12	XCKP2145M12	XCKP2139M12	XCKP2106M12	–	–	–	–	–

(4) For Pg 13.5 cable entries, replace P20 by G13. Example: XCDR2110P20 becomes XCDR2110G13. For other cable entries, see customised assembly on page 1/34.

Heads - common to miniature and compact bodies

Metal plunger and multi-directional heads

Description	Metal end plunger	Metal end plunger with protective elastomer boot	Steel roller plunger	Retractable steel roller lever plunger	Thermoplastic roller lever plunger, horizontal actuation
					
Reference	⊕ ZCE10	⊕ ZCE11	⊕ ZCE02	⊕ ZCE24 (2)	⊕ ZCE21









Metal rotary heads and levers

Description	Rotary head without lever, spring return, for actuation from LH or RH side	Thermoplastic roller lever, track: 24/31 mm (ZCMD) 29/36 mm (ZCD/P/T)	Steel roller lever, track: 24/31 mm (ZCMD) 29/36 mm (ZCD/P/T)	Thermoplastic roller lever, track: 16/39 mm (ZCMD) 21/44 mm (ZCD/P/T)	Steel roller lever, track: 16/39 mm (ZCMD) 21/44 mm (ZCD/P/T)
					
Reference	⊕ ZCE01	⊕ ZCY15 (2)	⊕ ZCY16 (2)	⊕ ZCY25 (2)	⊕ ZCY25 (2)

(1) Recommended for use with bodies: ZCD... / ZCP... / ZCT... (2) Recommended for use with bodies: ZCMD...







Bodies

Miniature

Type of contact																																			
Reference of metal body	ZCMD21	ZCMD39	ZCMD25	ZCMD37	–	ZCMD21C12	ZCMD21M12	–																											
Cable	<table border="1"> <tr> <td>L = 1 m</td> <td>–</td> <td>–</td> <td>–</td> <td>–</td> <td>ZCMD21L1 (3)</td> <td>–</td> <td>–</td> <td>ZCMD41L1</td> </tr> <tr> <td>L = 2 m</td> <td>–</td> <td>–</td> <td>–</td> <td>–</td> <td>ZCMD21L2 (3)</td> <td>–</td> <td>–</td> <td>ZCMD41L2</td> </tr> <tr> <td>L = 5 m</td> <td>–</td> <td>–</td> <td>–</td> <td>–</td> <td>ZCMD21L5 (3)</td> <td>–</td> <td>–</td> <td>ZCMD41L5</td> </tr> </table>								L = 1 m	–	–	–	–	ZCMD21L1 (3)	–	–	ZCMD41L1	L = 2 m	–	–	–	–	ZCMD21L2 (3)	–	–	ZCMD41L2	L = 5 m	–	–	–	–	ZCMD21L5 (3)	–	–	ZCMD41L5
L = 1 m	–	–	–	–	ZCMD21L1 (3)	–	–	ZCMD41L1																											
L = 2 m	–	–	–	–	ZCMD21L2 (3)	–	–	ZCMD41L2																											
L = 5 m	–	–	–	–	ZCMD21L5 (3)	–	–	ZCMD41L5																											

(3) For contact 2-pole NC+NO slow break, replace 21 by 25. Example: ZCMD21L1 becomes ZCMD25L1

Connection of miniature bodies

Specific pre-cabled connection components					Option: pre-wired M12 connector, L = 2 m	
	for ZCMD21	for ZCMD39	for ZCMD25	for ZCMD37	5-pin	4-pin
L = 1 m	ZCMC21L1	ZCMC39L1	ZCMC25L1	ZCMC37L1		
L = 2 m	ZCMC21L2	ZCMC39L2	ZCMC25L2	ZCMC37L2	ZXCP1164L2	ZXCP1141L2
L = 5 m	ZCMC21L5	ZCMC39L5	ZCMC25L5	ZCMC37L5		

⊕ Positive opening operation.

switches

1

Thermoplastic roller lever plunger, vertical actuation	M12 head metal end plunger	M18 head metal end plunger	M12 head steel roller plunger	M18 head steel roller plunger	Spring rod	Spring rod with plastic end	"Cat's whisker"
⊕ ZCE27	⊕ ZCEF0(2)	⊕ ZCEH0(1)	⊕ ZCEF2(2)	⊕ ZCEH2(1)	ZCE08	ZCE07	ZCE06

Thermoplastic roller lever, track: 20/36 mm (ZCMD) 24/40 mm (ZCD/P/T)	Steel roller lever, track: 20/36 mm (ZCMD) 24/40 mm (ZCD/P/T)	Ceramic roller lever	Variable length thermoplastic roller lever	Round, glass fibre rod lever Ø 3 mm L = 125 mm	Metal spring-rod lever	Thermoplastic roller lever Ø 50 mm	Adjustable thermo-plastic roller lever Ø 50 mm
⊕ ZCY18(1)	⊕ ZCY19(1)	⊕ ZCY22	⊕ ZCY45	ZCY55	ZCY91	⊕ ZCY39	⊕ ZCY49

Compact

Type of contact											
Ref. metal body	ZCD21	ZCD39	ZCD25	ZCD27	ZCD28	ZCD29	ZCD37	ZCD21M12	-		
Ref. plastic body	ZCP21	ZCP39	ZCP25	ZCP27	ZCP28	ZCP29	ZCP37	-	ZCP21M12		
	2-pole NC+NO Snap action	3-pole 2NC+1NO Snap action	2-pole NC+NO Slow break	2-pole NC+NC Slow break	2-pole NO+NO Slow break	2-pole NC+NC Snap action	3-pole 2NC+1NO Slow break	2-pole NC+NO - Snap action Connector 5-pin	Connector 4-pin	2-pole NC+NO Snap action	2-pole NC+NO Slow break
	ZCD21	ZCD39	ZCD25	ZCD27	ZCD28	ZCD29	ZCD37	ZCD21M12	ZCP21M12	ZCT21P16 (1)	ZCT25P16 (1)

Connection of compact bodies

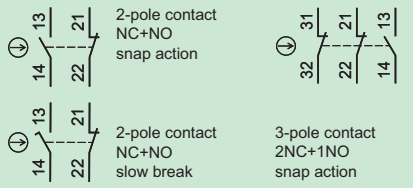
Interchangeable outlet for cable gland							Option: pre-wired M12 connector, L = 2 m	
Description	For ISO M16 cable gland	For ISO M20 cable gland	For Pg 11 cable gland	For Pg 13.5 cable gland	For 1/2" NPT cable gland	For PF 1/2 (G12) cable gland		
Metal	ZCDEP16	ZCDEP20	ZCDEG11	ZCDEG13	ZCDEN12	ZCDEF12	XZCP1164L2	XZCP1141L2
Plastic	ZCPEP16	ZCPEP20	ZCPEG11	ZCPEG13	ZCPEN12	ZCPEF12		

(1)
ZCT Pg 11 cable gland versions: replace the suffix P16 by G11. Example: ZCT21P16 becomes ZCT21G11
ZCT 1/2" NPT versions: replace the suffix P16 by N12 (adaptor). Example: ZCT21P16 becomes ZCT21N12
1 Cable entry 1/2" NPT
1 Cable entry Pg11

ISO entry
(to EN 50262)



XCKM



Type XCKM metal, 3 cable entries, XCKL metal, 1 cable entry

Type of operator	Metal end plunger	Steel roller plunger	Roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever	"Cat's whisker"
Mechanical durability (millions of operating cycles)	20	20	20	15	10
Actuation speed (in m/s)	0.5	0.5	1.5	1.5	0.5
Product certification	CE - UL - CSA - CCC - GOST - C-TICK - BV				
Degree of protection conforming to IEC 60529	IP 665				
Rated operational characteristics	AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (Ue = 250 V, Ie = 0.27 A)				
Cable entry (1)	XCKM	3 tapped entries for ISO M20 x 1.5 cable gland (2 entries fitted with blanking plugs)			
	XCKL	1 cable entry with cable gland			
Fixing centres (mm)	41				
Body dimensions (mm) W x D x H	XCKM / XCKL	64 x 30 x 64 / 52 x 30 x 72			

Complete switch XCKM	2-pole NC+NO snap action	⊕ XCKM110H29	⊕ XCKM102H29	⊖ XCKM121H29	⊖ XCKM115H29	XCKM106H29
	2-pole NC+NO, break before make, slow break	⊕ XCKM510H29	⊕ XCKM502H29	⊖ XCKM521H29	⊖ XCKM515H29	-
Complete switch XCKL	2-pole NC+NO snap action	⊕ XCKL110	⊕ XCKL102	⊖ XCKL121	⊖ XCKL115	XCKL106

(1) For Pg 13.5 cable entries delete the reference suffix H29. Example: XCKM110H29 becomes XCKM110.

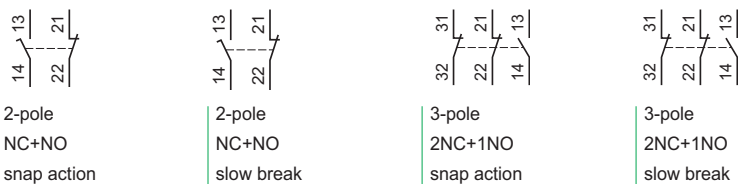
⊕ Positive opening operation.

Classic - XCKM, XCKL, Customised assembly - Body/contact sub-assemblies



Type XCKM metal, 3 cable entries

Type of contact



Reference of body with contact block	⊕ ZCKM1H29	⊖ ZCKM5H29	⊕ ZCKMD39H29	⊖ ZCKMD37H29
XCKL reference of body with contact block (2)	⊕ ZCKL1	⊖ ZCKL5	-	-
Reference of contact block only	⊕ XE2SP2151	⊕ XE2NP2151	⊕ XE3SP2141	⊖ XE3NP2141

(2) For cable entry 1/2" NPT, add H7. Example: XCKL1 becomes XCKL1H7

Operating heads, complete or for customer assembly



Complete switch

=



Body/contact assembly

+



Head

+



Lever

1

Rotary or multi-directional heads

metal head with thermoplastic roller lever

metal head with steel roller lever

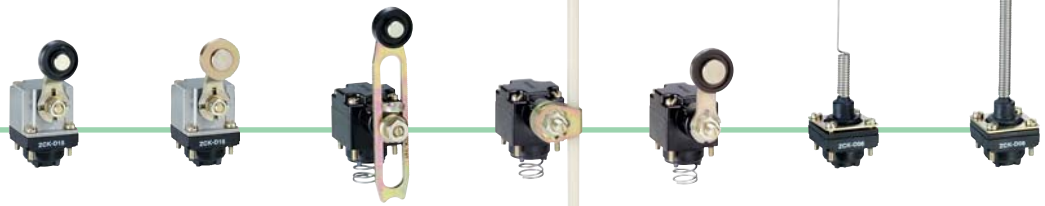
with variable length thermoplastic roller lever (2)

with Ø 6 mm thermoplastic rod L = 200 mm (3)

with thermoplastic roller lever (3) for actuation from left **AND** right or left **OR** right

with "Cat's whisker"

with spring rod



Reference

↻ ZCKD15

↻ ZCKD16

ZCKD41

ZCKD59

↻ ZCKD31

ZCKD06

ZCKD08

Plunger heads

with metal end plunger

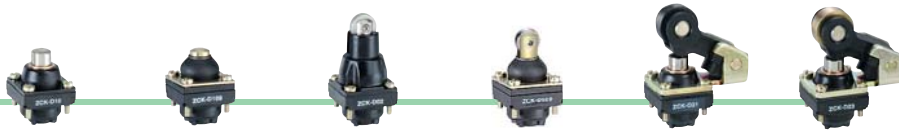
with metal end plunger and protective boot

with steel roller plunger

with steel roller plunger and protective boot

with thermoplastic roller lever plunger, horizontal actuation in 1 direction

with steel roller lever plunger, horizontal actuation in 1 direction



Reference

↻ ZCKD10

↻ ZCKD109

↻ ZCKD02

↻ ZCKD029

↻ ZCKD21

↻ ZCKD23

Rotary heads and separate levers

spring return, for actuation from left **AND** right or left **OR** right

lever with thermoplastic roller (2)

lever with steel roller (2)

variable length lever with thermoplastic roller (2)

variable length lever with steel roller (2)

rod, Ø 6 mm thermoplastic L = 200 mm (3)



Reference

↻ ZCKD05

↻ ZCKY31

↻ ZCKY33

ZCKY41

ZCKY43

ZCKY59

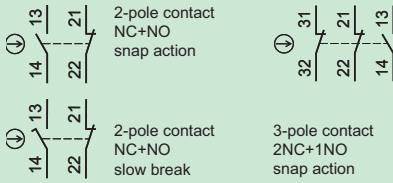
(2) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.

(3) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.

ISO entry
(to EN 50262)



XCKJ



Type XCKJ metal, fixed body, conforming to standard EN 50041

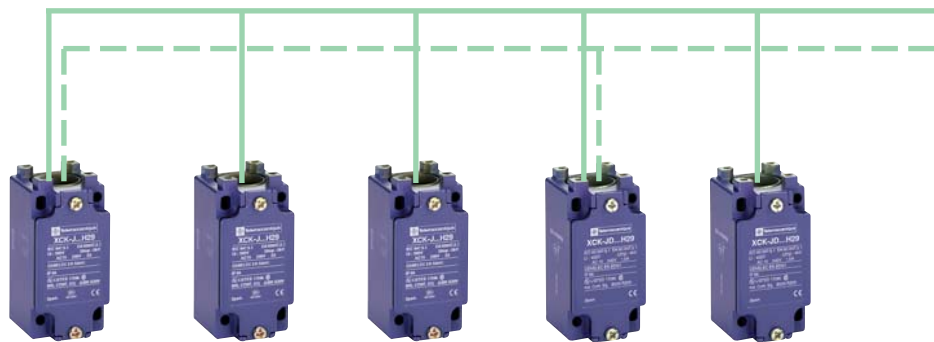
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Steel roller lever	Variable length thermoplastic roller lever	Polyamide Ø 6 mm rod lever L = 200 mm
Mechanical durability (millions of operating cycles)	30	25	30	30	30	30
Actuation speed (in m/s)	0.5	1	1.5	1,5	1.5	1.5
Product certification	CE - UL - CSA - CCC - GOST - C-TICK - BV					
Degree of protection conforming to IEC 60529	IP 667					
Rated operational characteristics	AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (Ue = 250 V, Ie = 0.27 A)					
Cable entry (1)	1 tapped entry for ISO M20 x 1.5 cable gland					
Fixing centres (mm)	30 x 60					
Body dimensions (mm) W x D x H	40 x 44 x 77					

Complete switch	M20	2-pole NC+NO snap action	⊕ XCKJ161H29	⊕ XCKJ167H29	⊕ XCKJ10511H29	⊕ XCKJ10513H29	XCKJ10541H29	XCKJ10559H29
		2-pole NC+NO break before make, slow break	⊕ XCKJ561H29	⊕ XCKJ567H29	⊕ XCKJ50511H29	⊕ XCKJ50513H29	XCKJ50541H29	XCKJ50559H29
	1/2" NPT	2-pole NC+NO snap action	⊕ XCKJ161H7	⊕ XCKJ167H7	⊕ XCKJ10511H7	⊕ XCKJ10513H7	XCKJ10541H7	XCKJ10559H7
		M12 5P	2-pole NC+NO snap action	⊕ XCKJ161D	⊕ XCKJ167D	⊕ XCKJ10511D	⊕ XCKJ10513D	XCKJ10541D

(1) For Pg 13.5 cable entry delete the reference suffix H29. Example: XCKJ161H29 becomes XCKJ161.

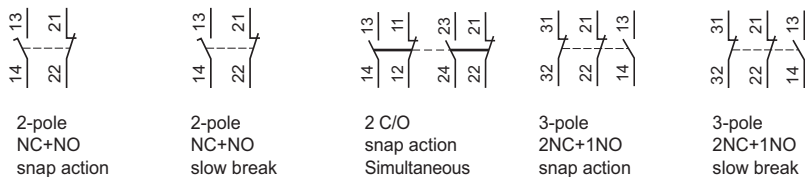
⊕ Positive opening operation.

Industrial - XCKJ, Customised assembly - Body/contact sub-assemblies



Type XCKJ metal, 1 cable entry

Type of contact



Cable entry (1)	1 tapped entry for ISO M20 x 1.5 cable gland					
Reference of body with contact block	M20	⊕ ZCKJ1H29	⊕ ZCKJ5H29	ZCKJ2H29	⊕ ZCKJD39H29	⊕ ZCKJD37H29
	Pg13	⊕ ZCKJ1	⊕ ZCKJ5	ZCKJ2	-	-
	1/2" NPT	⊕ ZCKJ1H7	⊕ ZCKJ5H7	ZCKJ2H7	-	-
	M12 (5 pin)	⊕ ZCKJ1D	⊕ ZCKJ5D	-	-	-
Reference of contact block only		⊕ XE2SP2151	⊕ XE2NP2151	-	⊕ XE3SP2141	⊕ XE3NP2141

Operating heads, complete or for customer assembly



Complete switch

=



Body/contact assembly

+



Head

+



Lever

Plunger or multi-directional heads

with reinforced steel roller end plunger

with metal end plunger

with thermoplastic roller lever plunger, 1 direct. of actuation

with steel roller lever plunger, 1 direct. of actuation

with steel roller end plunger

with steel ball bearing end plunger

End steel roller plunger with protective boot



Référence

⊕ ZCKE67

⊕ ZCKE61

⊕ ZCKE21

⊕ ZCKE23

⊕ ZCKE62

⊕ ZCKE66

⊕ ZCKE629

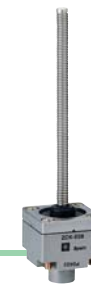
with metal side plunger

Side steel roller plunger, horizontal

Side steel roller plunger, vertical

with spring rod

with "Cat's whisker"



Reference

⊕ ZCKE63

⊕ ZCKE64

ZCKE65

ZCKE08

ZCKE06

Separate rotary heads and levers

spring return for actuation from left AND right or left OR right

lever with thermoplastic roller (2)

lever with steel roller (2)

variable length lever with thermoplastic roller (2)

variable length lever with steel roller (2)

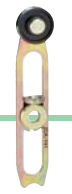
rod, Ø 6 mm thermoplastic L = 200 mm (2)

square rod lever, steel, Ø 3 mm L = 125 mm (2)

round rod lever, steel, Ø 3 mm L = 125 mm (2)

spring lever with thermoplastic end (3)

spring-metal rod lever (3)



Reference

⊕ ZCKE05

⊕ ZCKY11

⊕ ZCKY13

ZCKY41

ZCKY43

ZCKY59

ZCKY51

ZCKY53

ZCKY81

ZCKY91

stay put for actuation from left AND right

forked arm lever with thermoplastic rollers, 1 track (2)

forked arm lever with thermoplastic rollers, 2 track (2)



Reference

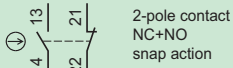
ZCKE09

ZCKY71

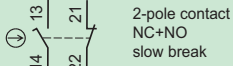
ZCKY61

(2) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.
 (3) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.

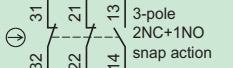
XCKS



2-pole contact
NC+NO
snap action

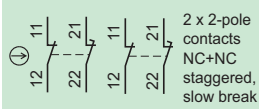


2-pole contact
NC+NO
slow break



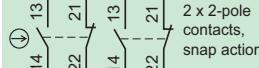
3-pole
2NC+1NO
snap action

XCKMR



2 x 2-pole
contacts
NC+NC
staggered,
slow break

XCR



2 x 2-pole
contacts,
snap action

ISO entry
(to EN 50262)



Type XCKS plastic, double insulated, conforming to standard EN 50041

Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Rubber roller lever Ø 50 mm	Polyamide Ø 6 mm rod lever L = 200 mm
Mechanical durability (millions of operating cycles)	25	15	20	20	20	20
Actuation speed (in m/s)	0.5	0.5	1.5	1.5	1	1
Product certification	CE - UL - CSA - CCC - GOST - C-TICK					
Degree of protection conforming to IEC 60529	IP 653					
Rated operational characteristics	AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (Ue = 250 V, Ie = 0.27 A)					
Cable entry (1)	1 tapped entry for ISO M20 x 1.5 cable gland					
Fixing centres (mm)	30 x 60					
Body dimensions (mm) W x D x H	40 x 36 x 72.5					

Complete switch 2-pole NC+NO snap action	⊕ XCKS101H29	⊕ XCKS102H29	⊕ XCKS131H29	XCKS141H29	XCKS139H29	XCKS159H29
2-pole NC+NO break before make, slow break	⊕ XCKS501H29	⊕ XCKS502H29	⊕ XCKS531H29	XCKS541H29	XCKS539H29	XCKS559H29
Body 2-pole NC+NO snap action	⊕ ZCKS1H29	⊕ ZCKS1H29	⊕ ZCKS1H29	⊕ ZCKS1H29	⊕ ZCKS1H29	⊕ ZCKS1H29
2-pole NC+NO break before make, slow break	⊕ ZCKS5H29	⊕ ZCKS5H29	⊕ ZCKS5H29	⊕ ZCKS5H29	⊕ ZCKS5H29	⊕ ZCKS5H29
3-pole 2NC+1NO snap action	⊕ ZCKSD39H29	⊕ ZCKSD39H29	⊕ ZCKSD39H29	⊕ ZCKSD39H29	⊕ ZCKSD39H29	⊕ ZCKSD39H29
Associated head (including operator)	⊕ ZCKD01	⊕ ZCKD02	⊕ ZCKD31	ZCKD41	ZCKD39	ZCKD59
Operating lever for rotary head	-	-	⊕ ZCKY31	ZCKY41	ZCKY39	ZCKY59
Complete switch Snap-action 2-pole 2X (1 NC + 1 NO) contact	-	-	-	-	-	-
Both contacts act in each direction of actuation	-	-	-	-	-	-
1 contact operates in each direction	-	-	-	-	-	-
Complete switch 2 C/O staggered snap action contacts	-	-	-	-	-	-
2 (NC + NO) staggered, slow break contacts	-	-	-	-	-	-

⊕ Positive opening operation.

(1) For Pg 13.5 cable entry delete the reference suffix H29. Example: XCKJ161H29 becomes XCKJ161.

For severe applications - XC2J, Customised assembly - Body/contact sub-assemblies

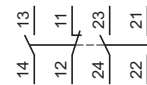


Type XC2J metal, fixed body, 1 cable entry incorporating cable gland

Type of contact



Single-pole
1 C/O contact
snap action



Double-pole
2 C/O simultaneous contacts
snap action

Reference of body with contact block	ZC2JC1	ZC2JC2
Reference of contact block only	XCKZ01	XESP1021



1

Pressure range (bar) (1)	-1...0	0...1	0...6	0...10	0...16	0...25	0...100	0...250	0...400	
Fluids controlled	Hydraulic oils, air, fresh water, sea water, corrosive fluids from -15...+125°C									
Ambient air temperature	- 15...+ 85°C									
Degree of protection (conforming to IEC 60529)	IP 66 and IP 67									
Product certification	CE - UL - CSA - GOST									
Voltage limits	12...24 V DC, 8...33 V DC for 4...20 mA, 11.4...33V DC for 0...10 V									
Dimensions (mm) Ø x L	Ø 22.8 x 70 (not including connector)									
Fluid connection (2)	G 1/4" A (male)									
Electrical connection (3)	M12 connector									
Type of output (4)	4...20 mA, 2-wire technique, 0...10V, 3-wire technique									
Analogue output	4...20 mA	XMLGM01D21	XMLG001D21	XMLG006D21	XMLG010D21	XMLG016D21	XMLG025D21	XMLG100D21	XMLG250D21	XMLG400D21
	0...10 V	XMLGM01D71	XMLG001D71	XMLG006D71	XMLG010D71	XMLG016D71	XMLG025D71	XMLG100D71	XMLG250D71	XMLG400D71

Available in bulk packs for selling in lots, please consult us.

The XMLG range also includes pressure switches, please consult us.

Electronic sensors XMLE

Electrical connection by DIN 43650 connector



Setting range (bar) (1)	-1...0	0...1	0...10	0...25	0...100	0...250	0...600	
Fluids controlled	Hydraulic oils, air, fresh water, sea water, corrosive fluids from -15...+80°C							
Ambient air temperature	- 15...+ 80°C							
Degree of protection (conforming to IEC 60529)	IP 65							
Product certification	CE - UL - CSA - GOST							
Voltage limits	24 V DC, 11...33 V DC							
Dimensions (mm) Ø x L	Ø 40 x 90 (not including connector)							
Fluid connection (2)	G 1/4" A (male)							
Electrical connection (3)	DIN 43650 connector							
Type of output (4)	Transmitter	4...20 mA, 2-wire technique						
	Pressure switch	PNP or NPN, normally closed (NC)						
Analogue output	4...20 mA	XMLEM01U1C21	XMLE001U1C21	XMLE010U1C21	XMLE025U1C21	XMLE100U1C21	XMLE250U1C21	XMLE600U1C21
NPN output		XMLEM01U1C31	XMLE001U1C31	XMLE010U1C31	XMLE025U1C31	XMLE100U1C31	XMLE250U1C31	XMLE600U1C31
PNP output		XMLEM01U1C41	XMLE001U1C41	XMLE010U1C41	XMLE025U1C41	XMLE100U1C41	XMLE250U1C41	XMLE600U1C41

(1) Other sizes, please consult us.

(2) Other fluid connections, please consult us.

(3) Other types of connection, please consult us.

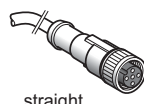
(4) Other types of output; 0...5 V, 0...10 V, etc., please consult us.

Suitable female plug-in connectors

Pre-wired connectors, L = 5 m (without LED)



elbowed



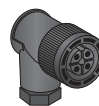
straight

M12

XZCP1241L5

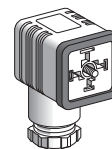
XZCP1141L5

Other connectors



Screw terminal

XZCC12FCM40B



DIN 43650A

XZCC43FCP40B

Electronic sensors XMLF



1

Setting range of lower limit (PB): vacuum switches (bar)		-0.08...-1	0.08...1	0.2...2.5	0.8...10	3.2...40
Setting range of upper limit (PH): pressure switches						
Fluids controlled		Hydraulic oils, air, fresh water, sea water, corrosive fluids from -15...+80°C				
Ambient air temperature		- 25...+ 80°C				
Degree of protection (conforming to IEC 60529)		IP 67				
Product certification		CE - UL - CSA - VIT-SEPRO - GOST				
Voltage limits (V)		24 V DC (17...33 V DC)				
Dimensions (mm) H x W x D		113 x 46 x 58				
Fluid connection		G 1/4" (female) (1)				
Electrical connection		M12 connector (2)				
Configurable with digital display, connection by M12 connector (3)						
Universal sensors,	4...20 mA	XMLFM01D2025	XMLF001D2025	XMLF002D2025	XMLF010D2025	XMLF040D2025
solid-state output, 200 mA (4)	0...10 V	XMLFM01D2125	XMLF001D2125	XMLF002D2125	XMLF010D2125	XMLF040D2125
Dual stage pressure switches, solid-state output, 200 mA		XMLFM01D2035	XMLF001D2035	XMLF002D2035	XMLF010D2035	XMLF040D2035
Analogue sensors	4...20 mA	XMLFM01D2015	XMLF001D2015	XMLF002D2015	XMLF010D2015	XMLF040D2015
	0...10 V	XMLFM01D2115	XMLF001D2115	XMLF002D2115	XMLF010D2115	XMLF040D2115
Possible differential (bar)	Min. at low setting	0.03	0.03	0.08	0.3	1.2
(pressure switches)	Min. at high setting	0.03	0.03	0.08	0.3	1.2
	Max. at high setting	0.95	0.95	2.38	9.5	38



Setting range of upper limit (PH): pressure switches (bar)		8...100	12.8...160	20...250	32...400	48...600
Fluids controlled		Hydraulic oils, air, fresh water, sea water, corrosive fluids from -15...+80°C				
Ambient air temperature		- 25...+ 80°C				
Degree of protection (conforming to IEC 60529)		IP 67				
Product certification		CE - UL - CSA - VIT-SEPRO - GOST				
Voltage limits (V)		24 V DC (17...33 V DC)				
Dimensions (mm) H x W x D		113 x 46 x 58				
Fluid connection		G 1/4" (female) (1)				
Electrical connection		M12 connector (2)				
Configurable with digital display, connection by M12 connector (3)						
Universal sensors,	4...20 mA	XMLF100D2025	XMLF160D2025	XMLF250D2025	XMLF400D2025	XMLF600D2025
solid-state output, 200 mA (4)	0...10 V	XMLF100D2125	XMLF160D2125	XMLF250D2125	XMLF400D2125	XMLF600D2125
Dual stage pressure switches, solid-state output, 200 mA		XMLF100D2035	XMLF160D2035	XMLF250D2035	XMLF400D2035	XMLF600D2035
Analogue sensors	4...20 mA	XMLF100D2015	XMLF160D2015	XMLF250D2015	XMLF400D2015	XMLF600D2015
	0...10 V	XMLF100D2115	XMLF160D2115	XMLF250D2115	XMLF400D2115	XMLF600D2115
Possible differential (bar)	Min. at low setting	3	4.8	7.5	12	18
(pressure switches)	Min. at high setting	3	4.8	7.5	12	18
	Max. at high setting	95	152	237.5	380	570

(1) Available with other fluid connections: 1/4" NPT female and SAE 7/16-20 UNF.

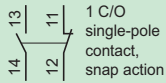
(2) For M12 connection accessories, see previous page.

(3) AC 120 V version with 2.5 A relay output and SAE 7/8-16 UN connector also available.

(4) Programmable NPN or PNP and NO or NC.



1



Size (bar)	-1	5	1	2.5
Environmental characteristics	Ambient air temperature (°C): - 25...+ 70 Degree of protection (conforming to IEC 60529): IP 66			
Rated operational characteristics	AC-15; B300 (Ue = 240 V, Ie = 1.5 A - Ue = 120 V, Ie = 3 A) / DC-13; R300 (Ue = 250 V, Ie = 0.1 A)			
Product certification	CE - UL - CSA - CCC - BV - LROS - RINA - GL - DNV - VIT-SEPRO - GOST			
Fluid connection	G 1/4" (female) (other connections possible, please consult us)			
Electrical connection	Screw terminals (1), tapped entry for ISO M20 x 1.5 cable gland - For n° 13 (DIN Pg 13.5) cable gland			

Fluids controlled	Hydraulic oils, fresh water, sea water, air up to 70°C	Hydraulic oils, air up to 160°C	Hydraulic oils, fresh water, sea water, air up to 70°C
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Type XMLA - fixed differential, single threshold detection

Setting range (bar) of upper limit (PH): pressure switches	-0.28...-1 (4)	-	0.03...1	0.15...2.5
Dimensions (mm) H x W x D	113 x 35 x 75	113 x 35 x 75	162 x 110 x 110	158 x 55 x 77.5
With setting scale	1 C/O single-pole, snap action contact	-	XMLA001R2S12	XMLA002A2S12
Natural differential (bar)	at low setting	-	0.02	0.13
subtract from PH to give PB	at high setting	-	0.04	0.13

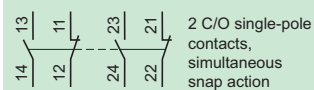
Type XMLB - adjustable differential, regulation between 2 thresholds

Setting range (bar) of upper limit (PH): pressure switches	-0.14...-1 (4)	-0.5...5	0.05...1	0.3...2.5
With setting scale	1 C/O single-pole, snap action contact	XMLBM05A2S12	XMLB001R2S12	XMLB002A2S12
Possible differential (bar)	Min. at low setting	0.5	0.04	0.16
subtract from PH to give PB	Min. at high setting	0.5	0.06	0.21
	Max. at high setting	6	0.75	1.75

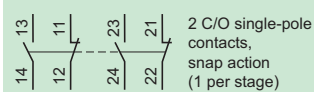
XMLC and D



XMLC



XMLD



Fluids controlled	Hydraulic oils, fresh water, sea water, air up to 70°C	Hydraulic oils, air up to 160°C	Hydraulic oils, fresh water, sea water, air up to 160°C
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Type XMLC - adjustable differential, regulation between 2 thresholds

Setting range (bar) of upper limit (PH): pressure switches	-0.14...-1 (4)	-0.55...5	0.05...1	0.3...2.5
Dimensions (mm) H x W x D	113 x 46 x 85	113 x 46 x 85	175 x 110 x 110	158 x 55 x 90
With setting scale	2 C/O single-pole, snap action contacts	XMLCM05A2S12	XMLC001R2S12	XMLC002B2S12
Possible differential (bar)	Min. at low setting	0.45	0.03	0.13
subtract from PH to give PB	Min. at high setting	0.45	0.04	0.17
	Max. at high setting	6	0.8	2

Type XMLD - fixed differential, dual stage, for detection at each threshold

Setting range (bar)	2 nd stage switching point (PB2)	-0.12...-1 (4)	-	0.12...1	0.34...2.5
	1 st stage switching point (PB1)	-0.10...-0.98	-	0.04...0.92	0.2...2.36
	Spread between 2 stages (PB2 - PB1)	-0.02...-0.88	-	0.08...0.73	0.14...1.5
Without setting scale	2 C/O single-pole, snap action contacts (1 per stage)	XMLDM02V1S12	-	XMLD001R1S12	XMLD002B1S12
Natural differential (bar)	at low setting	0.1 (2)	-	0.03	0.14
subtract from PH 1/2 to give PB 1/2	at high setting	0.1 (2)	-	0.07	0.19



4	10	20	35	70	160	300	500
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conforming to IEC 947-5-1 Appendix A, EN 60 947-5-1

tapped entry, replace the last number of the reference (2) by 1 (example: XMLA010A2S12 becomes XMLA010A2S11)

Hydraulic oils, fresh water, sea water, air up to 70°C	Hydraulic oils up to 160°C
--------------------------------------------------------	----------------------------

0.4...4	0.6...10	1...20	1.5...35	5...70	10...160	20...300	30...500
113 x 35 x 75	113 x 35 x 75	113 x 35 x 75	113 x 35 x 75	113 x 35 x 75	113 x 35 x 75	113 x 35 x 75	113 x 35 x 75
XMLA004A2S12	XMLA010A2S12	XMLA020A2S12	XMLA035A2S12	XMLA070D2S12	XMLA160D2S12	XMLA300D2S12	XMLA500D2S12
0.35	0.5	0.4	1.25	3	5.5	16.5	20
0.35	0.5	1	1.25	7.5	18	35	45

0.25...4	0.7...10	1.3...20	3.5...35	7...70	10...160	22...300	30...500
XMLB004A2S12	XMLB010A2S12	XMLB020A2S12	XMLB035A2S12	XMLB070D2S12	XMLB160D2S12	XMLB300D2S12	XMLB500D2S12
0.02	0.57	1	1.7	4.7	9.3	19.4	23
0.25	0.85	1.6	2.55	8.8	20.8	37	52.6
2.4	7.5	11	20	50	100	200	300

- (1) For electrical connection by DIN 43650A connector (IP 65), replace the suffix "S12" in the reference by "C11". Example: XMLB010A2S12 becomes XMLB010A2C11.
- (2) For vacuum switch: natural differential to be added to PB to give PH.
- (3) For vacuum switch: possible differential to be added to PB to give PH.
- (4) Setting range (bar) of lower limit (PB): vacuum switch.

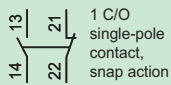


Hydraulic oils, fresh water, sea water, air up to 160°C	Hydraulic oils up to 160°C
---------------------------------------------------------	----------------------------

0.3...4	0.7...10	1.3...20	3.5...35	7...70	12...160	22...300	30...500
113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85
XMLC004B2S12	XMLC010B2S12	XMLC020B2S12	XMLC035B2S12	XMLC070D2S12	XMLC160D2S12	XMLC300D2S12	XMLC500D2S12
0.15	0.45	0.7	1	4.5	9	16	19
0.17	0.7	1	1.5	8.9	21	35	52
2.5	8	11	22	60	110	240	340

0.40...4	1.2...10	2.14...20	4.4...35	9.4...70	16.5...160	36...300	41...500
0.19...3.79	0.52...9.32	0.9...18.76	1.9...32.5	6.6...67.2	10.5...154	25...289	25...484
0.21...2.18	0.68...5.8	1.24...9.55	2.5...20.4	2.8...46	6...83	11...189	16...244
XMLD004B1S12	XMLD010B1S12	XMLD020B1S12	XMLD035B1S12	XMLD070D1S12	XMLD160D1S12	XMLD300D1S12	XMLD500D1S12
0.15	0.45	0.7	1.5	5	8.8	17	21
0.19	0.6	1.3	2.6	9.5	20	42	65

1

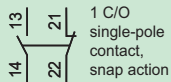


Setting range of upper limit (PH) (bar)	1...6	1.3...12	3.5...25
Fluids controlled	Air, water (fresh water, sea water) from 0...+70°C		
Ambient air temperature	- 25...+ 70°C		
Degree of protection (conforming to IEC 60529)	IP 54		
Rated operational characteristics	AC-15; B300 (Ue = 240 V, Ie = 1.5 A - Ue = 120 V, Ie = 3 A) / DC-13; R300 (Ue = 250 V, Ie = 0.1 A)		
Product certification	CE - UL - CSA - CCC		
Dimensions (mm) H x W x D	106 x 57 x 98		126 x 57 x 98
Fluid connection	1/4" BSP female		
Electrical connection	Screw terminals, 2 tapped entries for n° 13 (DIN Pg 13.5) cable gland		

Type XMX with internal setting screw

Without setting scale, screw terminal connections

1 C/O single-pole, snap action contact		XMXA06L2135	XMXA12L2135	XMXA25L2135
Possible differential (bar)	Min. at low setting	0.8	1	3.4
subtract from PH to give PB	Min. at high setting	1.2	1.7	4.5
	Max. at high setting	4.2	8.4	20



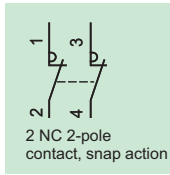
Setting range of upper limit (PH) (bar)	1...6	1.3...12	3.5...25
Fluids controlled	Air, water (fresh water, sea water) from 0...+70°C		
Ambient air temperature	- 25...+ 70°C		
Degree of protection (conforming to IEC 60529)	IP 54		
Rated operational characteristics	AC-15; B300 (Ue = 240 V, Ie = 1.5 A - Ue = 120 V, Ie = 3 A) / DC-13; R300 (Ue = 250 V, Ie = 0.1 A)		
Product certification	CE - UL - CSA - CCC		
Dimensions (mm) H x W x D	113 x 57 x 98		133 x 57 x 98
Fluid connection	1/4" BSP female		
Electrical connection	Screw terminals, tapped entry for n° 13 (DIN Pg 13.5) cable gland		

Type XMA with external setting screw (transparent cover)

Without setting scale, screw terminal connections

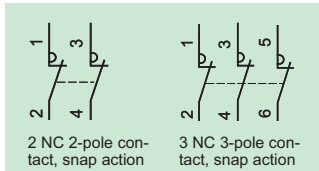
1 C/O single-pole, snap action contact		XMAV06L2135	XMAV12L2135	XMAV25L2135
Possible differential (bar)	Min. at low setting	0.8	1	3.4
subtract from PH to give PB	Min. at high setting	1.2	1.7	4.5
	Max. at high setting	4.2	8.4	20

Electromechanical pressure switches for power circuits, adjustable differential for regulation between 2 thresholds

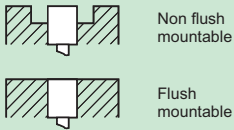


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Degree of protection		IP 20			IP 65		
Size (bar)		4.6	7	10.5	4.6	7	10.5
Setting range of upper limit (PH) (bar)		1.4...4.6	2.8...7	5.6...10.5	1.4...4.6	2.8...7	5.6...10.5
Fluids controlled		Water (fresh water, sea water) from 0...+55°C					
Electrical connection		Screw terminals, 2 cable entries with grommet			Screw terminals, 2 tapped entries for n° 13 (DIN Pg 13.5) cable gland		
Product certification		CE					
Ambient air temperature		For operation: 0...+ 50°C. For storage: - 30...+ 80°C					
Rated operational characteristics		Ie = 10 A, Ue = 250 V AC					
Power rating of controlled motors	110 V	AC 2-pole, single-phase	0.75 kW (1 HP)			0.75 kW (1 HP)	
		AC 2-pole, 3-phase	1.1 kW (1.5 HP)			1.1 kW (1.5 HP)	
	230 / 400 V	AC 2-pole, single-phase	1.5 kW (2 HP)			1.5 kW (2 HP)	
		AC 2-pole, 3-phase	2.2 kW (3 HP)			2.2 kW (3 HP)	
Dimensions (mm) H x W x D		96/105 x 72 x 102	94 x 72 x 102		115 x 72 x 106	115 x 72 x 106	
Fluid connection	G 1/4 (BSP female)	FSG2	FYG22	FYG32	FSG2NE	FYG22NE	FYG32NE
	R 1/4 (BSP male)	FSG9	FYG29	FYG39	–	–	–
	G 3/8 (BSP female) rotating nut	–	–	–	FSG2NEG	–	–
Possible differential subtract from PH to give PB	At low setting	1 min. - 2.1 max.	1.2 min. - 2.3 max.	1.9 min. - 3 max.	1 min. - 2.1 max.	1.2 min. - 2.3 max.	1.9 min. - 3 max.
	At middle setting	1.1 min. - 2.2 max.	1.4 min. - 2.5 max.	2.1 min. - 3.2 max.	1.1 min. - 2.2 max.	1.4 min. - 2.5 max.	2.1 min. - 3.2 max.
	At high setting	1.2 min. - 2.3 max.	1.6 min. - 2.7 max.	2.3 min. - 3.4 max.	1.2 min. - 2.3 max.	1.6 min. - 2.7 max.	2.3 min. - 3.4 max.



Size (bar)		6		12		25	
Setting range of upper limit (PH) (bar)		1...6		1.3...12		3.5...25	
Fluids controlled		Air, water (fresh water, sea water) from 0...+70°C					
Ambient air temperature		For operation: - 25...+ 70°C. For storage: - 40...+ 70°C					
Decompression valve / ONOff knob		without	with	without	with	without	
Fluid connection		G 1/4 (BSP female)	4 x G 1/4 (BSP female)	G 1/4 (BSP female)	4 x G 1/4 (BSP female)	G 1/4 (BSP female)	
Electrical connection		Screw terminals, 2 tapped entries for n° 13 (DIN Pg 13.5) cable gland					
Degree of protection		IP 54			IP 54		IP 54
Product certification		CE - CCC					
Rated insulation voltage		Ui = 500 V					
Electrical durability	Power	1.5 kW	400 V AC 3-phase: 1 000 000 operating cycles				
			230 V AC 3-phase: 600 000 operating cycles				
	2.2 kW	400 V AC 3-phase: 700 000 operating cycles					
		3 kW	400 V AC 3-phase: 500 000 operating cycles				
Dimensions (mm) H x W x D		106 x 57 x 97.5	138 x 57 x 97.5	106 x 57 x 97.5	138 x 57 x 97.5	126 x 57 x 97.5	
Type of contacts	2 NC 2-pole, snap action contact		XMPA06B2131	XMPE06B2431	XMPA12B2131	XMPE12B2431	XMPA25B2131
	3 NC 3-pole, snap action contact		XMPA06C2131	XMPE06C2431	XMPA12C2131	XMPE12C2431	XMPA25C2131
Possible differential subtract from PH to give PB	Min. at low setting	0.8	0.8	1	1	3.4	
	Min. at high setting	1.2	1.2	1.7	1.7	4.5	
	Max. at high setting	4.2	4.2	8.4	8.4	20	



	Flush standard and increased range			
	M8		M12	
Nominal sensing distance S_n	1.5 mm	2.5 mm	2 mm	4 mm
Usable sensing distance S (mm) flush mountable / non flush mountable	0...1.2	0...2	0...1.6	0...3.2
Temperature range (°C)	- 25...+ 70			
Product certification	CE - UL - CSA - CCC (in progress) - C-TICK			
Degree of protection (conforming to IEC 60529)	IP 67		pre-cabled: IP 69K conforming to DIN 40050, IP 68	

Sensors for DC applications

Output function	NO	NC	A	A	A	A
			B	B	B	B
Dimensions (mm) Ø x L Cable / Connector	M8 x 33 / M8 x 42			M12 x 35 / M12 x 50		
3-wire	PNP	Cable (2 m)	XS508B1PAL2	XS108B3PAL2	XS512B1PAL2	XS112B3PAL2
		Connector M8 / M12	XS508B1PAM8	XS108B3PAM8	XS512B1PAM12	XS112B3PAM12
	NPN	Cable (2m)	XS508B1NAL2	XS108B3NAL2	XS512B1NAL2	XS112B3NAL2
		Connector M8 / M12	XS508B1NAM8	XS108B3NAM8	XS512B1NAM12	XS112B3NAM12
2-wire non polarised (1)	Cable (2 m)	XS508BSCAL2	XS608B3CAL2	XS512BSDAL2	XS612B3DAL2	
	Connecteur M12	XS508BSCAL01M12	XS608B3CAL01M12	XS512BSDAM12	XS612B3DAM12	
Supply voltage limits, min./max. (V) including ripple	10...36		10...36		10...36	
Switching capacity, max. (mA) 3-wire / 2-wire	200 / 100		200 / 100		200 / 100	
Overload and short-circuit protection (★) / LED output state indicator (⊗)	★ / ⊗		★ / ⊗		★ / ⊗	
Residual current, open state (mA)	≤ 0.5		≤ 0.5		≤ 0.5	
Voltage drop, closed state (V) at I nominal 3-wire / 2-wire	≤ 2 / ≤ 4		≤ 2 / ≤ 4		≤ 2 / ≤ 4	
Switching frequency (Hz) 3-wire / 2-wire	5000 / 4000		2500 / 3000		5000 / 4000	
Dimensions (mm) Ø x L Cable / connector	M8 x 51 / M8 x 62			M12 x 53 / M12 x 62		
3-wire	PNP	Cable (2 m)	XS508BLPAL2	XS608B1PAL2	XS512BLPAL2	XS612B1PAL2
		Connector M12	XS508BLPAM12	XS608B1PAM12	XS512BLPAM12	XS612B1PAM12
	NPN	Cable (2 m)	XS508BLNAL2	XS608B1NAL2	XS512BLNAL2	XS612B1NAL2
		Connector M12	XS508BLNAM12	XS608B1NAM12	XS512BLNAM12	XS612B1NAM12
2-wire non polarised	Cable (2 m)	XS508B1DAL2	XS608B1DAL2	XS512B1DAL2	XS612B1DAL2	
	Connector M12	XS508B1DAM12	XS608B1DAM12	XS512B1DAM12	XS612B1DAM12	
Supply voltage limits, min./max. (V) including ripple	10...58		10...58		10...58	
Switching capacity, max. (mA) 3-wire / 2-wire	200 / 100		200 / 100		200 / 100	
Overload and short-circuit protection (★) / LED output state indicator (⊗)	★ / ⊗		★ / ⊗		★ / ⊗	
Residual current, open state (mA) 2-wire	≤ 0.5		≤ 0.5		≤ 0.5	
Voltage drop, closed state (V) at I nominal 3-wire / 2-wire	≤ 2 / ≤ 4		≤ 2 / ≤ 4		≤ 2 / ≤ 4	
Switching frequency (Hz) 3-wire / 2-wire	5000 / 4000		2500 / 3000		5000 / 4000	

Multi-current/multi-voltage sensors for AC/DC applications

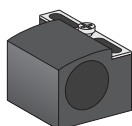
Dimensions (mm) Ø x L Cable / connector	-	-	M12 x 53 / M12 x 62	
2-wire	Cable (2 m)	-	XS512B1MAL2	XS612B1MAL2
	Connector 1/2"-20 UNF	-	XS512B1MAU20	XS612B1MAU20
Supply voltage limits, min./max. (V) including ripple	-	-	20...264	20...264
Switching capacity, max. (mA)	-	-	200	200
LED output state indicator (⊗)	-	-	⊗	⊗
Residual current, open state (mA)	-	-	≤ 0,8	≤ 0,8
Voltage drop, closed state (V) at I nominal	-	-	≤ 5.5	≤ 5.5
Switching frequency (Hz)	-	-	25 AC / 1000 DC	25 AC / 1000 DC

(1) polarised for M8 short

Accessories

Fixing for cylindrical sensors

Fixing clamp with indexing pin for cylindrical sensors



M8	XSZB108
M12	XSZB112
M18	XSZB118
M30	XSZB130

Suitable female plug-in connectors

M8	Straight	Elbowed
Metal ring	XZCC8FDM30S	XZCC8FCM30S
M12 (4 pin)		
Metal ring	XZCC12FDM40B	XZCC12FCM40B
Plastic ring	XZCC12FDP40B	XZCC12FCP40B



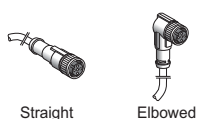
M18				M30				Non flush increased range		
5 mm		8 mm		10 mm		15 mm		M12	M18	M30
0...4		0...6.4		0...8		0...12		0...5.6	0...9.6	0...17.6
- 25...+ 70								- 25...+ 70		
CE - UL - CSA - CCC (in progress) - C-TICK								CE - UL - CSA - CCC (in progress) - C-TICK		
(with connector: IP 67)								pre-cabled: IP 69K conforming to DIN 40050, IP 68 (with connector: IP 67)		

A		A		A		A		A		A	
B		B		B		B		B		B	
M18 x 39 / M18 x 50				M30 x 43 / M30 x 55				-		-	
XS518B1PAL2		XS118B3PAL2		XS530B1PAL2		XS130B3PAL2		-		-	
XS518B1PAM12		XS118B3PAM12		XS530B1PAM12		XS130B3PAM12		-		-	
XS518B1NAL2		XS118B3NAL2		XS530B1NAL2		XS130B3NAL2		-		-	
XS518B1NAM12		XS118B3NAM12		XS530B1NAM12		XS130B3NAM12		-		-	
XS518BSDAL2		XS618B3DAL2		XS530BSDAL2		XS630B3DAL2		-		-	
XS518BSDAM12		XS618B3DAM12		XS530BSDAM12		XS630B3DAM12		-		-	
10...36		10...36		10...36		10...36		-		-	
200 / 100		200 / 100		200 / 100		200 / 100		-		-	
★ / ⊗		★ / ⊗		★ / ⊗		★ / ⊗		-		-	
≤ 0.5		≤ 0.5		≤ 0.5		≤ 0.5		-		-	
≤ 2 / ≤ 4		≤ 2 / ≤ 4		≤ 2 / ≤ 4		≤ 2 / ≤ 4		-		-	
2000 / 3000		1000 / 1000		1000 / 2000		500 / 500		-		-	

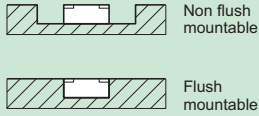
M18 x 62 / M18 x 74				M30 x 62				M12 x 55 / M12 x 65		M18 x 62 / M18 x 74		M30 x 62 / M30 x 74	
XS518BLPAL2		XS618B1PAL2		XS530BLPAL2		XS630B1PAL2		XS612B4PAL2		XS618B4PAL2		XS630B4PAL2	
XS518BLPAM12		XS618B1PAM12		XS530BLPAM12		XS630B1PAM12		XS612B4PAM12		XS618B4PAM12		XS630B4PAM12	
XS518BLNAL2		XS618B1NAL2		XS530BLNAL2		XS630B1NAL2		XS612B4NAL2		XS618B4NAL2		XS630B4NAL2	
XS518BLNAM12		XS618B1NAM12		XS530BLNAM12		XS630B1NAM12		XS612B4NAM12		XS618B4NAM12		XS630B4NAM12	
XS518B1DAL2		XS618B1DAL2		XS530B1DAL2		XS630B1DAL2		-		-		-	
XS518B1DAM12		XS618B1DAM12		XS530B1DAM12		XS630B1DAM12		-		-		-	
10...58		10...58		10...58		10...58		10...58		10...58		10...58	
200 / 100		200 / 100		200 / 100		200 / 100		200 / -		200 / -		200 / -	
★ / ⊗		★ / ⊗		★ / ⊗		★ / ⊗		★ / ⊗		★ / ⊗		★ / ⊗	
≤ 0.5		≤ 0.5		≤ 0.5		≤ 0.5		-		-		-	
≤ 2 / ≤ 4		≤ 2 / ≤ 4		≤ 2 / ≤ 4		≤ 2 / ≤ 4		≤ 2 / -		≤ 2 / -		≤ 2 / -	
2000 / 3000		1000 / 1000		1000 / 2000		500 / 500		2500 / -		1000 / -		500 / -	

M18 x 62 / M18 x 73				M30 x 62 / M30 x 73				-		M18 x 60 / M18 x 72		M30 x 63 / M30 x 74	
XS518B1MAL2		XS618B1MAL2		XS530B1MAL2		XS630B1MAL2		-		XS618B4MAL2		XS630B4MAL2	
XS518B1MAU20		XS618B1MAU20		XS530B1MAU20		XS630B1MAU20		-		XS618B4MAU20		XS630B4MAU20	
20...264		20...264		20...264		20...264		-		20...264		20...264	
300 AC / 200 DC		300 AC / 200 DC		300 AC / 200 DC		300 AC / 200 DC		-		300 AC / 200 DC		300 AC / 200 DC	
⊗		⊗		⊗		⊗		-		⊗		⊗	
≤ 0.8		≤ 0.8		≤ 0.8		≤ 0.8		-		≤ 0.8		≤ 0.8	
≤ 5.5		≤ 5.5		≤ 5.5		≤ 5.5		-		≤ 5.5		≤ 5.5	
25 AC / 1000 DC		25 AC / 1000 DC		25 AC / 500 DC		25 AC / 500 DC		-		25 AC / 1000 DC		25 AC / 300 DC	

Pre-wired connectors



M8 (3 pin)			1/2"			M12 (4 pin)			
	Straight	Elbowed		Straight	Elbowed		Straight	Elbowed	Elbowed PNP LED
2 m	XZCP0566L2	XZCP0666L2	2 m	XZCP1865L2	XZCP1965L2	2 m	XZCP1141L2	XZCP1241L2	XZCP1340L2
5 m	XZCP0566L5	XZCP0666L5	5 m	XZCP1865L5	XZCP1965L5	5 m	XZCP1141L5	XZCP1241L5	XZCP1340L5
10 m	XZCP0566L10	XZCP0666L10	10 m	XZCP1865L10	XZCP1965L10	10 m	XZCP1141L10	XZCP1241L10	XZCP1340L10



	∅ 8 x 22 x 8	∅ 15 x 32 x 8	∅ 26 x 26 x 13	∅ 40 x 40 x 15	∅ 80 x 80 x 26
Nominal sensing distance S_n	2.5 mm	5 mm	10 mm	15 mm	40 mm
Usable sensing distance S (mm) flush mountable / non flush mountable	0...2	0...4	0...8	0...12	0...32
Fine adjustment zone (mm) flush mountable / non flush mountable	–	–	–	–	–
Suitability for flush mounting (metal environment)	flush mountable	flush mountable	flush mountable	flush mountable	flush mountable
Temperature range (°C)	- 25...+ 70	- 25...+ 70	- 25...+ 70	- 25...+ 70	- 25...+ 70
Product certification	CE	CE - UL - CSA - C-TICK			
Degree of protection (conforming to IEC 60529)	pre-cabled: IP 68 (with connector: IP 67)				

Sensors for DC applications

Connection			Pre-cabled, PvR (2 m)				
2-wire (non polarised)	NO or NC	programmable	–	–	–	–	–
2-wire non polarised	NO function		XS7J1A1DAL2	XS7F1A1DAL2	XS7E1A1DAL2	XS7C1A1DAL2	XS7D1A1DAL2
	NC function		XS7J1A1DBL2	XS7F1A1DBL2	XS7E1A1DBL2	XS7C1A1DBL2	XS7D1A1DBL2
4-wire	PNP	NO + NC complementary outputs	–	–	–	–	–
	NPN	NO + NC complementary outputs	–	–	–	–	–
3-wire	PNP	NO function	XS7J1A1PAL2	XS7F1A1PAL2	XS7E1A1PAL2	XS7C1A1PAL2	XS7D1A1PAL2
		NC function	XS7J1A1PBL2	XS7F1A1PBL2	XS7E1A1PBL2	XS7C1A1PBL2	XS7D1A1PBL2
	NPN	NO function	XS7J1A1NAL2	XS7F1A1NAL2	XS7E1A1NAL2	XS7C1A1NAL2	XS7D1A1NAL2
		NC function	XS7J1A1NBL2	XS7F1A1NBL2	XS7E1A1NBL2	XS7C1A1NBL2	XS7D1A1NBL2
Connection			M8 connector		M12 connector		
2-wire non polarised	NO function		XS7J1A1DAL01M8 (1)	XS7F1A1DAL01M8 (1)	XS7E1A1DAM8	XS7C1A1DAM8	XS7D1A1DAM12
	NC function		XS7J1A1DBL01M8 (1)	XS7F1A1DBL01M8 (1)	XS7E1A1DBM8	XS7C1A1DBM8	XS7D1A1DBM12
3-wire	PNP	NO function	XS7J1A1PAL01M8 (1)	XS7F1A1PAL01M8 (1)	XS7E1A1PAM8	XS7C1A1PAM8	XS7D1A1PAM12
		NC function	XS7J1A1PBL01M8 (1)	XS7F1A1PBL01M8 (1)	XS7E1A1PBM8	XS7C1A1PBM8	XS7D1A1PBM12
	NPN	NO function	XS7J1A1NAL01M8 (1)	XS7F1A1NAL01M8 (1)	XS7E1A1NAM8	XS7C1A1NAM8	XS7D1A1NAM12
		NC function	XS7J1A1NBL01M8 (1)	XS7F1A1NBL01M8 (1)	XS7E1A1NBM8	XS7C1A1NBM8	XS7D1A1NBM12
Supply voltage limits, min./max. (V) including ripple			10...36	10...36	10...36	10...36	10...36
Switching capacity, max. (mA)			100	100	100	100	100
Short-circuit protect. (★) / LED output state indicator (⊗) / Power on LED (⊗)			★ / ⊗ / –	★ / ⊗ / –	★ / ⊗ / –	★ / ⊗ / –	★ / ⊗ / –
Voltage drop, closed state (V) at I nominal cable / Connector			≤ 4 / ≤ 2	≤ 4 / ≤ 2	≤ 2	≤ 2	≤ 2
Switching frequency (Hz) cable / Connector			4000 / 2000	5000 / 2000	1000	1000	100

Multi-current/multi-voltage sensors for AC/DC applications

Connection							
2-wire	AC/DC	NO function	–	–	–	–	–
		NC function	–	–	–	–	–
	AC	NO or NC programmable	–	–	–	–	–
	AC/DC	NO or NC programmable	–	–	–	–	–
Connection							
2-wire	AC/DC	NO function	–	–	–	–	–
		NC function	–	–	–	–	–
Supply voltage limits, min./max. (V) including ripple			–	–	–	–	–
Switching capacity, max. (mA)			–	–	–	–	–
Short-circuit protect. (★) / LED output state indicator (⊗) / Power on LED (⊗)			–	–	–	–	–
Residual current, open state (mA)			–	–	–	–	–
Voltage drop, closed state (V) at I nominal			–	–	–	–	–
Switching frequency (Hz)			–	–	–	–	–

(1) M8 connector on flying lead (L = 0.15 m).

Accessories

Fixing for flat sensors



Suitable female plug-in connectors

	flat	90°	M8	Straight	Elbowed
8x22x8	XSZBJ00	XSZBJ90	Metal ring	XZCC8FDM30S	XZCC8FCM30S
15x32x8	XSZBF00	XSZBF90	M12 (4 pin)		
26x26x13	XSZBE00	XSZBE90	Metal ring	XZCC12FDM40B	XZCC12FCM40B
40x40x15	XSZBC00	XSZBC90	Plastic ring	XZCC12FDP40B	XZCC12FCP40B





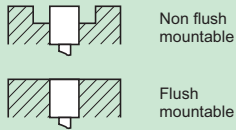
Ø 40 x 40 x 117				Ø 26 x 26 x 13	Ø 40 x 40 x 15	Ø 80 x 80 x 26
15 mm	20 mm increased range	20 mm	40 mm increased range	15 mm	25 mm	60 mm
0...12	0...16	0...16	0...32	0...8 / 0...12	0...12 / 0...20	0...32 / 0...48
				5...10 / 5...15	8...15 / 8...25	20...40 / 20...60
flush mountable		non flush mountable		flush mountable or non flush mountable via teach mode		
- 25...+ 70				- 25...+ 70		
CE - UL - CSA - CCC - C-TICK				CE - UL - CSA - CCC - C-TICK		
IP 67				pre-cabled: IP 68 (with connector: IP 67)		

Screw terminals (2)				Pre-cabled (2 m)		
XS7C40DP210	-	XS8C40DP210	-	-	-	-
XS7C40DA210	-	XS8C40DA210	-	-	-	-
-	-	-	-	-	-	-
XS7C40PC440	XS7C40PC449	XS8C40PC440	XS8C40PC449	-	-	-
XS7C40NC440	XS7C40NC449	XS8C40NC440	XS8C40NC449	-	-	-
-	-	-	-	XS8E1A1PAL2	XS8C1A1PAL2	XS8D1A1PAL2
-	-	-	-	XS8E1A1PBL2	XS8C1A1PBL2	XS8D1A1PBL2
-	-	-	-	XS8E1A1NAL2	XS8C1A1NAL2	XS8D1A1NAL2
-	-	-	-	XS8E1A1NBL2	XS8C1A1NBL2	XS8D1A1NBL2
M8 connector				M8 connector		M12 connector
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	XS8E1A1PAM8	XS8C1A1PAM8	XS8D1A1PAM12
-	-	-	-	XS8E1A1PBM8	XS8C1A1PBM8	XS8D1A1PBM12
-	-	-	-	XS8E1A1NAM8	XS8C1A1NAM8	XS8D1A1NAM12
-	-	-	-	XS8E1A1NBM8	XS8C1A1NBM8	XS8D1A1NBM12
12...48				10...36	10...36	10...36
4-wire version = 200	2-wire version = 1.5...100			100	200	200
4-wire version = ★ / ⊗ / ⊗	2-wire version = ★ / ⊗ / -			★ / ⊗ / ⊗	★ / ⊗ / ⊗	★ / ⊗ / ⊗
4-wire version = ≤ 2	2-wire version = ≤ 4			≤ 2	≤ 2	≤ 2
2-wire = 1500 / 4-wire = 1000	2-wire = 800 / 4-wire = 1000 (20mm) 500 (40mm)			2000	1000	150

Screw terminals (2)				Pre-cabled (2 m)		
-	-	-	-	XS8E1A1MAL2	XS8C1A1MAL2	XS8D1A1MAL2
-	-	-	-	XS8E1A1MBL2	XS8C1A1MBL2	XS8D1A1MBL2
XS7C40FP260	-	XS8C40FP260	-	-	-	-
XS7C40MP230	-	XS8C40MP230	-	-	-	-
				1/2"-20 UNF connector		
-	-	-	-	XS8E1A1MAL01U20	XS8C1A1MAL01U20	XS8D1A1MAU20
-	-	-	-	XS8E1A1MBL01U20	XS8C1A1MBL01U20	XS8D1A1MBU20
20...264				20...264	20...264	20...264
AC version = 500	AC/DC version = 300 / 200			200 AC or DC	300 AC / 200 DC	300 AC / 200 DC
- / ⊗ / -				- / ⊗ / ⊗	- / ⊗ / ⊗	- / ⊗ / ⊗
AC version = ≤ 1.5	AC/DC version = ≤ 0.8 / 1.5			≤ 1.5	≤ 1.5	≤ 1.5
≤ 5.5				≤ 5.5	≤ 5.5	≤ 5.5
25 AC / 50 DC				2000	1000	150

(2) Sensors supplied without cable gland. Suitable cable gland: 13P. Also available in M20, 1/2" NPT output and M12, 7/8" connectors.

Pre-wired connectors	M8 (3 pin)		1/2"		M12 (4 pin)					
	Straight	Elbowed	Straight	Elbowed	Straight	Elbowed	Elbowed PNP LED			
 Straight  Elbowed	2 m	XZCP0566L2	ZZCP0666L2	2 m	XZCP1865L2	XZCP1965L2	2 m	XZCP1141L2	XZCP1241L2	XZCP1340L2
	5 m	XZCP0566L5	XZCP0666L5	5 m	XZCP1865L5	XZCP1965L5	5 m	XZCP1141L5	XZCP1241L5	XZCP1340L5
	10 m	XZCP0566L10	XZCP0666L10	10 m	XZCP1865L10	XZCP1965L10	10 m	XZCP1141L10	XZCP1241L10	XZCP1340L10



	M8	M12	M18	M30
Nominal sensing distance Sn	2.5 mm	4 mm	8 mm	15 mm
Operating zone (mm)	0...2	0...3.2	0...6.4	0...12
Suitability for flush mounting (metal environment)	non flush mountable			
Temperature range (°C)	- 25...+ 70			
Product certification	CE - UL - CSA - CCC - C-TICK			
Degree of protection (conforming to IEC 60529)	IP 67	pre-cabled: IP 68 (with connector: IP 67)		

Sensors for DC applications

Connection			Pre-cabled, PvR (2 m)			
Dimensions (mm) Ø x L or W x H x D			M8 x 33	M12 x 33	M18 x 33.5	M30 x 40.5
2-wire (non polarised)	NO or NC	programmable	–	–	–	–
	4-wire	PNP NO + NC	complementary outputs	–	–	–
	NPN	NO + NC	complementary outputs	–	–	–
3-wire	PNP	NO function	XS4P08PA340	XS4P12PA340	XS4P18PA340	XS4P30PA340
		NC function	XS4P08PB340	XS4P12PB340	XS4P18PB340	XS4P30PB340
	NPN	NO function	XS4P08NA340	XS4P12NA340	XS4P18NA340	XS4P30NA340
		NC function	XS4P08NB340	XS4P12NB340	XS4P18NB340	XS4P30NB340
Connection			M8 connector			
Dimensions (mm) Ø x L or W x H x D			M8 x 42	M12 x 48	M18 x 48	M30 x 50
3-wire	PNP	NO function	XS4P08PA340S	XS4P12PA340D	XS4P18PA340D	XS4P30PA340D
		NC function	XS4P08PB340S	XS4P12PB340D	XS4P18PB340D	XS4P30PB340D
	NPN	NO function	XS4P08NA340S	XS4P12NA340D	XS4P18NA340D	XS4P30NA340D
		NC function	XS4P08NB340S	XS4P12NB340D	XS4P18NB340D	XS4P30NB340D
Supply voltage limits, min./max. (V) including ripple			10...38	10...38	10...38	10...38
Switching capacity, max. (mA)			200	200	200	200
Short-circuit protect. (★) / LED output state indicator (⊗)			★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗
Voltage drop, closed state (V) at I nominal			≤ 2	≤ 2	≤ 2	≤ 2
Switching frequency (Hz)			5000	5000	2000	1000

Multi-current/multi-voltage sensors for AC/DC applications

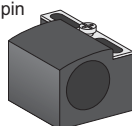
Connection			Pre-cabled, PvR (2 m)			
Dimensions (mm) Ø x L or W x D x H			M8 x 50	M12 x 50	M18 x 60	M30 x 60
2-wire	AC/DC	NO function	XS4P08MA230	XS4P12MA230	XS4P18MA230	XS4P30MA230
		not short-circuit protected (1)	NC function	XS4P08MB230	XS4P12MB230	XS4P18MB230
	AC	NO or NC programmable	–	–	–	–
	AC/DC	NO or NC programmable	–	–	–	–
Connection			1/2" connector			
Dimensions (mm) Ø x L or W x H x D			M8 x 61	M12 x 61	M18 x 70	M30 x 70
2-wire	AC/DC	NO function	XS4P08MA230K	XS4P12MA230K	XS4P18MA230K	XS4P30MA230K
		not short-circuit protected (1)	NC function	XS4P08MB230K	XS4P12MB230K	XS4P18MB230K
Supply voltage limits, min./max. (V) including ripple			20...264	20...264	20...264	20...264
Switching capacity, max. (mA)			100	200	300 AC / 200 DC	300 AC / 200 DC
LED output state indicator (⊗)			⊗	⊗	⊗	⊗
Residual current, open state (mA)			≤ 0.6	≤ 0.6	≤ 0.6	≤ 0.6
Voltage drop, closed state (V) at I nominal			≤ 5.5	≤ 5.5	≤ 5.5	≤ 5.5
Switching frequency (Hz)			25 AC / 3000 DC	25 AC / 3000 DC	25 AC / 2000 DC	25 AC / 1000 DC

(1) For these sensors without short-circuit protection, it is essential to connect a 0.4 A quick-blow fuse in series with the load.

Accessories

Fixing for cylindrical sensors

Fixing clamp with indexing pin for cylindrical sensors



M4	XSZB104	M12	XSZB112
M5	XSZB105	M18	XSZB118
M6.5	XSZB165	M30	XSZB130
M8	XSZB108		

Suitable female plug-in connectors

M8	Straight	Elbowed
Metal ring	XZCC8FDM30S	XZCC8FCM30S
M12 (4 pin)		
Metal ring	XZCC12FDM40B	XZCC12FCM40B
Plastic ring	XZCC12FDP40B	XZCC12FCP40B

Miniature cylindrical metal (assembly)



	Ø 4	M5	Ø 6.5	
Nominal sensing distance Sn	1 mm	1 mm	1.5 mm	2.5 mm
Operating zone (mm)	0...0.8	0...0.8	0...1.2	0...2
Suitability for flush mounting (metal environment)	flush mountable			
Temperature range (°C)	- 25...+ 70			
Product certification	CE - UL - CSA - CCC - C-TICK			
Degree of protection (conforming to IEC 60529)	IP 67			

Sensors for DC applications

Dimensions (mm) Ø x L	Ø 4 x 29		M5 x 29	Ø 6.5 x 33		
Connection	Pre-cabled, PvR (2 m)					
3-wire	PNP	NO function	XS1L04PA310	XS1N05PA310	XS506B1PAL2	XS106B3PAL2
		NC function	–	–	XS506B1PBL2	XS106B3PBL2
	NPN	NO function	XS1L04NA310	XS1N05NA310	XS506B1NAL2	XS106B3NAL2
		NC function	–	–	XS506B1NBL2	XS106B3NBL2
2-wire (polarised)	NO function		–	–	XS506BSCAL2	XS606B3CAL2
	NC function		–	–	XS506BSCBL2	XS606B3CBL2
Dimensions (mm) Ø x L	Ø 4 x 41		M5 x 41	Ø 6.5 x 42		
Connection	M8					
3-wire	PNP	NO function	XS1L04PA310S	XS1N05PA311S (1)	XS506B1PAM8	XS106B3PAM8
		NC function	–	–	XS506B1PBM8	XS106B3PBM8
	NPN	NO function	XS1L04NA310S	XS1N05NA311S (1)	XS506B1NAM8	XS106B3NAM8
		NC function	–	–	XS506B1NBM8	XS106B3NBM8
Connection	M12					
2-wire (polarised)	fonction NO		–	–	XS506BSCAL01M12	XS506B3CAL01M12
Supply voltage limits, min./max. (V) including ripple	5...30		5...30	10...36		
Switching capacity, max. (mA) 3-wire / 2-wire	100 / –		100 / –	200 / 100		
Short-circuit protect. (★) / LED output state indicator (⊗)	★ / ⊗		★ / ⊗	★ / ⊗		
Voltage drop, closed state (V) at I nominal 3-wire / 2-wire	≤ 2 / –		≤ 2 / –	≤ 2 / ≤ 4		
Switching frequency (Hz) 3-wire / 2-wire	5000 / –		5000 / –	5000 / 4000	2500 / 3000	

(1) Stainless steel sensors, Sn = 0.8 mm

Pre-wired connectors

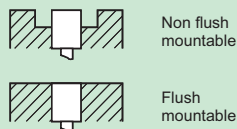


Straight



Elbowed

	M8 (3 pin)		1/2"		M12 (4 pin)				
		Straight	Elbowed		Straight	Elbowed	Elbowed PNP LED		
2 m	XZCP0566L2	XZCP0666L2	2 m	XZCP1865L2	XZCP1965L2	2 m	XZCP1141L2	XZCP1241L2	XZCP1340L2
5 m	XZCP0566L5	XZCP0666L5	5 m	XZCP1865L5	XZCP1965L5	5 m	XZCP1141L5	XZCP1241L5	XZCP1340L5
10 m	XZCP0566L10	XZCP0666L10	10 m	XZCP1865L10	XZCP1965L10	10 m	XZCP1141L10	XZCP1241L10	XZCP1340L10



		M12	M18	M30
Sensing distance S_n	flush mountable	2 mm	5 mm	10 mm
	non flush mountable	4 mm	8 mm	15 mm
Operating zone (mm)	flush mountable	0...1.6	0...4	0...8
	non flush mountable	0...3.2	0...6.4	0...12
Suitability for flush mounting (metal environment)		flush mountable or non flush mountable depending on model		
Case M (metal) P (plastic)		M		
Temperature range (°C)		- 25...+ 70		
Degree of protection (conforming to IEC 60529)		IP 68 (with connector: IP 67)		
Product certification		CE - UL - CSA - CCC - C-TICK		
Dimensions (mm) Ø x L Cable (Connector)		M12 x 55 (M12 x 66)	M18 x 60 (M18 x 72)	M30 x 60 (M30 x 72)

Sensors for DC applications

Connection						
4-wire	PNP	NO + NC	flush mountable	–	–	–
			non flush mountable	–	–	–
	NPN	NO + NC	flush mountable	–	–	–
			non flush mountable	–	–	–
	PNP+NPN programmable	NO/NC	flush mountable (metal)	–	–	–
			non flush mntbl. (metal)	–	–	–
		non flush mntbl. (plastic)	–	–	–	
Connection						
4-wire	PNP	NO + NC	flush mountable	–	–	–
			non flush mountable	–	–	–
	NPN	NO + NC	flush mountable	–	–	–
			non flush mountable	–	–	–
	PNP+NPN programmable	NO/NC	flush mountable (metal)	–	–	–
			non flush mntbl. (metal)	–	–	–
		non flush mntbl. (plastic)	–	–	–	
Supply voltage limits, min./max. (V) including ripple				–	–	–
Switching capacity, max. (mA)				–	–	–
Short-circuit protection (★) / LED output state indicator (⊗)				–	–	–
Voltage drop, closed state (V) at I nominal				–	–	–
Switching frequency (Hz)				–	–	–

Multi-current/multi-voltage sensors for AC/DC applications

Connection			Pre-cabled, PvR (2 m)		
2-wire AC/DC	NO function	flush mountable	XS1M12MA250	XS1M18MA250	XS1M30MA250
		non flush mountable	XS2M12MA250	XS2M18MA250	XS2M30MA250
	NC function	flush mountable	XS1M12MB250	XS1M18MB250	XS1M30MB250
		non flush mountable	XS2M12MB250	XS2M18MB250	XS2M30MB250
Connection			1/2"-20 UNF connector		
2-wire AC/DC	NO function	flush mountable	XS1M12MA250K	XS1M18MA250K	XS1M30MA250K
		non flush mountable	XS2M12MA250K	XS2M18MA250K	XS2M30MA250K
	NC function	flush mountable	XS1M12MB250K	XS1M18MB250K	XS1M30MB250K
		non flush mountable	XS2M12MB250K	XS2M18MB250K	XS2M30MB250K
Supply voltage limits, min./max. (V) 50-60 Hz			20...264		
Switching capacity, max. (mA)			5...200		
LED output state indicator (⊗) / Power on LED (⊗)			⊗ / ⊗		
Residual current, open state (mA)			≤ 1.5		
Voltage drop, closed state (V) at I nominal			≤ 5.5		
Switching frequency (Hz)			25 AC, 4000 DC	25 AC, 2000 DC	25 AC, 2000 DC (1)

(1) 25 AC, 1000 DC for non flush mountable Ø 30 mm.

PNP or NPN NO + NC Complementary outputs

PNP + NPN outputs, NO or NC programmable

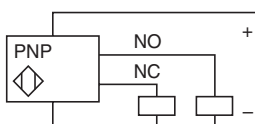


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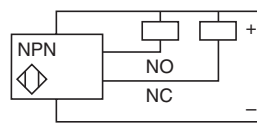
M8	M12	M18	M30	M12	M18	M30
1.5 mm	2 mm	5 mm	10 mm	2 mm	5 mm	10 mm
2.5 mm	4 mm	8 mm	15 mm	4 mm	8 mm	15 mm
0...1.2	0...1.6	0...4	0...8	0...1.6	0...4	0...8
0...2	0...3.2	0...6.4	0...12	0...3.2	0...6.4	0...12
flush mountable or non flush mountable depending on model				flush mountable or non flush mountable depending on model		
M				M or P depending on model		
- 25...+ 70				- 25...+ 70		
IP 67		IP 68 (with connector: IP 67)		IP 68 (with connector: IP 67)		
CE - UL - CSA - CCC - C-TICK				CE - UL - CSA - CCC - C-TICK		
M8 x 50 (M8 x 61)	M12 x 33 (M12 x 48)	M18 x 36.5 (M18 x 49)	M30 x 40.5 (M30 x 53)	M12 x 50 (M12 x 61)	M18 x 60 (M18 x 72)	M30 x 60 (M30 x 72)

Pre-cabled, PvR (2 m)				Pre-cabled, PvR (2 m)		
XS1M08PC410	XS1N12PC410	XS1N18PC410	XS1N30PC410	-	-	-
XS2M08PC410	XS2N12PC410	XS2N18PC410	XS2N30PC410	-	-	-
XS1N08NC410	XS1N12NC410	XS1N18NC410	XS1N30NC410	-	-	-
XS2M08NC410	XS2N12NC410	XS2N18NC410	XS2N30NC410	-	-	-
-	-	-	-	XS1M12KP340	XS1M18KP340	XS1M30KP340
-	-	-	-	XS2M12KP340	XS2M18KP340	XS2M30KP340
-	-	-	-	XS4P12KP340	XS4P18KP340	XS4P30KP340
M12 connector				M12 connector		
XS1M08PC410D	XS1N12PC410D	XS1N18PC410D	XS1N30PC410D	-	-	-
XS2M08PC410D	XS2N12PC410D	XS2N18PC410D	XS2N30PC410D	-	-	-
XS1M08NC410D	XS1N12NC410D	XS1N18NC410D	XS1N30NC410D	-	-	-
XS2M08NC410D	XS2N12NC410D	XS2N18NC410D	XS2N30NC410D	-	-	-
-	-	-	-	XS1M12KP340D	XS1M18KP340D	XS1M30KP340D
-	-	-	-	XS2M12KP340D	XS2M18KP340D	XS2M30KP340D
-	-	-	-	XS4P12KP340D	XS4P18KP340D	XS4P30KP340D
10...36				10...36		
200				200		
★ / ⊗				★ / -		
≤ 2				≤ 2.6		
5000	5000	2000	1000	5000	2000	1000

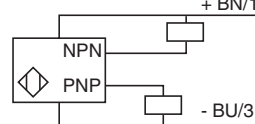
PNP



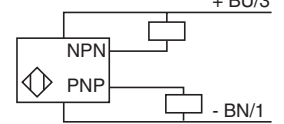
NPN



NO



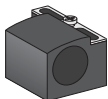
NC



Accessories

Fixing clamps

With indexing pin for cylindrical sensors



M8	XSZB108
M12	XSZB112
M18	XSZB118
M30	XSZB130

Suitable female plug-in connectors, including pre-wired versions

length 5 m
without LED

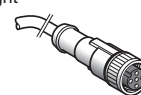
M8 (or S)
M12 (or D)
1/2" (or K)

pre-wired,
elbowed



XZCP0666L5
XZCP1241L5
XZCP1965L5

pre-wired,
straight

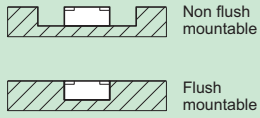


XZCP0566L5
XZCP1141L5
XZCP1865L5

screw terminal



XZCC8FCM30S
XZCC12FCM40B
XZCC20FCM30B



	26 x 26 x 13	40 x 40 x 15	M30	M18	M30
Nominal sensing distance S_n	10 mm	15 mm	10 mm	5 mm	10 mm
Operating zone (mm)	0...8	0...12	0...8	0...4	0...8
Suitability for flush mounting (metal environment)	flush mountable			flush mountable	
Case M (metal) P (plastic)	P	P	M	M	M
Temperature range (°C)	- 25...+ 70			0...+ 50	
Degree of protection (conforming to IEC 60529)	IP 67			pre-cabled: IP 68 (with connector: IP 67)	
Product certification	CE - UL - CSA - CCC - C-TICK			CE - UL - CSA - CCC - C-TICK	
Dimensions (mm) Ø x L or W x H x D Cable (Connector)	26 x 26 x 13	40 x 40 x 15	M30 x 81	M18 x 60 (M18 x 70)	M30 x 60
Maximum speed of passing object (impulses/min)	48000	48000	6000...48000 (1)	–	–
Adjustable frequency range (impulses/min)	6...6000	6...6000	6...150 / 120...3000 (1)	–	–

Sensors for DC applications

Connection			Pre-cabled, PvR (2 m)				
4-wire	PNP/NPN NO/NC	programmable	–	–	–	XS1M18KPM40	XS1M30KPM40
3-wire	PNP NC function	slow version	–	–	XSAV11373	–	–
		fast version	–	–	XSAV12373	–	–
	0...10 V output	plastic	–	–	–	–	–
	4...20 mA output	metal, flush mountable	–	–	–	–	–
		plastic, flush mountable	–	–	–	–	–
		plastic, non flush mountable	–	–	–	–	–
Connection			M8 or M12 connector			M12 on 0.8 m flying lead	
4-wire	PNP/NPN NO/NC	programmable	–	–	–	XS1M18KPM40D	XS1M30KPM40LD
3-wire	PNP NC function		XS9E11RPBL01M12 (3)	XS9C11RPBL01M12 (3)	–	–	–
		0...10 V output	–	–	–	–	–
	4...20 mA output	–	–	–	–	–	
Supply voltage limits, min./max. (V) including ripple			10...36	10...36	10...58	10...38	
Switching capacity, max. (mA)			100	200	200	200	
Short-circuit protect. (★) / LED output state indicator (⊗) / Power on LED (⊗)			(⊗)	★ / ⊗ / ⊗	★ / ⊗ / ⊗	★ / ⊗ / –	★ / ⊗ / –
Linearity error			–	–	–	–	
Voltage drop, closed state (V) at I nominal			≤ 2	≤ 2	≤ 2	≤ 2.6	
Switching frequency (Hz)			–	–	–	1000	
Operating frequency (Hz)			–	–	–	–	

Multi-current/multi-voltage sensors for AC/DC applications

Connection			Pre-cabled, PvR (2 m)				
2-wire	AC/DC NC function	not short-circuit protected (2)	XS9E11RMBL01U20 (5)	XS9C11RMBL01U20 (5)	–	–	–
		slow version	–	–	XSAV11801	–	–
		fast version	–	–	XSAV12801	–	–
Supply voltage limits, min./max. (V) 50-60 Hz			20...264	20...264	20...264	–	
Switching capacity, max. (mA)			100	300 AC / 200 DC	300 AC / 200 DC	–	
LED output state indicator (⊗) / Power on LED (⊗)			⊗ / ⊗	⊗ / ⊗	⊗ / –	–	
Residual current, open state (mA)			≤ 1.5	≤ 1.5	≤ 1.5	–	
Voltage drop, closed state (V) at I nominal			≤ 5.5	≤ 5.5	≤ 5.7	–	
Switching frequency (Hz)			–	–	–	–	

Accessories

Fixing		substitution of block type sensors			Fixing clamp with indexing pin for cylindrical sensors		
for flat sensors		flat	90°	XSE / XSC / XSD			
	flat	8x22x8	XSZBJ00	XSZBJ90	–		
		15x32x8	XSZBF00	XSZBF90	XSZBE10		
		26x26x13	XSZBE00	XSZBE90	XSZBC10		
		40x40x15	XSZBC00	XSZBC90	XSZBD10		
						M12	XSZB112
						M18	XSZB118
						M30	XSZB130

Analogue (Position control)



1

8 x 32 x 8	26 x 26 x 13	40 x 40 x 15	80 x 80 x 26	M12	M18	M30
5 mm	10 mm	15 mm	40 mm	M: 2 mm / P: 4 mm	M: 5 mm / P: 8 mm	M: 10 mm / P: 15 mm
1...4	1...10	2...15	5...40	M: 0.2...2 / P: 0.4...4	M: 0.5...5 / P: 0.8...8	M: 1...10 / P: 1.5...15
flush mountable	flush mountable	flush mountable	flush mountable	flush / non flush mountable	flush / non flush mountable	flush / non flush mountable
P	P	P	P	M or P	M or P	M or P
- 25...+ 60	- 25...+ 70	- 25...+ 70	- 25...+ 70	- 25...+ 70	- 25...+ 70	- 25...+ 70
pre-cabled: IP 68 (with connector: IP 67)				IP 67		
CE - UL - CSA - CCC - C-TICK						
15 x 32 x 8	26 x 26 x 13	40 x 40 x 15	80 x 80 x 26	Ø 12 x 50	Ø 18 x 50	Ø 30 x 52.5
-	-	-	-	-	-	-
-	-	-	-	-	-	-

-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
XS9F111A1L2	XS9E111A1L2	XS9C111A1L2	XS9D111A1L2	XS4P12AB110	XS4P18AB110	XS4P30AB110
-	-	-	-	XS1M12AB120	XS1M18AB120	XS1M30AB120
XS9F111A2L2	XS9E111A2L2	XS9C111A2L2	XS9D111A2L2	-	-	-
-	-	-	-	XS4P12AB120	XS4P18AB120	XS4P30AB120
M8 or M12 connector						
-	-	-	-	-	-	-
-	-	-	-	-	-	-
XS9F111A1L01M8 (4)	XS9E111A1L01M12 (4)	XS9C111A1L01M12 (4)	XS9D111A1M12	-	-	-
XS9F111A2L01M8 (4)	XS9E111A2L01M12 (4)	XS9C111A2L01M12 (4)	XS9D111A2M12	-	-	-
10...36	10...36	10...36	10...36	10...38	10...38	10...38
-	-	-	-	-	-	-
-	-	-	-	-	-	-
± 1 V for 0...10 V version / ± 2 mA for 4...20 mA version						
-	-	-	-	-	-	-
-	-	-	-	-	-	-
2000	1000	1000	100	1500	500	300

(1) 6...150 and 6000 impulses/min for XSAV11373 and XSAV11801 (slow version); 120...3000 and 48000 impulses/min for XSAV12373 and XSAV12801 (fast version).



(2) For these sensors without short-circuit protection, it is essential to connect a 0.4 A quick-blow fuse in series with the load.

(3) Flying lead (L = 0.15 m) with end mounted remote control incorporating M12 connector.

(4) Flying lead (L = 0.15 m) with end connector.

(5) Flying lead (L = 0.15 m) with end mounted remote control incorporating 1/2"-20 UNF connector.

Accessories

Pre-wired connectors	M8 (3 pin)		1/2"		M12 (4 pin)					
	Straight	Elbowed	Straight	Elbowed	Straight	Elbowed	Elbowed PNP LED			
 Straight  Elbowed	2 m	XZCP0566L2	XZCP0666L2	2 m	XZCP1865L2	XZCP1965L2	2 m	XZCP1141L2	XZCP1241L2	XZCP1340L2
	5 m	XZCP0566L5	XZCP0666L5	5 m	XZCP1865L5	XZCP1965L5	5 m	XZCP1141L5	XZCP1241L5	XZCP1340L5
	10 m	XZCP0566L10	XZCP0666L10	10 m	XZCP1865L10	XZCP1965L10	10 m	XZCP1141L10	XZCP1241L10	XZCP1340L10

Suitable female plug-in connectors

M8	Straight	Elbowed
Steel ring	XZCC8FDM30S	XZCC8FCM30S
M12 (4 pin)		
Steel ring	XZCC12FDM40B	XZCC12FCM40B
Plastic ring	XZCC12FDP40B	XZCC12FCP40B

1



Type	M12	M18	Ø 18 plain	M30
Nominal sensing distance Sn	7 mm	12 mm	12 mm	22 mm
Operating zone (mm)	0 ... 5.6	0 ... 9.6	0 ... 9.6	0 ... 17.6
Suitability for flush mounting (metal environment)	non flush mountable			
Case M (metal) (1)	M stainless steel 316 L			
Product certification	CE - UL - CSA - CCC - C-TICK			
Temperature range (°C)	- 25...+ 85			
Degree of protection (conforming to IEC 60529)	pre-cabled: IP 68 (with connector: IP 67) and IP 69K conforming to DIN 40050			

Sensors for DC applications (solid-state output: transistor)

Connection			Pre-cabled, non poisonous PVC (2 m)			
Dimensions (mm)			M12 x 55	M18 x 60	Ø 18 x 60	M30 x 62
3-wire	PNP	NO function	XS212SAPAL2	XS218SAPAL2	XS2L2SAPAL2	XS230SAPAL2
	NPN	NO function	XS212SANAL2	XS218SANAL2	XS2L2SANAL2	XS230SANAL2
Connection			M12 connector			
Dimensions (mm)			M12 x 61	M18 x 70	Ø 18 x 70	M30 x 70
3-wire	PNP	NO function	XS212SAPAM12	XS218SAPAM12	XS2L2SAPAM12	XS230SAPAM12
	NPN	NO function	XS212SANAM12	XS218SANAM12	XS2L2SANAM12	XS230SANAM12
Supply voltage limits, min./max. (V) including ripple			10...36			
Switching capacity, max. (mA)			≤ 200			
Switching frequency (Hz)			2500	1000	1000	500
Short-circuit protection (★) / LED output state indicator (⊗)			★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗
Voltage drop, closed state (V) at I nominal			≤ 2			

Multi-current/multi-voltage sensors for AC/DC applications


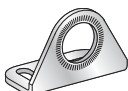
Connection			Pre-cabled, non poisonous PVC (2 m)			
Dimensions (mm)			–	M18 x 60	–	M30 x 62
2-wire (2)	AC/DC	NO function	–	XS218SAMAL2	–	XS230SAMAL2
Connection			1/2"-20 UNF connector			
Dimensions (mm)			–	M18 x 72	–	M30 x 74
2-wire (2)	AC/DC	NO function	–	XS218SAMAU20	–	XS230SAMAU20
Supply voltage limits, min./max. (V) 50-60 HZ			–	20 ... 264	–	20 ... 264
Switching capacity, max. (mA)			–	300 AC / 200 DC	–	300 AC / 200 DC
Switching frequency (Hz)			–	25 AC / 1000 DC	–	25 AC / 300 DC
LED output state indicator (⊗)			–	⊗	–	⊗
Voltage drop, closed state (V) at I nominal			–	≤ 5.5	–	≤ 5.5
Residual current, open state (mA)			–	≤ 0.8	–	≤ 0.8

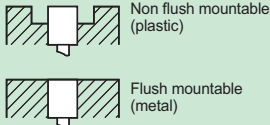


(1) Plastic range available. M12, M18, M30:
To order, replace the second letter **S** in the reference by **A**
(example: XS212SAPAL2 becomes XS212AAPAL2).

(2) For these sensors without short-circuit protection, it is essential to connect a 0.4 A quick-blow fuse in series with the load.

Accessories

Fixing clamps		M12 pre-wired connector		M12 jumper cable	
Plastic 	fixing centres 24.1 mm, with locking screw	female, 4-pin, stainless steel clamping ring		male, 3-pin, stainless steel clamping ring	
	for sensor Ø 18 plain	Straight connector	5 m cable XZCPA1141L5	Straight connector	5 m XZCRA151140A5
Stainless steel 	for sensor	Elbowed connector	5 m cable XZCPA1241L5	1/2" pre-wired connector	
	Ø 12			Straight	5 m XZCP1865L5
	Ø 18			Elbowed	5 m XZCP1965L5
	Ø 30				



Suitability for flush mtg.		M12	M18	M30	Ø 32	40 x 40 x 117
Nominal sensing distance S_n	flush mountable	2 mm	5 mm	10 mm	15 mm	15 mm
	non flush mountable	—	8 mm	15 mm	20 mm	—
Operating zone S_a (mm) (2)	flush mountable	0...1.44	0...3.6	0...7.2	0...10	0...11
	non flush mountable	—	0...5.8	0...11	0...15	—
Case M (metal) P (plastic)	flush mountable	M	M	M	M	P
	non flush mountable	—	P	P	P	—
Product certification		CE				CE - UL - CSA
Temperature range (°C)		- 25...+ 70				
Degree of protection (conforming to IEC 60529)		IP 67				
Dimensions (mm) Ø x L or H x W x D		M12 x 70	M18 x 80	M30 x 80	M32 x 80	117 x 40 x 40

Sensors for DC applications

Connection				Pre-cabled, PVC (2 m)				
3-wire	PNP	NO function	flush mountable	XT112S1PAL2	XT118B1PAL2	XT130B1PAL2	—	—
			non flush mountable	—	XT218A1PAL2	XT230A1PAL2	—	—
		NO + NC functions	flush mountable	XT112S1PCL2	XT118B1PCL2	XT130B1PCL2	—	—
			non flush mountable	—	—	—	—	—
	NPN	NO function	flush mountable	XT112S1NAL2	XT118B1NAL2	XT130B1NAL2	—	—
			non flush mountable	—	XT218A1NAL2	XT230A1NAL2	—	—
Connection				M12 connector				
3-wire	PNP	NO + NC functions	flush mountable	XT112S1PCM12	XT118B1PCM12	XT130B1PCM12	—	Screw terminals
			non flush mountable	—	XT218A1PCM12	XT230A1PCM12	—	XT7C40PC440 (3)
	NPN	NO + NC functions	flush mountable	—	—	—	—	XT7C40NC440 (3)
Supply voltage limits, min./max. (V) including ripple				10...38				10...58
Switching capacity, max. (mA)				200				200
Short circuit-protection (★) / LED output state indicator (⊗)				★ / ⊗				★ / ⊗
Voltage drop, closed state (V) at I nominal				≤ 2				≤ 2
Switching frequency (Hz)				300	100 (XT2) / 200 (XT1)	100 (XT2) / 150 (XT1)	—	100

Multi-current/multi-voltage sensors for AC applications

Connection				Pre-cabled, PVC (2 m)				
2-wire AC (1)	NO function	flush mountable	—	XT118B1FAL2	XT130B1FAL2	XT132B1FAL2	—	
		non flush mountable	—	XT218A1FAL2	XT230A1FAL2	XT232A1FAL2	—	
	NO function	flush mountable	—	XT118B1FBL2	XT130B1FBL2	XT132B1FBL2	—	
		non flush mountable	—	—	XT230A1FBL2	XT232A1FBL2	—	
Connection				Screw terminals				
2-wire AC (1)	NO or NC programmable	flush mountable	—	—	—	—	XT7C40FP262	
Supply voltage limits, min./max. (V) 50-60 Hz				—	20...264	20...264	20...264	
Switching capacity, max. (mA)				—	300	—	350	
LED output state indicator (⊗) / Power on LED (⊗)				⊗ / —				
Voltage drop, closed state (V) at I nominal				—	≤ 5.5	≤ 5.5	≤ 9	≤ 5.5
Switching frequency (Hz)				—	25	25	25	25

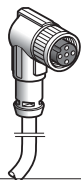
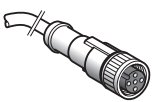

(1) For these sensors without short-circuit protection, it is essential to connect a 0.4 A quick-blow fuse in series with the load.

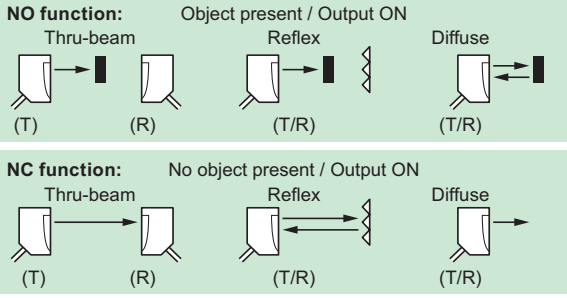
(2) The operating distance depends on the object material.

(3) Only for detecting insulating materials.

Accessories

Suitable female plug-in connectors, including pre-wired versions

length 5 m without LED	pre-wired, elbowed	pre-wired, straight	screw terminal
M12	XZCP1241L5 	XZCP1141L5 	XZCC12FCM40B 



			M18 Metal (1)		M18 Plastic		
			Cable	M12 connector	Cable	M12 connector	
Diffuse	Sensing distance		0.6 m (2) (3)		0.6 m (2) (3)		
	Output type	DC3 NO	PNP	XUB5BPANL2	XUB5BPANM12	XUB5APANL2	XUB5APANM12
			NPN	XUB5BNANL2	XUB5BNANM12	XUB5ANANL2	XUB5ANANM12
	AC/DC 1C/O relay		-	-	-	-	
Reflex Polarised	Sensing distance (4)		2 m		2 m		
	Output type	DC3 NO	PNP	XUB9BPANL2	XUB9BPANM12	XUB9APANL2	XUB9APANM12
			NPN	XUB9BNANL2	XUB9BNANM12	XUB9ANANL2	XUB9ANANM12
	AC/DC 1C/O relay		-	-	-	-	
Reflex	Sensing distance (4)		4 m		4 m		
	Output type	DC3 NO	PNP	XUB1BPANL2	XUB1BPANM12	XUB1APANL2	XUB1APANM12
			NPN	XUB1BNANL2	XUB1BNANM12	XUB1ANANL2	XUB1ANANM12
	AC/DC 1C/O relay		-	-	-	-	
Thru beam	Sensing distance		15 m		15 m		
	Output type	DC3 NO	PNP	XUB2BPANL2R	XUB2BPANM12R	XUB2APANL2R	XUB2APANM12R
			NPN	XUB2BNANL2R	XUB2BNANM12R	XUB2ANANL2R	XUB2ANANM12R
	AC/DC 1C/O relay		-	-	-	-	
Output function	NO		A	A	A	A	
	NC		B	B	B	B	
Thru beam Transmitter	DC		XUB2BKSNL2T	XUB2BKSNM12T	XUB2AKSNL2T	XUB2AKSNM12T	
	AC/DC		-	-	-	-	
Multimode	Sensing distance		Background suppression: 0.12 m - Diffuse: 0.3 m Reflex polarised: 3 m - Thru beam: 20 m				
	Output type	DC3 NO/NC	PNP	XUB0BPSNL2	XUB0BPSNM12	XUB0APSNL2	XUB0APSNM12
			NPN	XUB0BNSNL2	XUB0BNSNM12	XUB0ANSNL2	XUB0ANSNM12
			PNP/NPN	-	-	-	-
	AC/DC 1C/O relay		-	-	-	-	
Thru beam Transmitter	DC		XUB0BKSNL2T	XUB0BKSNM12T	XUB0AKSNL2T	XUB0AKSNM12T	
	AC/DC		-	-	-	-	

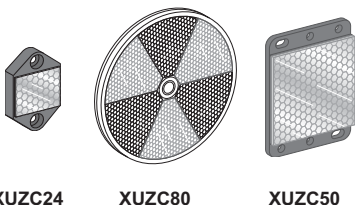
(1) Brass metal, available also in stainless steel, see page food/beverage processing series

(2) For a sensing distance 0,1 m without sensitivity adjustment, change digit 5 by 4 into the reference (ex: XUB5BPANL2 becomes XUB4BPANL2)

Fixing	M18 x1	M18 x1
Dimensions	M18 x 64 mm / M18 x 78 mm	
Product certifications	CE, UL, CSA, C-Tick	CE, UL, CSA, C-Tick
DC common characteristics		
Supply voltage limits, min./max. (V) including ripple	10...36	10...36
Switching frequency (Hz)	500	500
Common characteristics for DC versions	Switching capacity, max. (mA): 100 / Overload and short-circuit protection (★) / LED output state	
AC/DC common characteristics		
Supply voltage limits, min./max. (V) including ripple	-	-
Switching frequency (Hz)	-	-
LED output state indicator (⊗) / power on LED (⊗)	-	-

Accessories

Reflectors



Reflectors (mm)	
Ø 21	XUZC21
24 x 21	XUZC24
11 x 33	XUZC08
Ø 39	XUZC39
Ø 80	XUZC80
50 x 50	XUZC50
100 x 100	XUZC100

3D fixings with ball joint



Bracket with ball joint for sensors and reflector XUZC50



Protective housing with ball joint

for	
XUB...	XUZB2003
XUM0...	XUZM2003
XUK...	XUZK2003
XUX...	XUZX2003

for	
XUK...	XUZK2004
XUX...	XUZX2004

M12 rod for ball joint



XUZ2001



Miniature Cable		M8 connector	Compact 50 x 50 mm		Compact 92 x 71 mm	
			Cable	M12 connector	Screw terminal	M12 connector
1 m (3)			1 m (3)		2.1 m (3)	
XUM5APCNL2	XUM5APCNM8	XUM5APCNL2	XUK5AP ANL2	XUK5AP ANM12	XUX5AP ANT16	XUX5AP ANM12
XUM5ANCNL2	XUM5ANCNM8	XUM5ANCNL2	XUK5AN ANL2	XUK5AN ANM12	XUX5AN ANT16	XUX5AN ANM12
-	-	XUM5ARCNL2	XUK5ARCNL2	-	XUX5ARCNT16	-
5 m (3)			5 m		11 m (3)	
XUM9APCNL2	XUM9APCNM8	XUM9APCNL2	XUK9AP ANL2	XUK9AP ANM12	XUX9AP ANT16	XUX9AP ANM12
XUM9ANCNL2	XUM9ANCNM8	XUM9ANCNL2	XUK9AN ANL2	XUK9AN ANM12	XUX9AN ANT16	XUX9AN ANM12
-	-	XUM9ARCNL2	XUK9ARCNL2	-	XUX9ARCNT16	-
-	-	7 m		14 m (3)		
-	-	XUK1AP ANL2	XUK1AP ANL2	XUK1AP ANM12	XUX1AP ANT16	XUX1AP ANM12
-	-	XUK1AN ANL2	XUK1AN ANL2	XUK1AN ANM12	XUX1AN ANT16	XUX1AN ANM12
-	-	XUK1ARCNL2	XUK1ARCNL2	-	XUX1ARCNT16	-
15 m (3)			30 m		40 m (3)	
XUM2APCNL2R	XUM2APCNM8R	XUM2APCNL2R	XUK2AP ANL2R	XUK2AP ANM12R	XUX2AP ANT16R	XUX2AP ANM12R
XUM2ANCNL2R	XUM2ANCNM8R	XUM2ANCNL2R	XUK2AN ANL2R	XUK2AN ANM12R	XUX2AN ANT16R	XUX2AN ANM12R
-	-	XUM2ARCNL2R	XUK2ARCNL2R	-	XUX2ARCNT16R	-
	NO or NC	NO or NC	A	A	A	A
			B	B	B	B
XUM2AKCNL2T	XUM2AKCNM8T	XUM2AKCNL2T	XUK2AKSNL2T	XUK2AKSNM12T	XUX0AKSAT16T	XUX0AKSAM12T
-	-	XUM2ARCNL2T	XUK2ARCNL2T	-	XUX0ARCTT16T	-
Background suppression: 0.1 m - Diffuse: 0.4 m		Background suppression: 0.28 m - Diffuse: 0.8 m		Background suppression: 1.3 m - Diffuse: 2 m		
Reflex polarised: 3 m - Thru beam: 10 m		Reflex polarised: 4 m - Thru beam: 30 m		Reflex polarised: 11 m - Thru beam: 40 m		
XUM0APSAL2	XUM0APSAM8	-	-	-	-	
XUM0ANSAL2	XUM0ANSAM8	-	-	-	-	
-	-	XUK0AKSAL2	XUK0AKSAM12	XUX0AKSAT16	XUX0AKSAM12	
-	-	XUK0ARCTL2	-	XUX0ARCTT16	-	
XUM0AKSAL2T	XUM0AKSAM8T	XUK0AKSAL2T	XUK0AKSAM12T	XUX0AKSAT16T	XUX0AKSAM12T	
-	-	XUK0ARCTL2T	-	XUX0ARCTT16T	-	
(3) With sensitivity adjustment		(3) With sensitivity adjustment		(3) With sensitivity adjustment		
(4) With reflector XUZC50 to be ordered separately		(4) With reflector XUZC50 to be ordered separately		(4) With reflector XUZC50 to be ordered separately		
Direct fixing centres 25.5, M3 screws		Direct fixing centres 40 x 40, M4 screws		Direct fixing centres 30/38 to 40/50/74, M5 screws		
12 x 34 x 20		18 x 50 x 50		30 x 92 x 71		
CE, UL, CSA, C-Tick		CE, UL, CSA, CCC, C-Tick		CE, UL, CSA, CCC, C-Tick		
10...30		10...30		10...36		
1000		500		500		
indicator (⊗): yes / power on LED (⊗): yes		indicator (⊗): yes / power on LED (⊗): yes		indicator (⊗): yes / power on LED (⊗): yes		
-		20...264		20...264		
-		20		20		
-		⊗ / ⊗		⊗ / ⊗		

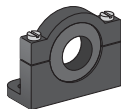
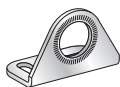
Simple fixings

Fixing support for M12 rod



XUZ2003

Single bracket



for	standard	with ball joint
XUB...	XUZA118 (stnls. steel)	XUZA218 (plastic)
XUM...	XUZAM02	-
XUK...	XUZA51	-
XUX...	XUZX2000	-

Suitable female plug-in connectors, including pre-wired versions

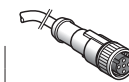
length 5 m without LED

M8



pre-wired, elbowed

XZCP1041L5



pre-wired, straight

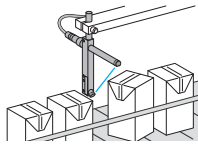
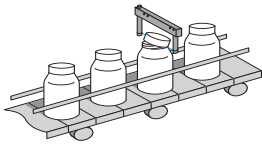
XZCP1141L5



screw terminal

XZCC8FCM40S

New



System	Thru-beam with modular red LED light source
Sensing distance	30...150 mm
Minimum size of object detected	0,8 mm
Case M (metal)	M
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 10...+ 60 / IP65 & IP67
Product certification	CE - cULus

Sensors for DC applications (solid-state output: transistor)

Connection		M8 connector 3-pin				Pre-cabled L = 2 m.					
Dimensions (mm)		A	B	C	D						
Transmitter / Receiver 3 wire NO function PNP NO function PNP NO function NPN NO function PNP NO function NPN NO function PNP NO function NPN NO function PNP NO function PNP NO function PNP NO function PNP		XUVR0605P ANM8	50	60	74	77.5	XUVR0303PANL2	A	B	C	D
		XUVR0605N ANM8						30	40	54	57,5
		XUVR0608P ANM8	80	60	104	77.5					
		XUVR0608N ANM8									
		XUVR1212P ANM8	120	120	144	142					
		XUVR1212N ANM8									
		XUVR1218P ANM8	180	120	204	142					
		XUVR1218N ANM8									
		XUVA0505P ANM8	44	44	71	71					
		XUVA0808P ANM8	74	74	101	101					
		XUVA1212P ANM8	112	112	142	142					
		XUVA1515P ANM8	142	142	172	172					
Output function	NO	A									
	NC	B									
Supply voltage limits, min./max. (V) including ripple	10...30										
Switching capacity, max. (mA) / Switching frequency (Hz)	100/4kHz										
Overload and short-circuit protection (★) / LED output state indicator (⊗)	★ / ⊗										



System	Thru-beam with infrared emission				
Passageway dimensions	30 x 30 mm	60 x 60 mm	200 x 120 mm	200 x 180 mm	200 x 250 mm
Connection	M8 (4 pin)		M12 (4 pin)		
Minimum size of object to be detected	∅ 2 mm	XUVF30M8	XUVF60M8	–	–
	∅ 4 mm	–	–	XUVF120M12	XUVF180M12
	∅ 10 mm	–	–	XUYFRS120S	XUYFRS180S
Type and output function	4-wire, PNP and NPN Output function ON or OFF on passage of object, programmable				
Supply voltage limits, min./max. (V) including ripple	18...30				
Switching capacity, max. (mA) / Switching frequency (Hz)	≤ 100 mA / 500 Hz				
Overload and short-circuit protection (★) / LED output state indicator (⊗)	★ / ⊗				

Accessories

Suitable female pre-wired plug-in connectors



Straight

Elbowed

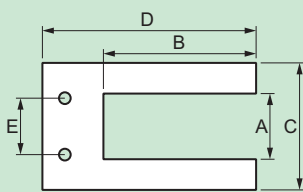
	M8 (3 pin)		M8 (4 pin)		M12 (4 pin)	
	For optical forks without setting		For optical forks and frame with setting		For frame with setting	
	Straight	Elbowed	Straight	Elbowed	Straight	Elbowed
2 m	XZCP0566L2	XZCP0666L2	XZCP0941L2	XZCP1041L2	XZCP1141L2	XZCP1241L2
5 m	XZCP0566L5	XZCP0666L5	XZCP0941L5	XZCP1041L5	XZCP1141L5	XZCP1241L5

Forks with teach mode (1)



System, with teach mode	Thru-beam	Thru-beam laser
Sensing distance	2...120 mm	2...120 mm
Fixing (mm)	(see column E below)	
Minimum size of objet detected	0,2 mm	0,05 mm
Case M (metal) / Setting-up assistance LEDs ☒	M / ☒	
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 25...+ 60 / IP 65	
Product certification	CE - cULus	

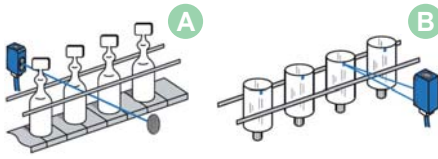
Sensors for DC applications (solid-state output: transistor)

Connection	M8 connector - 4 Pin									
Type of output	3-wire PNP/NPN programmable NO/NC									
Dimensions (mm)	A	B	C	D	E	A	B	C	D	E
Transmitter / Receiver										
										
XUYFANEP40002	2	42	32	57	14	XUYFALNEP40002	2	42	41	57
XUYFANEP60002	2	59		77		XUYFALNEP60002	2	59		77
XUYFANEP100002	2	95		110		XUYFALNEP100002	2	95		110
XUYFANEP40005	5	42	35	57	14	XUYFALNEP40005	5	42	44	57
XUYFANEP60005	5	59		77		XUYFALNEP60005	5	59		77
XUYFANEP100005	5	95		110		XUYFALNEP100005	5	95		110
XUYFANEP40015	15	42	45	57	27	XUYFALNEP40015	15	42	54	57
XUYFANEP60015	15	59		77		XUYFALNEP60015	15	59		77
XUYFANEP100015	15	95		110		XUYFALNEP100015	15	95		110
XUYFANEP40030	30	42	60	57	42	XUYFALNEP40030	30	42	69	57
XUYFANEP60030	30	59		77		XUYFALNEP60030	30	59		77
XUYFANEP100030	30	95		110		XUYFALNEP100030	30	95		110
XUYFANEP40050	50	42	80	57	40	XUYFALNEP40050	50	42	89	57
XUYFANEP60050	50	59		77		XUYFALNEP60050	50	59		77
XUYFANEP100050	50	95		110		XUYFALNEP100050	50	95		110
XUYFANEP40080	80	42	110	57	70	XUYFALNEP40080	80	42	119	57
XUYFANEP60080	80	59		77		XUYFALNEP60080	80	59		77
XUYFANEP100080	80	95		110		XUYFALNEP100080	80	95		110
XUYFANEP40120	120	42	150	57	110	XUYFALNEP40120	120	42	159	57
XUYFANEP60120	120	59		77		XUYFALNEP60120	120	59		77
XUYFANEP100120	120	95		110		XUYFALNEP100120	120	95		110
Supply voltage limits, min./max. (V) including ripple	10...30					10...30				
Switching capacity, max. (mA) / Switching frequency (Hz)	100/10 kHz					100/10 kHz				
Overload and short-circuit protection (★) / LED output state indicator (☒)	★ / ☒					★ / ☒				

(1) To order a fork without teach mode, delete **A** of the reference. Ex: XUYFANEP40002 becomes XUYFNPEP40002



System	Ultrasonic thru-beam	Thru-beam
	Special transparent labels	For all other opaque labels
Sensing distance	3 mm version 5 mm version	XUYFA983003COS XUYFA983005COS
Switching frequency (Hz)	500	10 000
Sensitivity adjustment	Numerical +/- button	Teach button
Connection	M8 (4 pin)	
Case M (metal) / Setting-up assistance LEDs ☒	M / ☒	
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 5...+ 55 / IP 65	- 20...+ 60 / IP 65
Product certification	CE - cULus	



Application

System	Thru-beam	Diffuse	Diffuse (1)	Reflex	Diffuse contrast
Sensing distance	100 m (2)	0.07 m	0.07 m	10...1000 mm (3)	40...150 mm
Fixing (mm)	M18 x 1	M8 x 1	Direct, 2 M3 holes, f.xg. ctrs. 20 mm	Direct, 2 M3 holes, fixing centres 24 mm	
Sensitivity adjustment	Teach mode	–	Potentiometer	Teach mode	
Case M (metal) P (plastic) / Setting-up assistance LEDs ☉	P / ☉	M / –	M / ☉	P	
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 10...+ 45°C	- 25...+ 55	- 25...+ 60	- 20...+ 60°C	
Degree of protection (conforming to IEC 60529)	IP 67	IP 67	IP 67, IP 69K	IP 67	
Product certification	CE - UL - CSA	CE - cULus	CE - cULus - C-TICK	CE - cULus	
Dimensions (mm) Ø x L or H x W x D	Ø 18 x 64	Ø 8 x 40	40.8 x 16.2 x 29.5	35.8 x 12 x 20	

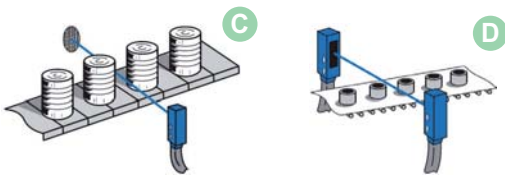
Sensors for DC applications (solid-state output: transistor)

Connection	Pre-cabled		PVR (2 m)	PVC (2 m)			
Transmitter / Receiver	3-wire PNP	NO function	–	XUAH0515	XUM5BPANL2	–	–
Connection		Connector	M12	M8 4-pin			
Transmitter / Receiver	3-wire PNP	NO function	–	XUAH0515S	–	–	–
	3-wire PNP	programmable NO / NC	XUBLAPCNM12	–	–	XUYBCO929LSP	XUYPCO929LSP
	3-wire NPN	programmable NO / NC	XUBLANCNM12	–	–	–	–
Supply voltage limits, min./max. (V) including ripple			10...30	10...30	10...30	10...30	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)			100 / 1500	100 / 700	100 / 1000	100 / 1000	100 / 1000
Overload and short-circuit protection (★) / LED output state indicator (☉)			★ / ☉	★ / ☉	★ / ☉	★ / ☉	★ / ☉

(1) Reflex and thru-beam systems also available.

(2) or min. size of object: 0.2 mm

(3) With specific reflector XUY1111, format 50 x 50 mm. To be ordered separately.



Miniature series sensors

Application

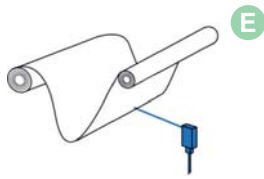
System	Polarised reflex 50 x 50 reflector included	Thru-beam
Sensing distance	1...1.5 m	4 m
Fixing (mm)	2 x Ø 3 holes / fixing centres 9.5	3 x Ø 3 holes / fixing centres 9.5
Sensitivity adjustment	Potentiometer	Potentiometer
Case P (plastic) / Setting-up assistance LEDs ☉	P / ☉	P / ☉
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	0...+ 50 / IP 65 & IP 67	0...+ 50 / IP 65 & IP 67
Product certification	CE - cULus	CE - cULus
Dimensions (mm) H x W x D	40 x 10 x 13.5	40 x 10 x 13.5

Sensors for DC applications (solid-state output: transistor)

Connection		M8 connector (1) - 4 Pin	
	PNP	NO function	XUYBCO989SP
	NPN	NO function	XUYBCO989SN
	PNP/NPN	programmable NO / NC	–
Supply voltage limits, min./max. (V) including ripple			10...30
Switching capacity, max. (mA) / Switching frequency (Hz)			100 / 500
Overload and short-circuit protection (★) / LED output state indicator (☉)			★ / ☉
			XUYRCO989SP (receiver)
			XUYRCO989SN (receiver)
			XUYECO989 (transmitter)

(1) For 2 m pre-cabled version, delete CO from the reference. (Example: XUYBCO989SP becomes XUYB989SP or XUYRCO989SP becomes XUYR989SP).

Materials handling series - Analogue output

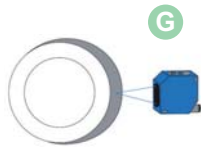


Application	Analogue output Position control		High access gain for resistance to accumulation of dirt
System	Diffuse	Diffuse	Thru-beam
Sensing distance	0.20...0.80 m	0.05...0.40 m	50 m
Fixing (mm)	fixing ctrs: 30 - 11P cable gland	M18 x 1	M18 x 1
Sensitivity adjustment	–	Potentiometer	Potentiometer
Case M (metal) P (plastic) / Setting-up assistance LEDs ☒	P / ☒	M / ☒	M / ☒
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 25...+ 60 / IP 67	- 25...+ 55 / IP 67	- 25...+ 55 / IP 67
Product certification	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA - C-TICK
Dimensions (mm) Ø x L or H x W x D	86 x 27 x 83	M18 x 95	M18 x 95

Sensors for DC applications

Connection	Screw terminals	M12 connector	M12 connector
Transmitter / Receiver	analogue 4-20 mA / 0-10 V	–	–
	analogue 4-20 mA	XU5M18AB20D	XU2M18AP20D (5)
Supply voltage limits, min./max. (V) including ripple	20...30	10...30	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)	max: 20, min: 4 / 10000	max: 20, min: 4 / 20	100 / 30
Overload and short-circuit protection (★) / LED output state indicator (☒)	★ / ☒	★ / ☒	★ / ☒

(5) With 3-wire PNP output.



Application	Diffuse, 0-10 V analogue output		Diffuse, 4-20 mA analogue output
System	Sensing distance 1	Sensing distance 2	
Sensing distance	40...60 mm	45...85 mm	80...300 mm
Minimum size of object	1 mm	0.8 mm	1.5 x 3.5 mm
Fixing (mm)	direct: 3 M4 holes, fixing centres 40 mm		
Sensitivity adjustment	Potentiometer		
Case P (plastic) / Setting-up assistance LEDs ☒	P / ☒		
Temperature range (°C)	0...+ 45°		
Product certification	CE - cULus		
Dimensions (mm) H x W x D	50 x 17 x 50		

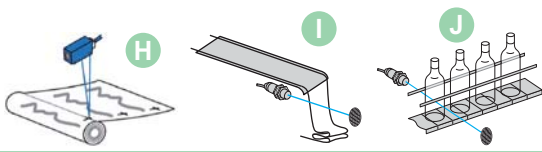
Sensors for DC applications (solid-state output: transistor)

Connection	M12 connector	M12 connector	M12 connector
Transmitter / Receiver 0...10 V	XUYPC0925L1ANSP	XUYPC0925L2ANSP	XUYPC0925L3ANSP
Supply voltage limits, min./max (V) including ripple	18...28	18...28	18...28
Switching capacity, max.	3 mA / 0...10 V analogue output		3 mA / 4...20 mA analogue output
Switching frequency (Hz)	40		40
Overload and short-circuit protection (★) / LED output state indicator (☒)	★ / ☒		★ / ☒

Accessories

Suitable female pre-wired plug-in connectors				Fixing, for XUYPC0925	
M8 straight	M12 straight	M8 elbowed	M12 elbowed	With protective cover	Simple
2 m XZCP0941L2	XZCP1141L2	XZCP1041L2	XZCP1241L2	XUY 9251-DF525567	XUY 925-DF525568
5 m XZCP0941L5	XZCP1141L5	XZCP1041L5	XZCP1241L5		

1



H Contrast sensors



H



H

Application

System	Diffuse (with teach mode)	Sensor with plastic fibre optics (1)	Diffuse (with teach mode)
Sensing distance	19 mm	18 mm	9 mm (2)
Fixing (mm)	direct: fixing centres 40 x 40	DIN rail	direct: 21 x 28, M5 screws
Sensitivity adjustment	Teach button	Teach button	Teach button
Case M (metal) P (plastic) / Setting-up assistance LEDs ☉	P / ☉	P / ☉	M / ☉
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 10...+ 55 / IP 65	0 ... + 40 / IP 65	- 10...+ 55 / IP 67
Product certification	CE - cULus	CE - cULus	CE
Dimensions (mm) Ø x L or H x W x D	50 x 15 x 50	30 x 13 x 60	96 x 31 x 64

Sensors for DC applications (solid-state output: transistor)

Connection	M12 connector	M8 connector	M12 connector
Transmitter / Receiver			
3-wire PNP	NO function XUKR1PSMM12	–	–
3-wire NPN	NO function XUKR1NSMM12	–	–
3-wire PNP / NPN	programmable NO / NC	–	XURK1KSMM12
NPN	NO function	XUYDCFCO966S	–
Supply voltage limits, min./max. (V) including ripple	10...30	10...30	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 5000	100 / 20 k	200 / 10000

(1) Suitable fibre optics, to be ordered separately:
Sensing distance: 18 mm (L = 0.6 m: XUYFPDC61),
60 mm (L = 1 m: XUYFPDC101),
18 mm (L = 0.6 m / M8: XUYFPDCM861),
60 mm (L = 1 m / M8: XUYFPDCM8101).

(2) 7 mm with XURZ02; 18 mm with XURZ01.



Luminescence sensors



Detection of transparent materials



Application

System	Diffuse (manual)	Lum. detection via fibre optics	Reflex (with teach mode) (50 x 50 reflector included)
Sensing distance	0.02...0.08 m	dpg. on fibre & fitting (3)	0...1.4 m (4) 1.5 m
Fixing (mm)	M18 x 1	DIN rail	M18 x 1 direct: fixing ctrs. 40 x 40
Sensitivity adjustment	Potentiometer	+/- numeric potentiometer	Teach button
Case M (metal) P (plastic) / Setting-up assistance LEDs ☉	M / ☉	P / ☉	P / ☉
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 25...+ 55 / IP 67	0 ... + 60 / IP 65	0...+ 55 / IP 67 - 25...+ 55 / IP 65
Product certification	CE - CSA - UL	CE - cULus	CE - UL - CSA - C-TICK
Dimensions (mm) Ø x L or H x W x D	Ø 18 x 95	30 x 13 x 60	Ø 18 x 64 50 x 18 x 50

Sensors for DC applications (solid-state output: transistor)

Connection	Pre-cabled, PVC (2 m)			
Transmitter / Receiver				
3-wire PNP	programmable NO / NC	–	–	XUBTAPSNL2 (5)
3-wire NPN	programmable NO / NC	–	–	XUBTANSNL2 (5)
3-wire PNP / NPN	programmable NO / NC	–	–	XUKT1KSML2
Connection				
Transmitter / Receiver				
3-wire PNP	fonction NO	M12 connector XU5M18U1D	M8 connector	M12 connector
3-wire PNP	programmable NO / NC	–	–	XUBTAPSNM12 (5)
3-wire NPN	programmable NO / NC	–	–	XUBTANSNM12 (5)
3-wire PNP / NPN	programmable NO / NC	–	XUYAFLCO966S	–
Supply voltage limits, min./max. (V) including ripple	10...30	10...30	10...32	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 1000	100 / 5	100 / 1000	100 / 1500

(3) Suitable fibre optics, to be ordered separately (usable Ø 1 mm): (L = 10 m: XUFZ910) (L = 20 m: XUFZ920) (L = 50 m: XUFZ950). End fittings see the fibre optic page

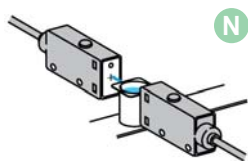
(4) 0...0.8 m for versions with 90° head, to order replace the 8° digit **N** by **W**. Example XUBTAPSNL2 becomes XUBTAPSWL2

(5) Also available in stainless steel for food and beverage processing applications. To order, replace the letter **A** by **S** in the ref. Example: XUBTAPSNL2 becomes XUBTSPSNL2.

Accessories

Suitable female plug-in connectors, including pre-wired versions			Lenses for colour mark	
L = 5 m, without LED	Wired, elbowed		Wired, straight	
M8 (or S)	4 pin XZCP0666L5		Screw terminal	
M12 (or D)	4 pin XZCP1241L5		XZCC8FCM30S	
M12	8 pin –		XZCC12FCM40B	
			XSZMCR03 (3 m)	
				XURZ01
				XURZ02

Packaging series



1

Application	Colour sensors		N Detection of aqueous liquids
System	Diffuse	Diffuse (with integral amplifier)	Thru-beam infrared
Sensing distance	0.02 m	0.040...0.060 m	0.2 m (1)
Fixing (mm)	direct: fixing ctrs. 40x40	drct: fxg ctrs. 68x42, M5 screws	direct: fixing ctrs. 20
Sensitivity adjustment	Teach button	Teach button	Potentiometer
Case M (metal) P (plastic) / Setting-up assistance LEDs ☉	P / ☉	M / ☉	P / ☉
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 10...+ 55 / IP 65	- 10...+ 55 / IP 67	0...+ 40 / IP 65
Product certification	CE - cULus	CE	CE
Dimensions (mm) Ø x L or H x W x D	50 x 25 x 50	80 x 30 x 57	47 x 13 x 33

Sensors for DC applications (solid-state output: transistor)

Connection	M12 connector - 8 pin	Pre-cabled (2 m)	Pre-cabled (2 m)
Transmitter / Receiver 3-wire PNP NO function	XUKC1PSMM12	XURC3PPML2	–
3-wire NPN NO function	XUKC1NSMM12	XURC3NPML2	–
3-wire PNP / NPN programmable NO / NC	–	–	XUMW1KSNL2
Supply voltage limits, min./max. (V) including ripple	10...30	10...30	10.8...26.4
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 1500	100 / 1200	100 / 1000

(1) Nominal sensing distance 50 m. Use between 10 and 20 cm, depending on application.

Food/beverage processing series



Stainless steel version for resistance to harsh agents

System	Multimode (3)	Polarised reflex 50x50 mm reflector included (2)	Diffuse (2)	Thru-beam (2)
Sensing distance	(4)	3 / 2 m	0.15 / 0.10 m	20 / 15 m
Fixing (mm)	M18 x 1	M18 x 1	M18 x 1	M18 x 1
Case M (metal)	M (stainless steel)	M (stainless steel)	M (stainless steel)	M (stainless steel)
Temperature range (°C) / Degree of protection (conforming to IEC 60529)		- 25...+ 55 / IP 67	- 25...+ 55 / IP 67	- 25...+ 55 / IP 67
Product certification	CE - UL - CSA - C-TICK			
Dimensions (mm) Ø x L	Ø 18 x 64	Ø 18 x 62	Ø 18 x 62	Ø 18 x 64

Sensors for DC applications (solid-state output: transistor)

Connection	Pre-cabled, PvR (2 m)			
Transmitter / Receiver 3-wire PNP programmable NO / NC	XUB0SPSNL2	XU9N18PP341	XU5N18PP341	XU2N18PP341
3-wire NPN programmable NO / NC	XUB0SNSNL2	XU9N18NP341	XU5N18NP341	XU2N18NP341
Connection	M12 connector			
Transmitter / Receiver 3-wire PNP programmable NO / NC	XUB0SPSNM12	XU9N18PP341D	XU5N18PP341D	XU2N18PP341D
3-wire NPN programmable NO / NC	XUB0SNSNM12	XU9N18NP341D	XU5N18NP341D	XU2N18NP341D
Thru-beam transmitter accessory	pre-cabled (2 m)	XUB0SKSNL2T	–	–
	connector	XUB0SKSNM12T	–	–
Supply voltage limits, min./max. (V) including ripple	10...36	10...30	10...30	
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 250	100 / 500	100 / 500	

(2) Also available with 90° head. To order, add the letter **W** after the numbers 341 in the reference. Example: XU9N18PP341 becomes XU9N18PP341**W** or XU9N18PP341**DW**.

(3) Also available with 90° head, to order replace the 8° digit **N** by **W**. Example XUB0SPSNL2 becomes XUB0SPSWL2

(4) Background suppression: **0.12 m** - Diffuse: **0.3 m** - Reflex polarised: **3 m** - Thru beam: **20 m**

1



Application	K	P	K
System	Background suppression	Diffuse with background suppression	
		Sensing distance 1	Sensing distance 2
Sensing distance	1.5...80 mm	10...60 mm	30...110 mm
Minimum size of object	–	0.3 mm	0.7 mm
Fixing (mm)	2 x Ø 3 holes / fvg. ctrs. 14.5	direct: 2 M3 holes, fixing centres 24 mm	
Sensitivity adjustment	Potentiometer	Teach mode	
Case P (plastic) / Setting-up assistance LEDs ☉	P / ☉	P	
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	0...+ 50 / IP 65 & IP 67	- 20...+ 60°C / IP 67	
Product certification	CE - cULus	CE - cULus	
Dimensions (mm) H x W x D	32 x 13 x 20	35.8 x 12 x 20	

Sensors for DC applications (solid-state output: transistor)

Connection	M8 connector (1) - 4 Pin	M8 connector- 4 Pin	M8 connector- 4 Pin
Transmitter / Receiver			
PNP NO function	XUYPSCO989SP	–	–
NPN NO function	XUYPSCO989SN	–	–
PNP programmable NO / NC	–	XUYPSCO929L1SP	XUYPSCO929L2SP
Supply voltage limits, min./max. (V) including ripple	10...30	10...30	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 500	100 / 1000	100 / 1000
Overload and short-circuit protection (★) / LED output state indicator (☉)	★ / ☉	★ / ☉	★ / ☉

(1) For 2 m pre-cabled connection delete CO from the reference. Example: XUYPSCO989SP becomes XUYPS989SP.





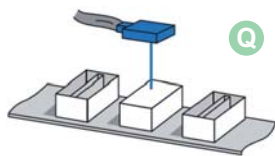
Application	M	L
System	Background suppression	Background suppression, 2 chnls.
Sensing distance	50...300 mm	50...600 mm
Minimum size of object	0.5 mm	–
Fixing (mm)	direct: 2 M4 holes, ctrs. 54 mm	2 x Ø 4 holes, fixing ctrs. 54
Sensitivity adjustment	Potentiometer	Potentiometer
Case P (plastic) / Setting-up assistance LEDs ☉	P / ☉	P / ☉
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	0...+ 50 / IP 65	0...+ 60 / IP 40
Product certification	CE - cULus	
Dimensions (mm) H x W x D	60 x 18 x 60	60 x 18 x 60

Sensors for DC applications (solid-state output: transistor). Sensors with overload and short-circuit protection

Connection	M8 connector	
Transmitter / Receiver 3-wire PNP / NPN programmable NO / NC	XUYPS1LCO965S	XUYPS2CO945S
Supply voltage limits, min./max. (V) including ripple	10...30	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 5000	100 / 370

Accessories

Pre-wired connectors		M8 (4 pin)		M12 (4 pin)		7/8" (5 pin)		
		Straight	Elbowed	Straight	Elbowed	Straight		
 Straight  Elbowed	2 m	XZCP0941L2	XZCP1041L2	2 m	XZCP1141L2	XZCP1241L2	2 m	XZCP1764L2
	5 m	XZCP0941L5	XZCP1041L5	5 m	XZCP1141L5	XZCP1241L5	5 m	XZCP1764L5



Q



Objets sur convoyeur



1

Application	Diffuse with adjustable background suppression		
System	Diffuse with adjustable background suppression		
Sensing distance	0...1 m	1.2 m	2 m
Fixing (mm)	direct: fixing ctrs. 40 x 40	M30 x 1.5 or M5, fixing ctrs. 30	direct: fixing ctrs. 30/38 to 40/50/74 M5 screw
Sensitivity adjustment	–	Potentiometer	–
Case P (plastic) / Setting-up assistance LEDs ☉	P / ☉	P / ☉	P / ☉
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 25...+ 55 / IP 65	- 25...+ 55 / IP 67, Nema 4X	- 25...+ 55 / IP 67
Product certification	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA
Dimensions (mm) H x W x D	50 x 18 x 50	95 x 45 x 44	92 x 30,5 x 71

Sensors for DC applications (solid-state output: transistor). Sensors with overload and short-circuit protection

Connection	Pre-cabled, PVC (2 m)	Screw terminals
Transmitter / Receiver 3-wire PNP / NPN programmable NO / NC	XUK8AKSNL2	XUX8AKSAT16 (3)
Connection	M12 connector	
Transmitter / Receiver 3-wire PNP / NPN programmable NO / NC	XUK8AKSNM12	XUX8AKSAM12
Supply voltage limits, min./max. (V) including ripple	10...36	10...36
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 250	100 / 150



Système	Diffuse with adjustable background suppression		
Sensing distance	70...120 mm	1.2 m	2 m
Fixing (mm)	M18 x 1	M30 x 1.5 or M5, fixing ctrs. 30	direct: fixing ctrs. 30/38 to 40/50/74 M5 screw
Sensitivity adjustment	Potentiometer	Potentiometer	–
Case M (metal) P (plastic) / Setting-up assistance LEDs ☉	M / ☉	P / ☉	P / ☉
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 25...+ 55°C / IP 67	- 25...+ 55 / IP 67, Nema 4X	- 25...+ 55 / IP 67
Product certification	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA
Dimensions (mm) Ø x L or H x W x D	M18 x 82	95 x 45 x 44	92 x 30,5 x 71

Multi-current/multi-voltage sensors for AC/DC applications

Connection	Cable L = 2m	Cable 2m / Connector 7/8"	Screw terminals
Transmitter / Receiver AC/DC	XU8M18MA230	–	–
NO function programmable NO / NC	–	XUC8ARCTL2 / XUC8ARCTU78	XUX8ARCTT16
Supply voltage limits, min./max. (V) including ripple	20...264	20...264	20...264
Switching capacity, max. (mA) / Switching frequency (Hz)	200 / 25	3000 / 20	3000 / 20
Overload and short-circuit protection (★) / LED output state indicator (☉)	(2) / ☉	–	–

(2) Sensor not short-circuit protected. Therefore, it is essential to connect a 0.4 A quick-blow fuse in series with the load.

1



	+/- potentiometer	Teach	Teach + Timer	Teach + Timer
Max. / usable sensing distance	Depending on fibre used, plastic only			
Fixing (mm)	DIN rail or direct: fixing centres 25, M3 screws			
Sensitivity adjustment	+/- numeric potentiometer	using teach mode	+/- numeric potentiometer	using teach mode
Case P (plastic) / Setting-up assistance LEDs ☉	P / ☉	P / ☉	P / ☉	P / ☉ and 4-digit display
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	0...+60 / IP 65	-10...+55 / IP 65 (1)	0...+60 / IP 65	-10...+55 / IP 65 (1)
Product certification	CE - cULus	CE - cULus - cURus	CE - cULus	CE - cULus - cURus
Dimensions (mm) L x H x W	60 x 30 x 13	65 x 40 x 10	60 x 30 x 13	65 x 40 x 10

Sensors for DC applications (solid-state output: transistor)

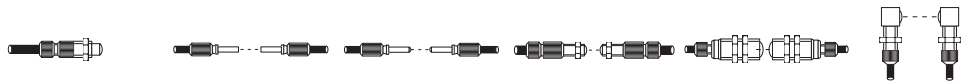
Connection				Pre-cabled, PVC (2 m)			
References	3-wire PNP programmable	NO / NC	-	XUDA1PSML2	-	XUDA2PSML2	
Amplifier	3-wire NPN programmable	NO / NC	-	XUDA1NSML2	-	XUDA2NSML2	
Connection				M8 connector - 4 Pin			
References	3-wire PNP programmable	NO / NC	-	XUDA1PSMM8	-	XUDA2PSMM8	
Amplifier	3-wire NPN programmable	NO / NC	-	XUDA1NSMM8	-	XUDA2NSMM8	
	3-wire PNP/NPN programmable	NO / NC	XUYAFVCO966S (Glass)	-	XUYAFVCO946S (Glass)	-	
			XUYAFPCO966S (Plastic)	-	XUYAFPCO946S (Plastic)	-	
Supply voltage limits, min./max. (V) including ripple			10...30	10.8...26.4	10...30	10.8...26.4	
Switching capacity, max. (mA) / Switching frequency (Hz)			100 / 1000	100 / 1000	100 / 1000 time delayable	100 / 1000 time delayable	
Overload and short-circuit protection (★) / LED output state indicator (☉)			★ / ☉	★ / ☉	★ / ☉	★ / ☉	

(1) IP 65 with Ø 1 fibre / IP 64 with Ø 0.5 fibre.

Ecofibre system, assemble your own plastic fibres


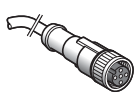


Fibre Ø 1 mm	Length = 10 m	Length = 20 m	Length = 50 m
References	XUFZ910	XUFZ920	XUFZ950



End fittings						
Sensing distance (mm)	70	200	800	1200	4000	1200
Type	with threaded end fitting	with plain end fitting, Ø 3, L = 9 mm	with plain end fitting, Ø 3, L = 9 mm	with threaded end fitting	with threaded end fitting	90° mirror, with threaded end fitting
Thread	M8 x 1, L = 10 mm	-	-	M6 x 1, L = 10 mm	M6 x 1, L = 10 mm	M6 x 1, L = 3 to 10 mm
Lens	yes	no	yes	yes	yes	yes
References	XUYA110	XUYA210	XUYA211	XUYA212	XUYA212	XUYA220

Accessories

For thru-beam system plastic fibre optics	For all system plastic fibre optics	Plug-in pre-wired female connectors
Lenses For increasing sensing distance (pair) XUFZ01 With 90° mirror (pair) XUFZ02	Fibre trimmer For trimming fibres to length (included with all fibre optics) XUFZ11	Cable length 5 m, without LED pre-wired, elbowed pre-wired, straight
Fixing clamp with lens (set of 2) Front screw fixing for fibre optics XUFZ920 XUFZ04	Protective metal tubing Length 1 m, for fibres with threaded end fittings For M4 thread XUFZ210 For M6 thread XUFZ310	 XZCP1041L5  XZCP0941L5

Plastic fibre optic light guides (length 2 m)



Long range fibres
with integrated lens
M8 / L = 20 mm

Long range fibres
M4 / M2.6 (1)

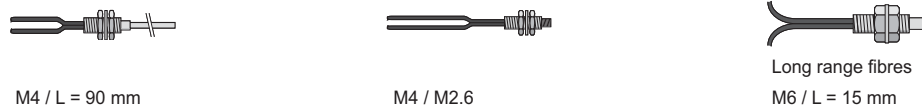
Flexible fibres
M4 / M2.6 (1)

System	Thru-beam					
Sensing distance (mm)	200 or 1500 (2)	180	50 or 1000 (2)	2500	300 or 2000 (2)	100 or 750 (2)
Fibre cross-section						
Fibre Ø (mm)	Ø 1	Ø 1	Ø 0.5	Ø 1	Ø 1.5	Ø 1
Sheath Ø (mm)	Ø 2.2	Ø 2.2	Ø 1	Ø 2.2	Ø 2.2	Ø 2.2
Temperature range (°C)	- 25...+ 60	- 25...+ 60	- 25...+ 60	- 25...+ 60	- 25...+ 60	- 25...+ 60
References	XUFN12301	XUFN12311	XUFN35301	XUFN2L01L2	XUFN2P01L2	XUFN2S01L2
Fixing	M4 x 0.7	M4 x 0.7	M3 x 0.5	M8 x 1.25	M2.6 x 0.45 / M4 x 0.7	M2.6 x 0.45 / M4 x 0.7

(1) Can be used with 90° mirror XUFZ02 (see preceding page).
(2) With lens accessory XUFZ01 (see preceding page)

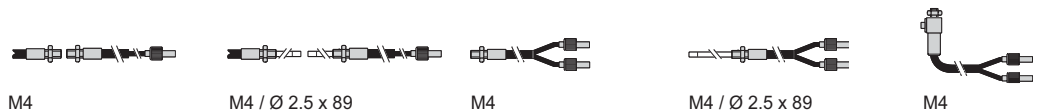


System	Diffuse			
Sensing distance (mm)	70	60	60	15
Fibre cross-section				
Fibre Ø (mm)	Ø 1	Ø 1+16 Ø 0.265	Ø 1	Ø 0.5 + 4 Ø 0.23
Sheath Ø (mm)	Ø 2.2 x 2	Ø 2.2 x 2	Ø 2.2 x 2	Ø 1 x 2
Temperature range (°C)	- 25...+ 60	- 25...+ 60	- 25...+ 60	- 25...+ 60
References	XUFN05321	XUFN05323	XUFN05331	XUFN02323
Fixing	M6 x 0.75	M6 x 0.75 / M4 x 0.7	M6 x 0.75	M4 x 0.7



System	Diffuse		
Sensing distance (mm)	18	18	95
Fibre cross-section			
Fibre Ø (mm)	Ø 0.5	Ø 0.5	Ø 1.5
Sheath Ø (mm)	Ø 1 x 2	Ø 1 x 2	Ø 2.2 x 2
Temperature range (°C)	- 25...+ 60	- 25...+ 60	- 25...+ 60
References	XUFN01331	XUFN01321	XUFN5P01L2
Fixing	M4 x 0.7	M4 x 0.7	M6 x 0.75

Glass fibre optic light guides (length 0.6 m)



System	Thru-beam			Diffuse		
Sensing distance (mm)	200			80		
Fibre cross-section						
End fitting	Straight	Adaptable		Straight	Adaptable	90°
Fibre Ø (mm)	1			1		
Sheath Ø (mm)	2.2			2.2		
Temperature range (°C)	PVC sheath: - 25...+ 60 / Metal wound: - 25...+ 120 / Flexible stainless steel: - 25...+ 200					
References	PVC sheath	XUYFVERSD61	XUYFVERSC61	XUYFVPSD61	XUYFVpsc61	XUYFVPSL61
	Metal wound	XUYFVERMD61	XUYFVERSC61	XUYFVPMd61	XUYFVPMC61	XUYFVPML61
	Flexible stnl. steel	XUYFVERTD61	XUYFVERTC61	XUYFVPTD61	XUYFVPTC61	XUYFVPTL61

1



	Mini flat	Flat	Combined multi-fixing	Flat 80 x 80
Nominal sensing distance S_n	10 cm	25 cm	50 cm	1 m
Operating zone (cm)	0.62...10.2	5.1...25.4	5.1...50.8	10...100
Sensitivity adjustment	Fixed	Fixed	Adjustable using remote control	Adjustable using remote control
Case P (plastic)	P	P	P	P
Product certification	CE	CE	CE	CE
Temperature range (°C)	- 20...+ 65	0...+ 50	- 20...+ 65	0...+ 70
Degree of protection (conforming to IEC 60529)	IP 67			
Dimensions (mm) Ø x L or H x W x D	33 x 19 x 7.6	74 x 30 x 16	M 18 / 18 x 33 x 60	80 x 80 x 34

Sensors with “Discrete” output for DC applications (24 V)

Connection			M12 on 0.15 m flying lead	M12 connector		
3-wire	PNP	NO function	XX7F1A2PAL01M12	XX7K1A2PAM12	XX7V1A1PAM12	XX8D1A1PAM12
	NPN	NO function	XX7F1A2NAL01M12	XX7K1A2NAM12	XX7V1A1NAM12	XX8D1A1NAM12
4-wire	PNP/NPN	NO function	–	–	–	–
	PNP	NO + NC function	–	–	–	–
	NPN	NO + NC function	–	–	–	–

Application - monitoring levels

2 emptying levels	PNP NO function	–	–	–	–
2 filling levels	PNP NO function	–	–	–	–
Supply voltage limits, min./max. (V) including ripple		10...28			
Switching capacity, max. (mA)		<100			
Short-circuit protection (★)		★			
LED output state indicator (⊗) / Power on LED (⊗)		⊗ / ⊗			
Voltage drop, closed state (V) at I nominal		<1			
Switching frequency (Hz)		100	80	40	70
Transmission frequency (Hz)		500	500	300	180

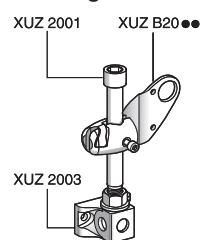
Sensors with “Analogue” output for DC applications (24 V)

Connection			–	M12 connector	
4-wire	Analogue	0...10 V output	–	XX9V1A1F1M12	XX9D1A1F1M12
		4...20 mA output	–	XX9V1A1C2M12	XX9D1A1C2M12
Supply voltage limits, min./max. (V) including ripple		–		10...28	10...28
Short-circuit protection (★)		–		★	★
LED output state indicator (⊗) / Power on LED (⊗)		–		⊗ / ⊗	⊗ / ⊗
Transmission frequency (Hz)		–		300	180

Accessories

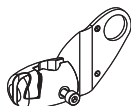
Fixings

3D fixings with ball joint



3D kit example

Bracket with ball joint for cylindrical sensors



for	
Ø 12	XUZB2012
Ø 18	XUZB2003
Ø 30	XUZB2030

M12 rod for ball joint



XUZ2001

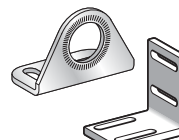
Fixing support for M12 rod



XUZ2003

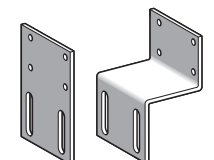
Simple fixings

90° fixing brackets



for	
Ø 12	XXZ12
Ø 18	XUZA118
Ø 30	XXZ30
XX7F	XXZ1933

Mounting plates for XX7K



flat	XXZ3074F
cranked	XXZ3074S

New



M12		M18	M30			M30 Long range
5 or 10 cm depending on model		15 or 50 cm depending on model	1 m	1 m	2 m	8 m
0.64...5.1 (XX512A1...) 0.64...10.2 (XX512A2...)		1.9...15.2 (XX518A1...) 5.1...50.8 (XX518A3...)	10...100	5.1...99.1	12...200	20.3...800
Fixed		Adjustable using remote control		Adjustable using teach mode		
P		P	P			P
CE		CE	CE			CE
- 20...+ 65		0...+ 50 (XX518A1...)/ - 20...+ 65 (XX518A3...)	0...+ 70			- 20...+ 60
IP 67			IP 67			IP 65
M12 x 50		M18 x 65	M30 x 78			M30 x 106

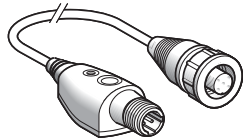
M8 connector	M12 connector	Pre-cabled, PVC (2 m)	M12 connector			M12 connector
XX512A2PAM8 (10 cm)	XX518A3PAM12 (50 cm)	XX518A3PAL2	XX6V3A1PAM12	-	-	-
XX512A2NAM8 (10 cm)	XX518A3NAM12 (50 cm)	XX518A3NAL2	XX6V3A1NAM12	-	-	-
XX512A1KAM8 (5 cm)	XX518A1KAM12 (15 cm)	-	-	XX630A1KAM12	-	-
-	-	-	-	XX630A1PCM12 (1)	-	XX630A3PCM12
-	-	-	-	XX630A1NCM12 (1)	-	XX630A3NCM12
-	XX218A3PHM12 (3)	-	-	XX230A10PA00M12 (2)	XX230A20PA00M12 (2)	-
-	XX218A3PFM12 (3)	-	-	XX230A11PA00M12 (2)	XX230A21PA00M12 (2)	-
10...28						
<100						
★						
⊗ / ⊗	⊗ / ⊗ except XX518A1.. (- / -)		⊗ / ⊗	⊗ / ⊗		⊗ / ⊗
<1						
125	40 / 80 (XX518A1..)		70	10		2
500	300		180	200		75

M12 connector						
-	XX918A3F1M12	-	XX9V3A1F1M12	XX930A1A1M12 (1)	-	XX930A3A1M12
-	XX918A3C2M12	-	XX9V3A1C2M12	XX930A1A2M12 (1)	-	XX930A3A2M12
-	10...28	-	10...28	10...28	-	10...28
-	★	-	★	★	-	★
-	⊗ / ⊗	-	⊗ / ⊗	⊗ / ⊗	-	⊗ / ⊗
-	300	-	180	200	-	75

- (1) Stainless steel 303 version also available. To order, replace the first letter **A** in the reference by **S**. Example: XX630**A**1PCM12 becomes XX630**S**1PCM12.
- (2) 2 NO
- (3) 1 NO

Programming Suitable female plug-in connectors

Remote control
teach button for use with sensors XX●18A3●●●, XX●V1●●● and XX●V3●●●



XXZPB100

Pre-wired connectors
elbowed straight



L = 5 m (without LED)				
M8	for XX512A1...	XZCP1041L5	XZCP0941L5	XZCC8FCM40V
	for XX512A2...	XZCP0666L5	XZCP0566L5	XZCC8FCM30V
M12	for all sensors except XX512...	XZCP1241L5	XZCP1141L5	XZCC12FCM40B

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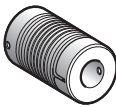


Diameter of housing (mm)	Ø 40	Ø 40	Ø 58	Ø 58	Ø 58 Parametrable	Ø 90
Shaft Ø (mm)	Ø 6	Ø 6	Ø 6	Ø 10	Ø 14 (1)	Ø 12
Type of shaft (2)	solid shaft	through shaft	solid shaft	solid shaft	through shaft	solid shaft
Maximum rotational speed (rpm)	9000	9000	9000	9000	6000	6000
Maximum frequency (kHz)	100	100	300	300	300	100
Maximum load (daN)	2	2	10	10	5	20
Torque (N.cm)	0.2	0.25	0.4	0.4	0.6	1
Product certification	CE	CE	CE	CE	CE	CE
Temperature range (°C)	- 20...+ 80	- 20...+ 80	- 30...+ 100	- 30...+ 100	- 30...+ 70	- 20...+ 80
Degree of protection (conforming to IEC 60529)	IP 54	IP 52	IP 65 / IP 67 (3)	IP 65 / IP 67 (3)	IP 65	IP 66
Supply voltage	5 V, RS 422	4.5...5.5 V	4.75...30 V	4.75...30 V	4.75...30 V	4.5...5.5 V
Push-pull	11...30 V	11...30 V	5...30 V	5...30 V	5...30 V	11...30 V
Connection	Pre-cabled (2 m), radial		M23 male connector, radial			

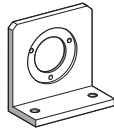
Resolution (Points)	Output stage	Ø 40	Ø 40	Ø 58	Ø 58	Ø 58 Parametrable	Ø 90
100	5 V, RS 422	XCC1406PR01R	XCC1406TR01R	XCC1506PS01X	XCC1510PS01X	–	XCC1912PS01RN
	Push-pull	XCC1406PR01K	XCC1406TR01K	XCC1506PS01Y	XCC1510PS01Y	–	XCC1912PS01KN
360	5 V, RS 422	XCC1406PR03R	XCC1406TR03R	XCC1506PS03X	XCC1510PS03X	–	XCC1912PS03RN
	Push-pull	XCC1406PR03K	XCC1406TR03K	XCC1506PS03Y	XCC1510PS03Y	–	XCC1912PS03KN
500	5 V, RS 422	XCC1406PR05R	XCC1406TR05R	XCC1506PS05X	XCC1510PS05X	–	XCC1912PS05RN
	Push-pull	XCC1406PR05K	XCC1406TR05K	XCC1506PS05Y	XCC1510PS05Y	–	XCC1912PS05KN
1000	5 V, RS 422	XCC1406PR10R	XCC1406TR10R	XCC1506PS10X	XCC1510PS10X	–	XCC1912PS10RN
	Push-pull	XCC1406PR10K	XCC1406TR10K	XCC1506PS10Y	XCC1510PS10Y	–	XCC1912PS10KN
1024	5 V, RS 422	XCC1406PR11R	XCC1406TR11R	XCC1506PS11X	XCC1510PS11X	–	XCC1912PS11RN
	Push-pull	XCC1406PR11K	XCC1406TR11K	XCC1506PS11Y	XCC1510PS11Y	–	XCC1912PS11KN
2500	5 V, RS 422	–	–	XCC1506PS25X	XCC1510PS25X	–	XCC1912PS25RN
	Push-pull	–	–	XCC1506PS25Y	XCC1510PS25Y	–	XCC1912PS25KN
3600	5 V, RS 422	–	–	–	–	–	XCC1912PS36RN
	Push-pull	–	–	–	–	–	XCC1912PS36KN
256...4096	5 V, RS 422	–	–	–	–	XCC1514TSM02X	–
	Push-pull	–	–	–	–	XCC1514TSM02Y	–
5000	5 V, RS 422	–	–	XCC1506PS50X	XCC1510PS50X	–	XCC1912PS50RN
	Push-pull	–	–	XCC1506PS50Y	XCC1510PS50Y	–	XCC1912PS50KN
360...5760	5 V, RS 422	–	–	–	–	XCC1514TSM03X	–
	Push-pull	–	–	–	–	XCC1514TSM03Y	–
500...8000	5 V, RS 422	–	–	–	–	XCC1514TSM05X	–
	Push-pull	–	–	–	–	XCC1514TSM05Y	–
10 000	5 V, RS 422	–	–	–	–	–	XCC1912PS00RN
	Push-pull	–	–	–	–	–	XCC1912PS00KN
1024...16 384	5 V, RS 422	–	–	–	–	XCC1514TSM11X	–
	Push-pull	–	–	–	–	XCC1514TSM11Y	–
5000...80 000	5 V, RS 422	–	–	–	–	XCC1514TSM50X	–
	Push-pull	–	–	–	–	XCC1514TSM50Y	–

Accessories

Shaft couplings

with spring	Bore diameter (encoder side)	Bore diameter (machine side)	Reference
	6 mm	6 mm	XCCRAR0606
	6 mm	8 mm	XCCRAR0608
	6 mm	10 mm	XCCRAR0610
	10 mm	10 mm	XCCRAR1010
	10 mm	12 mm	XCCRAR1012
elastic	6 mm	6 mm	XCCRAE0606

Fixing brackets

Plain bracket	for Ø 58 mm	XCCRE5SN
	for Ø 90 mm	XCCRE9SN
	for Ø 58 mm	XCCRE5RN
Bracket with play compensator	for Ø 90 mm	XCCRE9RN

Absolute - single turn

Absolute - multiturn

Communicating multiturn absolute



Diameter of housing (mm)	Ø 58	Ø 90	Ø 58	Ø 90	Ø 58 CANopen	Ø 58 PROFIBUS-DP	
Shaft Ø (mm)	Ø 6	Ø 12	Ø 10	Ø 12	Ø 10	Ø 10	
Type of shaft (2)	solid shaft	solid shaft	solid shaft	solid shaft	solid shaft (4)	solid shaft (4)	
Maximum rotational speed (rpm)	9000	6000	6000	6000	6000	6000	
Maximum frequency (kHz)	100	100 (1000 SSI)	100 (500 SSI)	100 (500 SSI)	800	800	
Maximum load (daN)	10	20	10	20	11	11	
Torque (N.cm)	0.4	1	0.4	1	0.3	0.3	
Product certification	CE	CE	CE	CE	CE	CE	
Temperature range (°C)	- 20...+ 90	- 20...+ 85	- 20...+ 85	- 20...+ 85	- 40...+ 85	- 40...+ 85	
Degree of protection (conforming to IEC 60529)	IP 65	IP 66	IP 65 / IP 67 (3)	IP 66	IP 64	IP 64	
Supply voltage	11...30 V						
Connection	M23 male connector, radial				2 x M12 + 1 x Pg 9	3 x Pg 9	
Resolution	Output stage	Code					
... 8192 points	Push-pull	Binary	XCC2506PS81KB	XCC2912PS81KBN	–	–	
		Gray	XCC2506PS81KGN	XCC2912PS81KGN	–	–	
	SSI, 13-bit	Binary	XCC2506PS81SBN	XCC2912PS81SBN	–	–	
		Gray	XCC2506PS81SGN	XCC2912PS81SGN	–	–	
4096 points / 8192 turns	SSI, 25-bit (5)	Gray	–	–	XCC3510PS48SGN	–	
Binary		–	–	XCC3510PS84SBN	XCC3912PS84SBN		
4096 points / 4096 turns	Gray	Gray	–	–	XCC3510PS84SGN	XCC3912PS84SGN	
8192 points / 4096 turns		CANopen, 25-bit	Binary	–	–	–	XCC3510PS84CBN
	PROFIBUS-DP, 25-bit	Binary	–	–	–	–	XCC3510PV84FBN

(1) Anti-rotation device included with through shaft version encoders. To achieve Ø 6, 8, 10 or 12 mm through shafts, use the reduction collars.

(2) All versions are also available with through shaft and anti-rotation device.

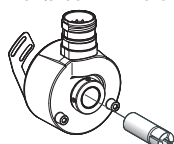
(3) IP 67 with sealed collar XCCRB3.

(4) Versions available with hollow shaft and anti-rotation device.

(5) "Parallel" outputs possible for multiturn absolute encoders using deserialisation jumper cables XCCRM23SUB37●●.

Reduction collars

For Ø 58 mm incremental encoders with through shaft



Ø 14 to Ø 6 mm	XCCR158RDA06
Ø 14 to Ø 8 mm	XCCR158RDA08
Ø 14 to Ø 10 mm	XCCR158RDA10
Ø 14 to Ø 12 mm	XCCR158RDA12

IP 67 sealed collar

For encoders XCC1510, 2510, 3510

Ø 58 mm	XCCRB3
---------	--------

Pre-wired connectors and jumper cables

Pre-wired M23 female connectors (cable length 5 m)



8-wire for SSI encoders	XCCPM23122L5
10-wire for incremental encoders	XCCPM23121L5
16-wire for parallel single turn absolute encoders	XCCPM23161L5

Deserialisation jumper cables (M23 F - SUB-D37 M) (L = 0.5 m)



SSI Gray - // Gray PNP	XCCRM23SUB37PG
SSI binary - // binary NPN	XCCRM23SUB37PB

1



Presentation

OsiSense XG is open to the majority of ISO 18000-3, ISO 15693 and ISO 14443 electronic tags. OsiSense XG integrates Modbus RTU, Uni-Telway, Modbus TCP/IP (using Ethernet box XGSZ33ETH) and Profibus DP (with box XGSZ33PDP) protocols.

The OsiSense XG RFID offer comprises:

- 2 models of 13.56 MHz compact stations (read/write)
- 6 models of 13.56 MHz electronic tags
- 1 portable RFID diagnostics terminal
- 3 models of network connection boxes plus connection and mounting accessories.

Setting-up

OsiSense XG compact stations are simple to set-up:

- Integrated RFID and network functions
- No programming
- Automatic detection of the RFID electronic tags (read or write)
- Automatic setting of the communication parameters (speed, format, parity, protocol, etc.)
- Configuration of the network address (1 to 15) using badge included with the station
- Low sensitivity to metal environments.

Installation

OsiSense XG stations easily integrate in flexible manufacturing production lines:

- quick connection using M12 connector
- screw fixing or clip-on mounting.



Compact stations, 13.56 MHz		C format	D format
Dimensions (mm), W x H x D		40 x 40 x 15	80 x 80 x 26
Nominal sensing distance depending on tag (mm)		18 to 70	20 to 100
Type of associated tag		ISO 15693 and ISO 14443 standard tags. Automatic detection of the type of tag.	
Display		1 dual colour LED for the communication network, 1 dual colour LED for the RFID communication	
Conformity to standards		CE, EN 301489-1, EN 301489-3, ETS 300330-1 and ETS 300330-2, FCC part 15 - UL	
Degree of protection conforming to IEC 60529		IP 67	
Serial link	Type	RS 485	
	Protocol	Modbus and Uni-Telway	
	Speed (Bauds)	9600...115 200 (automatic detection)	
Ambient air temperature (°C)		For operation: - 25...+ 70 °C, for storage: - 40...+ 85 °C	
Nominal supply voltage		24 VDC PELV (Protective Extra Low Voltage)	
Connection		M12, 5-pin male, shielded connector on flying lead. Only for connection to the communication network and the supply	
References		XGCS4901201	XGCS8901201



Electronic tags		C format		ISO badge (1)	Disc	E format	Cylindrical
Dimensions (mm), W x H x D		40 x 40 x 15		54 x 85.5 x 0.8	Ø 30 x 3	26 x 26 x 13	M18 x 1 x 12
Type of memory		EEPROM					
Memory capacity (bytes)		3 408	13 632	256	112	256	256
Nominal sensing distance (mm) (Read/Write)	With station XGCS49●	33	30	70	48	40	18
	With station XGCS89●	48	40	100	65	55	20
Time (ms)	Read	9.25 + 0.375 x n (2)	16.25 + 0.375 x n (2)	12 + 0.825 x n (2)			
	Write	13 + 0.8 x n (2)	20 + 0.8 x n (2)	20 + 11.8 x n (2)	12 + 5.6 x n (2)	20 + 11.8 x n (2)	19 + 4.1 x n (2)
Degree of protection conforming to IEC 60529		IP 68		IP 65		IP 68	
Standard supported		ISO 14443		ISO 15693			
Mounting on metal support		Yes		No		Yes	No
References		XGHB444345	XGHB445345	XGHB90E340	XGHB320345	XGHB221346	XGHB211345

(1) Customised versions on request. (2) n = number of 16-bit words.

New



1

Connection boxes	Ethernet box	Profibus box	Tap-off box
Dimensions (mm), W x H x D	130 x 80 x 51		130 x 80 x 51
Protocols	Modbus TCP/IP	Profibus DP	Modbus, Uni-Telway
Supply voltage	24 VDC PELV. M12, 4-pin male, A coding, connector		
Conformity to standards	CE - UL	CE	CE - UL
Station connection	M12, 5-pin female, A coding, connector		
Degree of protection conforming to IEC 60529	IP 65		
References	XGSZ33ETH	XGSZ33PDP	TCSAMT31FP



Terminal	Portable 13.56 MHz RFID diagnostics terminal
Dimensions (mm), W x H x P	120 x 250 x 62
Function	Read/Write operations on electronic tags and diagnostics on compact stations
Operating system	Microsoft® Windows CE.NET Professional® version 4.2
Conformity to standards	CE, FCC class A, Part 15225
Display	72 x 54 mm colour touchscreen; QVGA TFT, 320 x 240 pixels resolution
Degree of protection conforming to IEC 60529	IP 65
Memory	RAM: 64 Mb SDRAM Storage: Internal Compact Flash (512 Mb standard, expandable to 128 Mb) + Slot for Compact Flash card
Reference	XGSTP401 (Battery, battery charger, carrying case and 3 styluses included with terminal)



Connection accessories	for Modbus network		for Profibus	for Ethernet	Pre-wired connector	"T" connector	
	Description	Modbus connecting cable M12 connectors Male / Female	Pre-wired connector M12 male / Bare wires	Modbus connecting cable M12 female / Mini-DIN 8	Profibus connecting cables M12 connectors Male / Female	Ethernet ConneXium connecting cable M12 male / RJ 45	Pre-wired supply connector M12 female
Application	RS485 connection between a compact station and a Modbus box or between 2 Modbus boxes	Connection between a Modbus box and a Modbus / Uni-Telway network	Connection between a Modbus box and a PLC	Connection between Profibus box and Profibus network	Connection between an Ethernet box and the Ethernet network	24 VDC supply to connection boxes	For RS 485 network
L = 2 m	TCSMCN1M1F2	TCSMCN1F2	TCSMCN1F9M2P	FTXDP1220	TCSECL1M3M3S2 (3)	XGSZ09L2	TCSCTN011M11F
L = 5 m	TCSMCN1M1F5	TCSMCN1F5	-	FTXDP1250	TCSECL1M3M5S2	XGSZ09L5	

(3) L = 3 m

Field expander	RS232/RS485 converter	Technical documentation
To be associated with a compact station XGCS4901201 for conveying and handling applications	For connecting a PC to an OsiSense XG station	OsiSense XG compact stations guide
 50 x 400 mm XGFEC540	 XGSZ24	 DIA4ED3051001

New

Harmony

Harmony control and signalling products are characterised by their extreme ruggedness, ergonomic design and ease of use, all of which have contributed to their successful application worldwide. The unrivalled depth of the Harmony range provides solutions to meet the diverse needs of your applications.



2

From the humble pushbutton to the most complex operator dialogue terminal, Schneider Electric is the world's leading supplier of human-machine interface components. Open-ended and highly innovative, the Harmony and Magelis ranges are synonymous with seamless integration and effective configuration solutions in dialogue applications.



HMI Magelis

A comprehensive, rugged, open-ended interface and industrial PC offer to meet your requirements in a wide variety of applications. With its extensive capabilities, Magelis ensures the dependability of your installations.

2 | Operator dialog



Control and signalling units

Pushbuttons, switches, pilot lights & control stations

Ø 16, plastic bezel, Harmony XB6	2/2 to 2/4
Ø 8 & 12, pilot lights, Harmony XVL	2/5
Ø 22, metal bezel, Harmony XB4 / Control stations Harmony XAP	2/6 to 2/9
Ø 22, plastic bezel, Harmony XB5 / Control stations Harmony XAL	2/10 to 2/13
Ø 22, plastic bezel - Monolithic, Harmony XB7	2/14 to 2/15
Ø 30, metal and plastic bezel, Harmony 9001K, 9001SK	2/16 to 2/19

Cam switches

Harmony K series	2/20 to 2/21
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Signalling solutions

Ø 40, 60, 100 mm monolithic tower lights, Harmony XVC	2/22
Ø 45 mm monolithic beacons and tower lights, accessories, Harmony XVDLS / XVC	2/23
Ø 70 mm modular tower lights (IP 66), Harmony XVB	2/24
Ø 70 mm modular tower lights (up to IP 54), Harmony XVE	2/25
Ø 45, 50 mm modular tower lights (up to IP 54), Harmony XVM / XVP	2/26
Modular tower lights accessories, Harmony XV	2/27
Ø 84, 106, 120, 130 mm rotating mirror beacons, Harmony XVR	2/28
Accessories for rotating mirror beacons, Harmony XVR	2/29
Electronic alarms and multisound sirens, Harmony XVS	2/29

Components for hoisting applications

Pendant control stations, Harmony XAC	2/30 to 2/31
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Human/Machine Interfaces

Display units, terminals, Industrial PCs

Small Panels, Magelis STO/STU, XBT N / R / RT	2/32 to 2/34
Advanced Panels, Magelis XBT GT, GK, GTW, GH	2/35 to 2/39
HMI Controllers, Compact Magelis XBT GC	2/40
PC Panels, Magelis Smart, Magelis Compact iPC	2/41
Embedded Box and PC Box, Magelis Smart BOX, Compact BOX & Flex PC BOX	2/42
Front Panels, for Flex PC BOX	2/43
Industrial Display, Magelis iDisplay	2/43

Configuration software

For Magelis XBT N / R / RT, Vijeo Designer Lite	2/44
For Magelis STO/STU, XBT GT, GK, GTW, GH, Magelis Smart, Compact iPC, PC BOX, Vijeo Designer	2/45

Dialog operator for Explosive atmospheres

See Chapter 10 “Explosive atmospheres”

(1):

Voltage	Letter (●)
12...24 V AC/DC (15 mA)	B
48...120 V AC (25 mA)	G
230...240 V AC (25 mA)	M



Illuminated pushbuttons

Type of head			Flush push				
Shape of head			rectangular (2)				
Degree of protection			IP 65 / Nema 4, 4X, 13 / Class II				
Mounting (mm)		panel cut-out mounting centres	$\varnothing 16.2^{+0.2}_0$				
Dimensions (mm)		W x H x D (below head)	24 x 18 with rectangular head, 18 x 18 with square or circular head				
Connection (3)			24 x 18 x 50 with rectangular head, 18 x 18 x 50 with square or circular head				
Connection (3)			Tags for 2.8 x 0.5 Faston connectors or for soldering				
Type of push			Spring return				
			Complete products	Products for user assembly			
			12 ... 24 V AC/DC				
References	white	NO	XB6DW1B1B	ZB6E●1B (1)	ZB6Z1B	ZB6DW1	
		NO + NC	XB6DW1B5B	ZB6E●1B (1)	ZB6Z5B	ZB6DW1	
	green	NO	XB6DW3B1B	ZB6E●3B (1)	ZB6Z1B	ZB6DW3	
		NO + NC	XB6DW3B5B	ZB6E●3B (1)	ZB6Z5B	ZB6DW3	
	red	NC	XB6DW4B2B	ZB6E●4B (1)	ZB6Z2B	ZB6DW4	
		NO + NC	XB6DW4B5B	ZB6E●4B (1)	ZB6Z5B	ZB6DW4	
	yellow	NO	–	ZB6E●5B (1)	ZB6Z1B	ZB6DW5	
		NO + NC	XB6DW5B5B	ZB6E●5B (1)	ZB6Z5B	ZB6DW5	
	Type of push			Latching			
	References	white	NO	–	ZB6E●1B (1)	ZB6Z1B	ZB6DF1
NO + NC			XB6DF1B5B	ZB6E●1B (1)	ZB6Z5B	ZB6DF1	
green		NO	XB6DF3B1B	ZB6E●3B (1)	ZB6Z1B	ZB6DF3	
		NO + NC	XB6DF3B5B	ZB6E●3B (1)	ZB6Z5B	ZB6DF3	
red		NC	XB6DF4B2B	ZB6E●4B (1)	ZB6Z2B	ZB6DF4	
		NO + NC	XB6DF4B5B	ZB6E●4B (1)	ZB6Z5B	ZB6DF4	
yellow		NO	–	ZB6E●5B (1)	ZB6Z1B	ZB6DF5	
		NO + NC	–	ZB6E●5B (1)	ZB6Z5B	ZB6DF5	



Type of head			Smooth lens cap			
Shape of head			rectangular (2)			
Degree of protection			IP 65 / Nema 4, 4X, 13 / Class II			
Mounting (mm)		panel cut-out mounting centres	$\varnothing 16.2^{+0.2}_0$			
Dimensions (mm)		W x H x D (below head)	24 x 18 with rectangular head, 18 x 18 with square or circular head			
Connection (3)			24 x 18 x 50 with rectangular head, 18 x 18 x 50 with square or circular head			
Connection (3)			Tags for 2.8 x 0.5 Faston connectors or for soldering			
Type of push			Latching			
			Complete products	Products for user assembly		
			12 ... 24 V AC/DC			
References	white	NO	XB6DV1BB	ZB6E●1B (1)	ZB6DV1	
	green	NO	XB6DV3BB	ZB6E●3B (1)	ZB6DV3	
	red	NO	XB6DV4BB	ZB6E●4B (1)	ZB6DV4	
	yellow	NO	XB6DV5BB	ZB6E●5B (1)	ZB6DV5	
	blue	NO	–	ZB6E●6B (1)	ZB6DV6	

(1) Basic reference, to be completed by the letter B, G or M indicating the required voltage. See voltage table above.

(2) For products with a square head, replace the letter **D** in the reference by the letter **C** (XB6DW1B1B becomes XB6CW1B1B).

For products with a circular head, replace the letter **D** in the reference by the letter **A** (XB6DW1B1B becomes XB6AW1B1B).

(3) Alternative connection: 1 x 0.5 pins for printed circuit boards.

Contact functions



Pushbuttons

Type of head		Flush push																																					
Shape of head		rectangular (1)																																					
Degree of protection		IP 65 / Nema 4, 4X, 13 / Class II																																					
Mounting (mm)	panel cut-out mounting centres	$\varnothing 16.2^{+0.2}_0$ 24 x 18 with rectangular head, 18 x 18 with square or circular head																																					
Dimensions (mm)	W x H x D (below head)	24 x 18 x 50 with rectangular head, 18 x 18 x 50 with square or circular head																																					
Connection (2)		Tags for 2.8 x 0.5 Faston connectors or for soldering																																					
Type of push		Spring return																																					
		<table border="1"> <thead> <tr> <th>Complete products</th> <th colspan="2">Products for user assembly</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Complete products	Products for user assembly																																			
Complete products	Products for user assembly																																						
References	<table border="1"> <thead> <tr> <th>Color</th> <th>Symbol</th> <th>Contact</th> <th>Complete products</th> <th>Products for user assembly</th> </tr> </thead> <tbody> <tr> <td rowspan="2">white</td> <td rowspan="2"></td> <td>NO</td> <td>XB6DA11B</td> <td>ZB6Z1B</td> </tr> <tr> <td>NO + NC</td> <td>XB6DA15B</td> <td>ZB6Z5B</td> </tr> <tr> <td rowspan="2">black</td> <td rowspan="2"></td> <td>NO</td> <td>–</td> <td>ZB6Z1B</td> </tr> <tr> <td>NO + NC</td> <td>XB6DA25B</td> <td>ZB6Z5B</td> </tr> <tr> <td rowspan="2">green</td> <td rowspan="2"></td> <td>NO</td> <td>XB6DA31B</td> <td>ZB6Z2B</td> </tr> <tr> <td>NO + NC</td> <td>XB6DA35B</td> <td>ZB6Z5B</td> </tr> <tr> <td rowspan="2">red</td> <td rowspan="2"></td> <td>NO</td> <td>–</td> <td>ZB6Z1B</td> </tr> <tr> <td>NO + NC</td> <td>XB6DA45B</td> <td>ZB6Z5B</td> </tr> </tbody> </table>	Color	Symbol	Contact	Complete products	Products for user assembly	white		NO	XB6DA11B	ZB6Z1B	NO + NC	XB6DA15B	ZB6Z5B	black		NO	–	ZB6Z1B	NO + NC	XB6DA25B	ZB6Z5B	green		NO	XB6DA31B	ZB6Z2B	NO + NC	XB6DA35B	ZB6Z5B	red		NO	–	ZB6Z1B	NO + NC	XB6DA45B	ZB6Z5B	
Color	Symbol	Contact	Complete products	Products for user assembly																																			
white		NO	XB6DA11B	ZB6Z1B																																			
		NO + NC	XB6DA15B	ZB6Z5B																																			
black		NO	–	ZB6Z1B																																			
		NO + NC	XB6DA25B	ZB6Z5B																																			
green		NO	XB6DA31B	ZB6Z2B																																			
		NO + NC	XB6DA35B	ZB6Z5B																																			
red		NO	–	ZB6Z1B																																			
		NO + NC	XB6DA45B	ZB6Z5B																																			

(1) For products with a square head, replace the letter **D** in the reference by the letter **C** (XB6DA11B becomes XB6CA11B).

For products with a circular head, replace the letter **D** in the reference by the letter **A** (XB6DA11B becomes XB6AA11B).

(2) Alternative connection: 1 x 0.5 pins for printed circuit boards.



Ø 30 mushroom head Emergency stop pushbuttons (3)

Type of head		Trigger action (EN/ISO 13850)								
Shape of head		cylindrical								
Type of push		Turn to release								
		<table border="1"> <thead> <tr> <th>Complete products</th> <th colspan="3">Products for user assembly</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Complete products	Products for user assembly						
Complete products	Products for user assembly									
References	red 2 NC + 1 NO	XB6AS8349B	ZB6E2B	ZB6Z5B	ZB6AS834					
Type of push		Key release, Ronis 200								
References	red 2 NC + 1 NO	XB6AS9349B	ZB6E2B	ZB6Z5B	ZB6AS934					

(3) Emergency stop trigger action and mechanical latching pushbuttons conform to standards EN/IEC 60204-1 and EN/ISO 13850: to Machinery Directive 2006/42/EC and to standard EN/IEC 60947-5-5. Please consult your Regional Sales Office for a full explanation of these standards and directives.



Selector switches and key switches

Type of head		Black handle	rectangular (2)
Shape of head			
Degree of protection			IP 66 / Nema 4, 4X, 13 / Class II
Mounting (mm)	panel cut-out mounting centres		Ø 16.2 ^{+0.2} ₀
Dimensions (mm)	W x H x D (below head)		24 x 18 with rectangular head, 18 x 18 with square or circular head 24 x 18 x 50 with rectangular head, 18 x 18 x 50 with square or circular head
Connection (3)			Tags for 2.8 x 0.5 Faston connectors or for soldering
Type of operator		Black handle	
		Complete products	Products for user assembly
Number and type of positions		2 positions stay put	2 positions stay put 2 positions spring return to centre
References	NO NO + NC	XB6DD221B XB6DD225B	ZB6Z1B ZB6DD22 ZB6Z1B ZB6DD24 ZB6Z5B ZB6DD22 ZB6Z5B ZB6DD24
Number and type of positions		3 positions stay put	3 positions stay put 3 positions spring return to centre
References	NO	XB6DD235B	ZB6Z5B ZB6DD23 ZB6Z5B ZB6DD25



Type of operator		Ronis key, n° 200	
		Complete products	Products for user assembly
Number and type of positions		2 positions stay put	2 positions stay put 2 positions spring return to centre
References	NO + NC	XB6DGC5B	ZB6Z5B ZB6DGC ZB6Z5B ZB6DGB
Number and type of positions		3 positions stay put	3 positions spring return to centre
References	NO + NC	XB6DGH5B	ZB6Z5B ZB6DGH ZB6Z5B ZB6DGS

(1):

Voltage	Letter (●)
12...24 V AC/DC (15 mA)	B
48...120 V AC (25 mA)	G
230...240 V AC (25 mA)	M



Illuminated selector switches

Type of operator		Coloured handle	
	Products for user assembly		
Number and type of positions		2 positions stay put	3 positions stay put
References	white ● NO + NC green ● NO + NC red ● NO + NC	ZB6E●1B (1) ZB6Z5B ZB6DD02 ZB6E●3B (1) ZB6Z5B ZB6DD02 ZB6E●4B (1) ZB6Z5B ZB6DD02	ZB6DD03 ZB6YK1 ZB6DD03 ZB6YK3 ZB6DD03 ZB6YK4

(1) Basic reference, to be completed by the letter B, G or M indicating the required voltage. See voltage table above.

(2) For products with a square head, replace the letter **D** in the reference by the letter **C** (XB6DD221B becomes XB6CD221B).

For products with a circular head, replace the letter **D** in the reference by the letter **A** (XB6DD221B becomes XB6AD221B).

(3) Alternative connection: 1 x 0.5 pins for printed circuit boards.

LED pilot lights Ø 8 and 12

(1):

Voltage	Number (●)
5 V (25 mA)	1
12 V (18 mA)	2
24 V (18 mA)	3
48 V (10 mA)	4



LED pilot lights		With black bezel		With integral lens cap	
Type of head		Protruding LED, Ø 8 mm		Covered LED, Ø 8 mm	
Degree of protection		IP 40, IP 65 with seal (2)			
Mounting (mm)	panel cut-out	Ø 8.2 mm		Ø 8.2 mm	
	mounting centres	12.5 x 12.5 mm		10.5 x 10.5 mm	
Dimensions (mm)	Ø x Depth (below head)	Ø 12 x 32		Ø 10 x 34	
				Ø 16 x 45	
Connection		Tags (3)		Tags (3)	
References (1)	green ●	XVLA1●3		XVLA2●3	
	red ●	XVLA1●4		XVLA2●4	
	yellow ●	XVLA1●5		XVLA2●5	
Tightening key		For Ø 8 mm pilot lights		For Ø 12 mm pilot lights	
References		XVLX08		XVLX12	

(1) Basic reference, to be completed by the number 1, 2, 3 or 4 indicating the required voltage. See voltage table above.

(2) For an IP 65 degree of protection, include the seals: XVLZ911 for pilot lights XVLA1●● and XVLA2●●; XVLZ912 for pilot lights XVLA3●●.

(3) Tags for 2.8 x 0.5 Faston connectors or for soldering.

Sub-assemblies & accessories for Ø 16 plastic bezel control and signalling units



Sub-assemblies	Bodies for pushbuttons and selector switches			Bodies for pilot lights			
Rated operational characteristics, AC-15: U _e = 240 V and I _e = 1.5 A or U _e = 120 V and I _e = 3 A Positive operation of contacts conforming to IEC/EN 60947-5-1: NC contacts with positive opening operation, positive opening force 20 N				Consumption			
				15 mA	12...24 V AC/DC		
				25 mA	48...120 V AC		
				25 mA	230...240 V AC		
	Type of contact	Fixing collar + contacts	Contacts	Pilot light bodies	12 ... 24 V	48 ... 120 V	230 ... 240 V
References	NO	ZB6Z1B	ZB6E1B	White ●	ZB6EB1B	ZB6EG1B	ZB6EM1B
	NC	ZB6Z2B	ZB6E2B	Green ●	ZB6EB3B	ZB6EG3B	ZB6EM3B
	2 NO	ZB6Z3B	–	Red ●	ZB6EB4B	ZB6EG4B	ZB6EM4B
	2 NC	ZB6Z4B	–	Yellow ●	ZB6EB5B	ZB6EG5B	ZB6EM5B
	NO + NC	ZB6Z5B	–	Blue ●	ZB6EB6B	ZB6EG6B	ZB6EM6B
















Accessories

Legend holders		24 x 28 mm (8 x 21 mm legend)			24 x 36 mm (16 x 21 mm legend)		
Blank legend	Background colour	without legend	yellow or white	black or red	without legend	yellow or white	black or red
References (10)*		ZB6YD20	ZB6YD21	ZB6YD22	ZB6YD30	ZB6YD31	ZB6YD32
Blank legends for legend holders		8 x 21 mm (24 x 28 mm legend holder)			16 x 21 mm (24 x 36 mm legend holder)		
	Background colour	–	yellow or white	black or red	–	yellow or white	black or red
References (20)*		–	ZB6Y1001	ZB6Y2001	–	ZB6Y4001	ZB6Y3001
Ø 45 mm yellow legend for mushroom head Emergency stop pushbutton							
	Marking	Blank, for engraving		EMERGENCY STOP	ARRET D'URGENCE		
References		ZB6Y7001		ZB6Y7330	ZB6Y7130		
	Body/fixing collar	Plate		Tightening tool	Dismantling tool		
		anti-rotation		and slackening, for fixing nut		for removal of contact blocks	
References	ZB6Y009 (10)*	ZB6Y003 (10)*		ZB6Y905 (2)*	ZB6Y018 (5)*		
Protective shutter for pushbuttons and switches				Connector		Blanking plug	
	for rectangular heads	for circular and square heads		Faston, female	IP 65		
References	ZB6YD001	ZB6YA001		ZB6Y004 (100)*	ZB6Y005 (10)*		

* sold in lots of





Pushbuttons, spring return

Type of head			Chromium plated circular bezel					
Degree of protection			IP 66 / Nema 4X, 13 / Class I					
Mounting (mm)		panel cut-out	Ø 22.5 (22.4 ^{+0.4} ₀ recommended)					
		mounting centres	30 (horizontal) x 40 (vertical)					
Depth (mm)		below head	43					
Connection (1)			Screw clamp terminals					
Type of push			Flush			Flush, booted		
Unmarked		Products	Complete	For user assembly		Complete	For user assembly	
								
References		black ● NO	XB4BA21	ZB4BZ101	ZB4BA2	XB4BP21	ZB4BZ101	ZB4BP2
		green ● NO	XB4BA31	ZB4BZ101	ZB4BA3	XB4BP31	ZB4BZ101	ZB4BP3
		red ● NC	XB4BA42	ZB4BZ102	ZB4BA4	XB4BP42	ZB4BZ102	ZB4BP4
		yellow ● NO	XB4BA51	ZB4BZ101	ZB4BA5	XB4BP51	ZB4BZ101	ZB4BP5
		blue ● NO	XB4BA61	ZB4BZ101	ZB4BA6	XB4BP61	ZB4BZ101	ZB4BP6
Type of push			Flush					
With international marking		Products	Complete	For user assembly				
References		green ⓘ NO	XB4BA3311	ZB4BZ101	ZB4BA331	–	–	–
		red ⓘ NC	XB4BA4322	ZB4BZ102	ZB4BA432	–	–	–
		white ⓘ NO	XB4BA3341	ZB4BZ101	ZB4BA334	–	–	–
		black ⓘ NO	XB4BA3351	ZB4BZ101	ZB4BA335	–	–	–
Type of push			Projecting			Mushroom head, Ø 40 mm		
Unmarked		Products	Complete	For user assembly		Complete	For user assembly	
								
References		black ● NO	–	–	–	XB4BC21	ZB4BZ101	ZB4BC2
		red ● NC	XB4BL42	ZB4BZ102	ZB4BL4	–	–	–
Type of push			Double-headed pushbuttons			Triple-headed pushbuttons		
Degree of protection			IP 66 - IP 69K			IP 66 - IP 69K		
With international marking		Products	Complete	For user assembly		Complete	For user assembly	
			(A) 			(B) 		
References		(A) NO + NC	XB4BL73415	ZB4BZ105	ZB4BL7341	–	–	–
		(B) NO + NC + NO	–	–	–	XB4BA711237	ZB4BZ103 + ZBE102	ZB4BA71123

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).



Ø 40 mm mushroom head Emergency stop pushbuttons (2)

		Trigger action (EN/ISO 13850)					
Type of push		Push-pull NO + NC					
Unmarked		Products	Complete	For user assembly			
							
References		red ● NO + NC	XB4BT845	ZB4BZ105		ZB4BT84	
Type of push		Turn to release NO + NC					
References		red ● NO + NC	XB4BS8445	ZB4BZ105		ZB4BS844	
Type of push		Key release NO + NC					
References		red ● NO + NC	XB4BS9445	ZB4BZ105		ZB4BS944	

(2) Emergency stop trigger action and mechanical latching pushbuttons conform to standards EN/IEC 60204-1 and EN/ISO 13850, to Machinery Directive 2006/42/EC and to standard EN/IEC 60947-5-5. Please consult your Regional Sales Office for a full explanation of these standards and directives.

Contact functions



Selector switches and key switches

Type of head	Chromium plated circular bezel	
Degree of protection	IP 66 / Nema 4X, 13 / Class I	
Mounting (mm)	panel cut-out	Ø 22.5 (22.4 ^{+0.4} ₀ recommended)
	mounting centres	30 (horizontal) x 40 (vertical)
Depth (mm)	below head	43
Connection (1)	Screw clamp terminals	
Type of operator	Handle	

2









Products	Complete		For user assembly		Complete		For user assembly	
Number and type of positions	2 positions stay put		2 positions stay put		2 positions spring return to left		2 positions spring return to left	
References	black ● NO	XB4BD21	ZB4BZ101	ZB4BD2	XB4BD41	ZB4BZ101	ZB4BD4	
Number and type of positions	3 positions stay put		3 positions stay put		3 positions spring return to centre		3 positions spring return to centre	
References	black ● NO + NO	XB4BD33	ZB4BZ103	ZB4BD3	XB4BD53	ZB4BZ103	ZB4BD5	



Products	Complete		For user assembly		Complete		For user assembly	
Number and type of positions (2)	2 positions stay put		2 positions stay put		2 positions stay put		2 positions stay put	
References	black ● NO	XB4BG21	ZB4BZ101	ZB4BG2	XB4BG41	ZB4BZ101	ZB4BG4	
Number and type of positions	2 positions spring return to left		2 positions spring return to left		3 positions stay put		3 positions stay put	
References	black ● NO	XB4BG61	ZB4BZ101	ZB4BG6	–	–	–	–
References	black ● NO + NO	–	–	–	XB4BG33	ZB4BZ103	ZB4BG3	










Pilot lights





Type of head			Circular bezel					
Degree of protection			Smooth lens cap					
Mounting (mm)		panel cut-out	IP 66 / Nema 4X, 13 / Class I					
		mounting centres	Ø 22.5 (22.4 ^{+0.4} ₀ recommended)					
Depth		below head	30 (horizontal) x 40 (vertical)					
Connection (1)			43					
Light source			Screw clamp terminals		Integral LED			
			Direct supply for BA 9s bulb (not included)					
		Products	Complete		Complete	For user assembly		
								
Supply voltage			24 V AC/DC	110...120 V AC	230...240 V AC	250 V max., 2.4 W max.		
References		white 	XB4BVB1	XB4BVG1	XB4BVM1	XB4BV61	ZB4BV6	ZB4BV01
		green 	XB4BVB3	XB4BVG3	XB4BVM3	XB4BV63	ZB4BV6	ZB4BV03
		red 	XB4BVB4	XB4BVG4	XB4BVM4	XB4BV64	ZB4BV6	ZB4BV04
		yellow 	XB4BVB5	XB4BVG5	XB4BVM5	XB4BV65	ZB4BV6	ZB4BV05
		blue 	XB4BVB6	XB4BVG6	XB4BVM6	–	–	–



Illuminated pushbuttons and selector switches

Type		Flush push, spring return, illuminated pushbuttons						
Light source		Integral LED		Direct supply for BA 9s bulb (not included)				
		Complete		Complete	For user assembly			
								
Supply voltage		24 V AC/DC	110...120 V AC	230...240 V AC	250 V max., 2.4 W max.			
References		white  NO + NC	XB4BW31B5	XB4BW31G5	XB4BW31M5	XB4BW3165	ZB4BW065	ZB4BW31
		green  NO + NC	XB4BW33B5	XB4BW33G5	XB4BW33M5	XB4BW3365	ZB4BW065	ZB4BW33
		red  NO + NC	XB4BW34B5	XB4BW34G5	XB4BW34M5	XB4BW3465	ZB4BW065	ZB4BW34
		orange  NO + NC	XB4BW35B5	XB4BW35G5	XB4BW35M5	XB4BW3565	ZB4BW065	ZB4BW35
		blue  NO + NC	XB4BW36B5	XB4BW36G5	XB4BW36M5	–	–	–



Type		Double-headed pushbuttons with LED pilot light (1 flush green push, 1 projecting red push)			Illuminated selector switches (2 position stay put)		
Degree of protection		IP 66 - IP 69K			IP 66		
Light source		Integral LED			Integral LED		
		Complete			Complete		
Supply voltage		24 V AC/DC	110...120 V AC	230...240 V AC	24 V AC/DC	110...120 V AC	230...240 V AC
References		green  NO + NC	–	–	XB4BK123B5	XB4BK123G5	XB4BK123M5
		red  NO + NC	–	–	XB4BK124B5	XB4BK124G5	XB4BK124M5
		orange  NO + NC	–	–	XB4BK125B5	XB4BK125G5	XB4BK125M5
		White  NO + NC	XB4BW73731B5	XB4BW73731G5	XB4BW73731M5	–	–

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8), spring clamp terminal.

Separate components and accessories



Electrical blocks (1) (2)

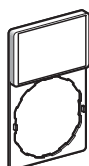
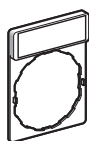
	Single contact blocks		Light blocks with integral LED				Light block, direct supply
Rated operational characteristics	AC-15, 240 V - 3 A		Consumption				
Positive operation of contacts conforming to IEC/EN 60947-5-1	NC contacts with positive opening operation		18 mA	24 V AC/DC			
			14 mA	120 V AC			
References (5)*	Screw clamp terminal	Spring clamp terminal	To combine with heads for integral LED				For BA 9s bulb (not included) 250 V max., 2.4 W max.
	NO	ZBE101	ZBE1015	24 V AC/DC	110...120 V AC	230...240 V AC	
	NC	ZBE102	ZBE1025	white	ZBVB1	ZBVG1	ZBVM1
				green	ZBVB3	ZBVG3	ZBVM3
				red	ZBVB4	ZBVG4	ZBVM4
				orange	ZBVB5	ZBVG5	ZBVM5
				blue	ZBVB6	ZBVG6	ZBVM6
							Colour provided by lens



Diecast metal enclosures

(Zinc alloy, usable depth 49 mm)

	Front face dimensions	1 vertical row				2 vertical rows		
		1	2	3	4	2	4	6
Number of cut-outs	80 x 80 mm	XAPM1201	–	–	–	XAPM1202	–	–
References	80 x 130 mm	–	XAPM2202	XAPM2203	–	–	XAPM2204	–
	80 x 175 mm	–	–	XAPM3203	XAPM3204	–	–	XAPM3206



Accessories (2)

Legend holders, 30 x 40 mm, for 8 x 27 mm legends

References (10)*	Marking	Background colour: black or red						white or yellow		
		Blank	ZBY2101						ZBY4101	
	International	0 (red background)	ZBY2931	I	ZBY2147	AUTO	ZBY2115	STOP	ZBY2304	–
	English	OFF	ZBY2312	ON	ZBY2311	START	ZBY2303	–	–	–
	French	ARRET (red b/grnd)	ZBY2104	ARRET-MARCHE	ZBY2166	MARCHE	ZBY2103	–	–	–
	German	AUS	ZBY2204	AUS-EIN	ZBY2266	EIN	ZBY2203	–	–	–
	Spanish	PARADA (red b/grnd)	ZBY2404	PARADA-MARCHA	ZBY2466	MARCHA	ZBY2403	–	–	–

Legend holders, 30 x 50 mm, for 18 x 27 mm legends

Background colour	black or red						white or yellow	
References (10)*	Blank	ZBY6101						ZBY6102

Ø 60 mm legend for mushroom head Emergency stop pushbutton

Background colour	yellow				
Marking	Blank	EMERGENCY STOP	ARRET D'URGENCE	NOT HALT	PARADA DE EMERGENCIA
References	ZBY9140	ZBY9330	ZBY9130	ZBY9230	ZBY9430

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8), spring clamp terminal.

(2) Electrical blocks and accessories also for use with Harmony XB5plastic range

* sold in lots of



Pushbuttons, spring return

Type of head		Circular bezel							
Degree of protection		IP 66 / Nema 4X, 13 / Class II							
Mounting (mm)		Ø 22.5 (22.4 ^{+0.4} ₀ recommended)							
Depth (mm)		30 (horizontal) x 40 (vertical)							
Connection (1)		Screw clamp terminals							
Type of push		Flush			Flush, booted				
Unmarked		Products		Complete	For user assembly		Complete	For user assembly	
References		black ● NO	XB5AA21	ZB5AZ101	ZB5AA2	XB5AP21	ZB5AZ101	ZB5AP2	
		green ● NO	XB5AA31	ZB5AZ101	ZB5AA3	XB5AP31	ZB5AZ101	ZB5AP3	
		red ● NC	XB5AA42	ZB5AZ102	ZB5AA4	XB5AP42	ZB5AZ102	ZB5AP4	
		yellow ● NO	XB5AA51	ZB5AZ101	ZB5AA5	XB5AP51	ZB5AZ101	ZB5AP5	
		blue ● NO	XB5AA61	ZB5AZ101	ZB5AA6	XB5AP61	ZB5AZ101	ZB5AP6	
Type of push		Flush							
With international marking		Products		Complete	For user assembly		Complete	For user assembly	
References		green ⓘ NO	XB5AA3311	ZB5AZ101	ZB5AA331	–	–	–	
		red ⓘ NC	XB5AA4322	ZB5AZ102	ZB5AA432	–	–	–	
		white ⓘ NO	XB5AA3341	ZB5AZ101	ZB5AA334	–	–	–	
		black ⓘ NO	XB5AA3351	ZB5AZ101	ZB5AA335	–	–	–	
Type of push		Projecting			Mushroom head, Ø 40 mm				
Unmarked		Products		Complete	For user assembly		Complete	For user assembly	
References		black ● NO	–	–	–	XB5AC21	ZB5AZ101	ZB5AC2	
		red ● NC	XB5AL42	ZB5AZ102	ZB5AL4	–	–	–	
Type of push		Double-headed pushbuttons			Triple-headed pushbuttons				
Degree of protection		IP 66 - IP 69K			IP 66 - IP 69K				
With international marking		Products		Complete (A)	For user assembly		Complete (B)	For user assembly	
References		(A) NO + NC	XB5AL73415	ZB5AZ105	ZB5AL7341	–	–	–	
		(B) NO + NC + NO	–	–	–	XB5AA711237	ZB5AZ103 + ZBE102	ZB5AA71123	

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).



Ø 40 mm mushroom head Emergency stop pushbuttons (2)














Type of push		Trigger action (EN/ISO 13850)							
Unmarked		Products		Complete	For user assembly		Complete	For user assembly	
References		red ● NO + NC	XB5AT845	ZB5AZ105	ZB5AT84	–	–	–	
Type of push		Turn to release NO + NC							
References		red ● NO + NC	XB5AS8445	ZB5AZ105	ZB5AS844	–	–	–	
Type of push		Key release NO + NC							
References		red ● NO + NC	XB5AS9445	ZB5AZ105	ZB5AS944	–	–	–	

(2) Emergency stop trigger action and mechanical latching pushbuttons conform to standards EN/IEC 60204-1 and EN/ISO 13850: to Machinery Directive 2006/42/EC and to standard EN/IEC 60947-5-5. Please consult your Regional Sales Office for a full explanation of these standards and directives.

Contact functions



Selector switches and key switches

Type of head		Circular bezel			
Degree of protection		IP 66 / Nema 4X, 13 / Class II			
Mounting (mm)	panel cut-out mounting centres	Ø 22.5 (22.4 ^{+0.4} ₀ recommended)			
Depth (mm)	below head	30 (horizontal) x 40 (vertical)			
Connection (1)		Screw clamp terminals			
Type of operator		Handle			
	Products	Complete	For user assembly	Complete	For user assembly
Number and type of positions		2 positions stay put 	2 positions stay put 	2 positions spring return to left 	2 positions spring return to left 
References	black ● NO	XB5AD21	ZB5AZ101 ZB5AD2	XB5AD41	ZB5AZ101 ZB5AD4
Number and type of positions		3 positions stay put 	3 positions stay put 	3 positions spring return to centre 	3 positions spring return to centre 
References	black ● NO + NO	XB5AD33	ZB5AZ103 ZB5AD3	XB5AD53	ZB5AZ103 ZB5AD5
Type of operator		Key, n° 455			
Number and type of positions (2)		2 positions stay put 	2 positions stay put 	2 positions stay put 	2 positions stay put 
References	black ● NO	XB5AG21	ZB5AZ101 ZB5AG2	XB5AG41	ZB5AZ101 ZB5AG4

(2) The symbol  indicates key withdrawal position.



Biometric switch

Degree of protection	IP65			
Dimension WxHxD (mm)	69,3 x 54 x 78,5 (total depth : front + rear)			
Mounting (mm)	Ø 22.5			
Depth (mm)	39,7			
Supply voltage	24 VDC			
Output	PNP - monostable		PNP - bistable	
Connection	2m cable	M12 connector	2m cable	M12 connector
References	XB5S1B2L2	XB5S1B2M12	XB5S2B2L2	XB5S2B2M12

	Body/fixing collar	Fixing nut	Bezel tool	Plate
	for electrical block (contact or light)	for head	for tightening fixing nut ZB5AZ901	anti-rotation
References	ZB5AZ009 (10)*	ZB5AZ901 (10)*	ZB5AZ905	ZB5AZ902

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8), spring clamp terminal

(2) Refer to page 9 for Electrical blocks and accessories used with Harmony XB5plastic range









* sold in lots of

Pushbuttons, switches and pilot lights Ø 22 with plastic bezel

Light functions










Pilot lights





Type of head		Circular bezel					
Degree of protection		Smooth lens cap					
Mounting (mm)	panel cut-out	IP 66 / Nema 4X, 13 / Class II					
	mounting centres	Ø 22.5 (22.4 ^{+0.4} ₀ recommended)					
Depth	below head	30 (horizontal) x 40 (vertical)					
Connection (1)		43					
Light source		Screw clamp terminals			Integral LED		
					Direct supply for BA 9s bulb (not included)		
	Products	Complete			Complete	For user assembly	
							
Supply voltage		24 V AC/DC	110...120 V AC	230...240 V AC	250 V max., 2.4 W max.		
References	white 	XB5AVB1	XB5AVG1	XB5AVM1	XB5AV61	ZB5AV6	ZB5AV01
	green 	XB5AVB3	XB5AVG3	XB5AVM3	XB5AV63	ZB5AV6	ZB5AV03
	red 	XB5AVB4	XB5AVG4	XB5AVM4	XB5AV64	ZB5AV6	ZB5AV04
	orange 	XB5AVB5	XB5AVG5	XB5AVM5	XB5AV65	ZB5AV6	ZB5AV05
	blue 	XB5AVB6	XB5AVG6	XB5AVM6	–	–	–



Illuminated pushbuttons and selector switches

Type	Flush push, spring return, illuminated pushbuttons						
Light source		Integral LED			Direct supply for BA 9s bulb (not included)		
	Products	Complete			Complete	For user assembly	
							
Supply voltage		24 V AC/DC	110...120 V AC	230...240 V AC	250 V max., 2.4 W max.		
References	white  NO + NC	XB5AW31B5	XB5AW31G5	XB5AW31M5	XB5AW3165	ZB5AW065	ZB5AW31
	green  NO + NC	XB5AW33B5	XB5AW33G5	XB5AW33M5	XB5AW3365	ZB5AW065	ZB5AW33
	red  NO + NC	XB5AW34B5	XB5AW34G5	XB5AW34M5	XB5AW3465	ZB5AW065	ZB5AW34
	orange  NO + NC	XB5AW35B5	XB5AW35G5	XB5AW35M5	XB5AW3565	ZB5AW065	ZB5AW35
	blue  NO + NC	XB5AW36B5	XB5AW36G5	XB5AW36M5	–	–	–



Type	Double-headed pushbuttons with LED pilot light (1 flush green push, 1 projecting red push)			Illuminated selector switches (2 position stay put)			
Degree of protection	IP 66 - IP 69K			IP 66			
Light source	Integral LED			Integral LED			
	Products	Complete			Complete		
Supply voltage		24 V AC/DC	110...120 V AC	230...240 V AC	24 V AC/DC	110...120 V AC	230...240 V AC
References	green  NO + NC	–	–	–	XB5AK123B5	XB5AK123G5	XB5AK123M5
	red  NO + NC	–	–	–	XB5AK124B5	XB5AK124G5	XB5AK124M5
	orange  NO + NC	–	–	–	XB5AK125B5	XB5AK125G5	XB5AK125M5
	white  NO + NC	XB5AW73731B5	XB5AW73731G5	XB5AW73731M5	–	–	–

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8), spring clamp terminal.

Separate components and accessories: see previous page.

(1):

Number of cut-outs	Number (●)
1	1
2	2
3	3
4	4
5	5



Complete stations with 1 pushbutton, selector switch or key switch (light grey RAL 7035 base with dark grey RAL 7016 lid)

Degree of protection		IP 65 / Nema 4X and 13 / Class II				
Dimensions (mm)		W x H x D 68 x 68 x 113 max. (with key release Ø 40 mushroom head pushbutton)				
Fixing (mm)		2 x Ø 4.3 on 54 mm centres				
Function		1 Start or Stop function			1 Start-Stop function	
Marking		On spring return push			On legend holder and legend below head	
Number and type of pushbutton/selector switch/key switch		1 flush green p/b	1 flush red p/b	1 projecting red p/b	1 2 position stay put selector switch or key switch	
References		NO	I	XALD102	–	–
			Start	XALD103	–	–
			O - I	–	–	XALD134
			O	–	XALD112	XALD115
						Black handle
						Key n° 455 (key withdrawal LH pos.)
						XALD144

2

(1) Empty enclosures:

Basic reference: **XALK0●**, replace the ● by the number of cut-outs required (see cut-out table above)



Function		Emergency stop (2) (light grey RAL 7035 base with yellow RAL 1012 lid)	
Number and type of mushroom head pushbutton		1 red Ø 40 head, turn to release	1 red Ø 40 head, key release
Latching mechanism		Trigger action (EN/ISO 13850)	Trigger action (EN/ISO 13850)
References		NC	XALK178
		NC + NC	XALK178F
		NO + NC	XALK178E
		NC + NC + NO	XALK178G
			XALK188
			XALK188F
			XALK188E
			XALK188G

(2) Emergency stop trigger action and mechanical latching pushbuttons conform to standards EN/IEC 60204-1 and EN/ISO 13850, to Machinery Directive 2006/42/EC and to standard EN/IEC 60947-5-5. Please consult your Regional Sales Office for a full explanation of these standards and directives.

(1) Empty enclosures:

Basic reference: **XALD0●**, replace the ● by the number of cut-outs required (see cut-out table above)



Complete stations with 2 and 3 pushbuttons or 2 pushbuttons + 1 pilot light (light grey RAL 7035 base with dark grey RAL 7016 lid)











Dimensions (mm)		W x H x D 2-way control stations: 68 x 106 x 62; 3-way control stations: 68 x 136 x 87						
Fixing (mm)		2-way control stations: 2 x Ø 4.3 on 54 x 68 centres; 3-way control stations: 2 x Ø 4.3 on 54 x 98 centres						
Function		Start-Stop functions			2 functions		3 functions	
Marking		On spring return push						
Number and type of pushbutton/pilot light		1 flush green p/b	1 flush green pushbutton	1 flush white p/b	1 flush white p/b	1 flush white p/b	1 flush white p/b	1 flush white p/b
		1 flush red p/b	1 flush red pushbutton	1 flush black p/b	1 flush red p/b	1 flush black p/b	1 Ø 30 red mushroom head p/b	1 flush black p/b
			1 red pilot light with integral LED					1 flush black p/b
References		NO + NC	I - O	XALD213	24 V AC/DC	XALD363B	230 V AC	XALD363M
			Start - Stop	XALD215	–	–	–	–
		NO + NO	↕	–	–	–	XALD222	–
		NO + NC + NO	↕	–	–	–	–	XALD324
			↕					XALD328

Accessories		Standard contact blocks		Light blocks with integral LED, colour red	
Description		NO contact	NC contact	24 V AC/DC	230 V AC
References		ZENL1111	ZENL1121	ZALVB4	ZALVM4







Available 3Q 2011

Pushbuttons

Type of head			Flush or projecting push	
Degree of protection			circular	
Mounting (mm)		panel cut-out	IP 65, class II	
mounting centres			Ø 22.4 (0 +0.1)	
Dimensions (mm)		Ø x Depth (below head)	30 (horizontal) x 40 (vertical)	
Connection			Ø 29 x 41.5 (Ø 40 x 41.5 for Emergency stop)	
			Screw clamp terminals, 1 x 0.34 mm ² to 1 x 1.5 mm ²	
Type of push			Flush, spring return	Flush, push and latching
References (10)*	white	 NO	XB7NA11	–
		NO + NC	XB7NA15	–
	black	 NO	XB7NA21	XB7NH21
		NO + NC	XB7NA25	XB7NH25
	green	 NO	XB7NA31	XB7NH31
		NO + NC	XB7NA35	XB7NH35
	red	 NC	XB7NA42	–
		NO + NC	XB7NA45	–
	yellow	 NO	XB7NA81	–
	Type of push			Flush, spring return
References	green	 NO	XB7NA3131	–
	red	 NC	–	XB7EL4232
	white	 NO	XB7NA11341	–
	black	 NO	XB7NA21341	–
		NO + NC	XB7NA25341	–





Selector switches and key switches

Type of operator		Black handle		Ronis key, n° 455	
Number and type of positions		2 positions stay put 	3 positions stay put 	2 positions stay put 	3 positions stay put 
	References (10)*	NO XB7ND21	–	XB7NG21	–
	NO + NC	XB7ND25	–	–	–
	2 NO	–	XB7ND33	–	XB7NG33



Ø 40 mushroom head pushbuttons (1)

Type of push		Turn to release	Key release, Ronis 455
References (10)*	red  NC	XB7ES542P	XB7ES142P
	red  NO + NC	XB7ES545P	XB7ES145P

(1) Mushroom head switching off mechanical latching pushbuttons conform to standard IEC 60364-5-53 and EN/IEC 60947-5-5. For mushroom trigger action and mechanical latching head Emergency stop pushbuttons conforming to standard EN/IEC 60204-1 and EN/ISO 13850, to Machinery directive 2006/42/EC and standard EN/IEC 60947-5-5, use an Emergency stop type XB5A●8●●● or XB5AS9●●● from the Harmony® range. See page 2/10.

* sold in lots of 10


Contact functions and light functions

(1):

Supply voltage for integral LED light source only	Letter (●)
24 V AC/DC	B
120 V AC	G
230 V AC	M



Illuminated pushbuttons

Type of head		Projecting push	
		circular	
Degree of protection		IP 65, class II	
Mounting (mm)		Ø 22.4 (0 +0.1)	
panel cut-out mounting centres		30 (horizontal) x 40 (vertical)	
Dimensions (mm)		Ø 29 x 41.5, (Ø 40 x 41.5 for Emergency stop)	
Connection		Screw clamp terminals, 1 x 0.34 mm ² to 1 x 1.5 mm ²	
Light source		Integral LED	BA 9s base fitting Incandescent bulb direct supply (bulb not included)
Type of push		Spring return	
References (10)*	green ● NO	XB7NW33●1 (1)	XB7NW3361
	red ● NO ● NC	XB7NW34●1 (1)	XB7NW3461
		XB7NW34●2 (1)	–
	orange ● NO	XB7NW35●1 (1)	–
	blue ● NO	XB7NW36●1 (1)	–
	clear ● NO	XB7NW37●1 (1)	–
yellow ● NO	XB7NW38●1 (1)	XB7NW3561	
Type of push		Push and latching	
References (10)*	green ● NO	XB7NH03●1 (1)	XB7NH0361
	red ● NO ● NC	XB7NH04●1 (1)	XB7NH0461
		XB7NH04●2 (1)	–
	yellow ● NO	XB7NH08●1 (1)	XB7NH0861



Pilot lights (2)

Light source	Integral LED	Ba 9s base fitting incandescent bulb direct supply (bulb not included)	Incandescent bulb direct through resistor (bulb included)
Supply voltage	24VAC/DC or 120VAC or 230...240VAC	6 or 24 V DC, or 130 V AC	230 V AC
References (10)*	clear ●	XB7EV07● (1)	XB7EV77
	green ●	XB7EV03● (1)	XB7EV63
	red ●	XB7EV04● (1)	XB7EV64
	yellow ●	XB7EV05● (1)	XB7EV65
	blue ●	XB7EV06● (1)	XB7EV66
	orange ●	XB7EV08● (1)	XB7EV68

Incandescent bulbs, long life

BA 9s base fitting, Ø 11 mm max., length 28 mm max.

References	6 V (1.2 W)	24 V (2 W)	130 V (2.4 W)
	DL1CB006	DL1CE024	DL1CE130

(1) Basic reference, to be completed by the letter B, G or M indicating the required voltage. See voltage table above.

(2) Alternative connection: 1 x 6.35 and 2 x 2.8 mm Faston connectors.

* sold in lots of 10



Pushbuttons, spring return

Type of push	Flush	Projecting	Projecting (high guard)
Colour of push	Multi-colour (set of 7 clip-in coloured caps)		
Degree of protection	IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II		
Mounting (mm)	panel cut-out mounting centres	Ø 31	
Depth below head (mm)	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)		
Connection	Screw clamp terminals		
References	CO	9001KR1UH13	9001KR3UH13
	NO	9001KR1UH5	9001KR2UH5



Mushroom head pushbuttons, latching (1)	Emergency switching off	Emergency stop
Type of push	Push-pull Ø 41 mushroom head Ø 35 mushroom head	Turn-to-Release, trigger action Ø 40 red mushroom head
Degree of protection	IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II	
Mounting (mm)	panel cut-out mounting centres	Ø 31
Depth below head (mm)	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)	
Connection	Screw clamp terminals	
References	–	–
	CO	9001KR9R94H13
	NC	9001KR9RH6
	2NO + 2NC	–
	NO	–
	–	9001KR16
	–	–
	–	9001KR16H2
	–	9001KR16H13

(1) Mushroom head switching off mechanical latching pushbuttons conform to standard IEC 60364-5-53 and EN/IEC 60947-5-5. Mushroom trigger action and mechanical latching head Emergency stop pushbuttons conforming to standard EN/IEC 60204-1 and EN/ISO 13850, to Machinery directive 2006/42/EC and standard EN/IEC 60947-5-5.
(2) For yellow circular Emergency Stop legend plates: see page 2/19



Selector switches and key switches

Type of operator	Long black handle	Key, n° 455	
positions (2)	3 - spring return 2 - stay put 2 - spring return 3 - stay put	2 - stay put	
Number and type of positions			
Degree of protection	IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II		
Mounting (mm)	panel cut-out mounting centres	Ø 31	
Depth below head (mm)	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)		
Connection	Screw clamp terminals		
References	NO	–	9001KS11FBH5
	CO	9001KS53FBH1	–
	–	9001KS34FBH5	–
	–	–	9001KS43FBH1
	–	–	9001KS11K1RH1

(2) The symbol indicates key withdrawal position.

Light functions



Pilot lights

Type of head		Smooth lens cap			
Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II			
Mounting (mm)	panel cut-out	Ø 31			
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)			
Depth below head (mm)		42			
Connection		Screw clamp terminals			
Type of light block		With high luminosity LED (included)			Incandescent BA 9s bulb (included)
References		24 V AC/DC	48 V AC/DC	120 V AC/DC	230 V AC
	green ●	9001KP35LGG9	9001KP36LGG9	9001KP38LGG9	9001KP7G9
	red ●	9001KP35LRR9	9001KP36LRR9	9001KP38LRR9	9001KP7R9
	yellow ●	9001KP35LYA9	9001KP36LYA9	9001KP38LYA9	9001KP7A9

2



Illuminated pushbuttons, spring return

Type of head		Spring return flush push			
Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II			
Mounting (mm)	panel cut-out	Ø 31			
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)			
Depth below head (mm)		42			
Connection		Screw clamp terminals			
Type of light block		With high luminosity LED (included)			Incandescent BA 9s bulb (included)
References		24 V AC/DC	48 V AC/DC	120 V AC/DC	230 V AC
	green ● CO	9001K3L35LGGH13	9001K3L36LGGH13	9001K3L38LGGH13	9001K2L7RH13
	red ● CO	9001K3L35LRRH13	9001K3L36LRRH13	9001K3L38LRRH13	9001K2L7GH13
	yellow ● CO	9001K3L35LYAH13	9001K3L36LYAH13	9001K3L38LYAH13	9001K2L7AH13



Illuminated Ø 41 mushroom head pushbuttons, latching, high luminosity LED

Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II			
Mounting (mm)	panel cut-out	Ø 31			
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)			
Depth below head (mm)		42			
Connection		Screw clamp terminals			
Type of light block		With high luminosity LED (included)			Incandescent BA 9s bulb (included)
		24 V AC/DC	48 V AC/DC	120 V AC/DC	230 V AC/DC
Type of head		2 position, push-pull			
References	red ● CO	9001KR9P35RH13	9001KR9P36RH13	9001KR9P38RH13	9001KR9P7RH13
Type of head		3 position, push-pull (pull: spring return, centre: stay put, push: spring return)			
References	red ● NC + NC late break	9001KR8P35RH25	9001KR8P36RH25	9001KR8P38RH25	9001KR8P7RH25



Pushbuttons, spring return

Type of push	Flush	Projecting	Projecting (high guard)	
Colour of push	Multi-colour (set of 7 clip-in coloured caps)			
Degree of protection	IP 66 / Nema 1, 2, 3, 3R, 4, 4X, 12 and 13 / Class II			
Mounting (mm)	panel cut-out mounting centres	Ø 31		
Depth below head (mm)	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)			
Connection	Screw clamp terminals			
References	CO NO	9001SKR1UH13 9001SKR1UH5	9001SKR3UH13 9001SKR3UH5	9001SKR2UH13 9001SKR2UH5



Type	Selector switches			Mushroom head pushbuttons (1) Emergency stop
Type of operator	Long black handle			Turn-to-Release, trigger action
positions	2 - stay put	2 - spring return	3 - stay put	Ø 40 red mushroom head
Number and type of positions				
Degree of protection	IP 66 / Nema 1, 2, 3, 3R, 4, 4X, 12 and 13 / Class II			IP 66 / Nema 1, 2, 3, 3R, 4, 4X, 6, 12 and 13 / Class III
Mounting (mm)	panel cut-out mounting centres	Ø 31		
Depth below head (mm)	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)			57,2 x 44,5 (without legend plate), 100 x 100 ((with legend plate 9001KN8330) (2))
Connection	Screw clamp terminals			
References	-	-	-	9001SKR16
	NO	9001SKS11FBH5	9001SKS34FBH5	9001SKR16H13
	CO	-	9001SKS43FBH1	-
	2NO + 2NC	-	-	9001SKR16H2

(1) Mushroom trigger action and mechanical latching head Emergency stop pushbuttons conforming to standard EN/IEC 60204-1 and EN/ISO 13850, to Machinery directive 2006/42/EC and standard EN/IEC 60947-5-5.

(2) For yellow circular Emergency Stop legend plates: see page 2/19



Pilot lights

Type of head	Smooth lens cap			
Degree of protection	IP 66 / Nema 1, 2, 3, 3R, 4, 4X, 12 and 13 / Class II			
Mounting (mm)	panel cut-out mounting centres	Ø 31		
Depth below head (mm)	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)			
Connection	Screw clamp terminals			
Type of light block	With high luminosity LED (included)			Incandescent BA 9s bulb (included)
References	24 V AC/DC	48 V AC/DC	120 V AC/DC	230 V AC
green ●	9001SKP35LGG9	9001SKP36LGG9	9001SKP38LGG9	9001SKP7G9
red ●	9001SKP35LRR9	9001SKP36LRR9	9001SKP38LRR9	9001SKP7R9
yellow ●	9001SKP35LYA9	9001SKP36LYA9	9001SKP38LYA9	9001SKP7A9

Accessories



Contact blocks with protected terminals

Type of contact	Single contact blocks	
Connection	Screw clamp terminals	
References	CO	9001KA1
	NO	9001KA2
	NC	9001KA3
	CO, late break	9001KA4
	NC, late break	9001KA5
	NO, early make	9001KA6

2



Enclosures

Type	Number of Ø 30 mm cut-outs	NEMA ratings	Reference
Aluminium	1	1, 3, 4, 6, 12, 13	9001KY1
	2	1, 3, 4, 6, 12, 13	9001KY2
	3	1, 3, 4, 6, 12, 13	9001KY3
	4	1, 3, 4, 6, 12, 13	9001KY4
Stainless steel	1	1, 3, 4, 4X, 13	9001KYSS1
	2	1, 3, 4, 4X, 13	9001KYSS2
	3	1, 3, 4, 4X, 13	9001KYSS3

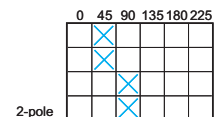
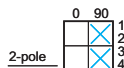


Legends

Legends		44 x 43 mm	57 x 57 mm	Ø 60	Ø 90
Type	Colour of legend	Aluminium black background	Plastic white background	Plastic Yellow background	
Marking	Blank	9001KN200	9001KN100WP	9001KN9100	9001KN8100
	START	9001KN201	9001KN101WP	–	–
	STOP (red background)	9001KN202	9001KN102RP	–	–
	FORWARD	9001KN206	9001KN106WP	–	–
	REVERSE	9001KN207	9001KN107WP	–	–
	RESET	9001KN223	9001KN123WP	–	–
	PULL TO START/ PUSH TO STOP	9001KN379	9001KN179WP	–	–
	EMERGENCY STOP	–	–	9001KN9330	9001KN8330
	ARRET D'URGENCE	–	–	9001KN9330F	9001KN8330F
	PARADA DE EMERGENCIA	–	–	9001KN9330S	9001KN8330S



positions (°)

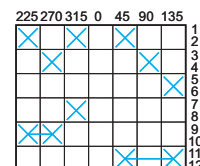
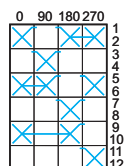
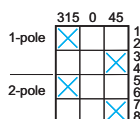


Cam switches, K1 / K2 series

Function	Switches	ON-OFF switches	Stepping switches
Degree of protection front face	45° switching angle	90° switching angle	with "0" position
Conventional thermal current (Ith)	12 A 20 A	12 A 20 A	12 A 20 A
Rated insulation voltage (Ui) conforming to IEC60947-1	690 V	690 V	690 V
Number of positions	2	2	2 + "0" position
Number of poles	2	2	2
Dimensions of front plate (mm)	45 x 45	45 x 45	45 x 45
Front mounting method	Multifixing plate, 45 x 45 mm	K1B002ALH K2B 002ALH	K1B1002HLH K2B 1002HLH
	Plastic mounting plate for Ø 22 mm hole	K1B002ACH K2B 002ACH	K1B1002HCH K2B 1002HCH
		K1D012QLH K2D012QLH	K1D012QCH K2D012QCH



positions (°)



Cam switches, K1 / K2 series

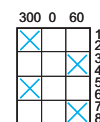
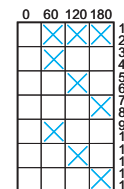
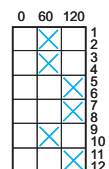
Function	Changeover switches	Ammeter switches	Voltmeter switches
Degree of protection front face	IP 65 (1)	IP 65 (1)	IP 65 (1)
Conventional thermal current (Ith)	12 A 20 A	12 A 20 A	12 A 20 A
Rated insulation voltage (Ui) conforming to IEC60947-1	690 V	690 V	690 V
Number of positions	2 + "0" position	3 + "0" position (3 circuits + "0" position)	6 + "0" position (measurements between 3 phases & N + "0" pos.)
Number of poles	2	4	7
Dimensions of front plate (mm)	45 x 45	45 x 45	45 x 45
Front mounting method	Multifixing plate, 45 x 45 mm	K1D002ULH K2D002ULH	K1F003MLH to be compiled *
	Plastic mounting plate for Ø 22 mm hole	K1D002UCH K2D002UCH	K1F003MCH to be compiled *
		K1F027MLH to be compiled *	K1F027MCH to be compiled *

(1) With seal KZ73 for switch with Multifixing plate, with seal KZ65 for Ø 22 mm hole mounting switches. Seal to be ordered separately.

(*) Please consult your Schneider Electric agency.



positions (°)



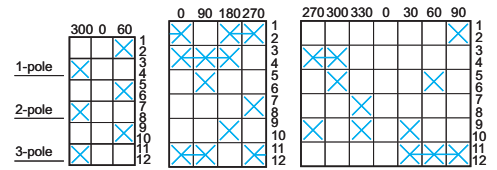
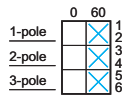
Cam switches with key operated lock, K1 series

Function	Stepping switches	Run switches	Changeover switches + "0" pos.
Degree of protection front face	IP 65	IP 65	IP 65
Conventional thermal current (Ith)	12 A	12 A	12 A
Rated insulation voltage (Ui) conforming to IEC60947-1	690 V	690 V	690 V
Number of positions	2 + "0" position	3 + "0" position	2 + "0" position
Number of poles	3	2	2
Dimensions of front plate (mm)	55 x 100	55 x 100	55 x 100
Colour of handle	red black	red black	red black
Front mounting method	Ø 22 mm hole + Ø 43.5 mm hole	K1G043RZ2 K1G043RZ4	K1D002UZ2 K1D002UZ4

10 to 150 A ratings



positions (°)



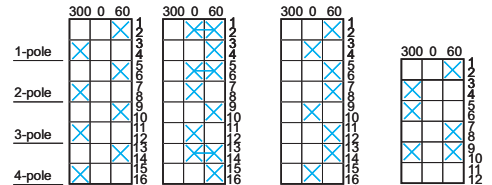
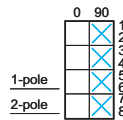
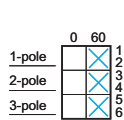
Cam switches, K10series							
Function	Switches			Changeover switches		Ammeter switches	Voltmeter switches
	60° switching angle			with "0" position		IP 65	IP 65
Degree of protection front face	IP 65			IP 65		IP 65	IP 65
Conventional thermal current (I_{th})	10 A			10 A		10 A	10 A
Rated insulation voltage (U_i) conforming to IEC60947-1	440 V			440 V		440 V	440 V
Number of positions	2			2 + "0" position		3 + "0" pos. (1)	6 + "0" pos. (2)
Number of poles	1	2	3	2	3	3	3
Dimensions of front plate (mm)	30 x 30			30 x 30		30 x 30	30 x 30
Front mounting method By Ø 16 mm or 22 mm hole	K10A001ACH	K10B002ACH	K10C003ACH	K10D002UCH	K10F003UCH	K10F003MCH	K10F027MCH

(1) (3 circuits + "0" position).

(2) (Measurements between 3 phases and N + "0" position).



positions (°)



Cam switches, K30series							
Function	Switches	Switches	Changeover	Starting	Starting	Reversing	
		ON-OFF	with "0" position	star-delta	2-speed		
Degree of protection front face	IP 40	IP 40	IP 40	IP 40	IP 40	IP 40	
Conventional thermal current (I_{th})	32 A	32 A	32 A	32 A	32 A	32 A	
Rated insulation voltage (U_i) conforming to IEC60947-1	690 V	690 V	690 V	690 V	690 V	690 V	
Number of positions	2	2	3	3	3	3	
Number of poles	3	3	4	3	3	3	
Dimensions of front plate (mm)	64 x 64	64 x 64	64 x 64	64 x 64	64 x 64	64 x 64	
Front mounting method Multifixing	K30C003AP (3)	K30C003HP (3)	K30D004HP (3)	K30H004UP (3)	K30H001YP (3)	K30H004PP (3)	K30E003WP (3)

(3) To order switches with other thermal current ratings (50, 63, 115, 150 A): replace the number 30 in the reference by 50, 63, 115 or 150 respectively.

Example: a switch with a 32 A current rating, for example K30C003AP, becomes K50 C003AP for a current rating of 50 A.

Accessories for cam switches K1/K2

Rubber seals			
for IP 65 degree of protection	For use with heads	with 45 x 45 mm front plate Ø 22 mm hole or 4 hole front mtg.	with 60 x 60 mm front plate Ø 22 mm hole or 4 hole front mtg.
References (5)*		KZ65	KZ66
			with 45 x 45 mm front plate multifixing KZ73

* sold in lots of



Ø 40 mm / Up to IP54

Complete, pre-wired tower lights		Steady light			Steady / Flashing light ⁽¹⁾	
Light source (included)		LEDs			LEDs	
Base mount		Base mounting	Support tube mounting, 17 mm		Support tube mounting, 17 mm	
Buzzer		Without buzzer			With buzzer + flashing light	
Degree of protection		up to IP54			up to IP54	
Voltage		24V AC/DC	24V AC/DC	100-240V AC	24V AC/DC	100 - 240V AC
References (2)	Red	XVC4B1K	XVC4B1	XVC4M1	XVC4B15S	XVC4M15S
	Red / orange	XVC4B2K	XVC4B2	XVC4M2	XVC4B25S	XVC4M25S
	Red / Orange / green	XVC4B3K	XVC4B3	XVC4M3	XVC4B35S	XVC4M35S
	red / orange / green / blue	XVC4B4K	XVC4B4	XVC4M4	XVC4B45S	XVC4M45S
	red / orange / green / blue / Clear	XVC4B5K	XVC4B5	XVC4M5	XVC4B55S	XVC4M55S



Ø 60 mm / Up to IP54

Complete, pre-wired tower lights		Steady light			Steady / Flashing light ⁽¹⁾		
Light source (included)		LEDs			LEDs		
Base mount		Base mounting	Support tube mounting, 22 mm		Support tube mounting, 22 mm	Base mounting	
Buzzer		Without buzzer			With buzzer + flashing light		
Degree of protection		up to IP54			up to IP54		
Voltage		24V AC/DC	24V AC/DC	100-240V AC	24V AC/DC	100 - 240V AC	
References (2)	Red	XVC6B1K	XVC6B1	XVC6M1 ⁽³⁾	XVC6B15S ⁽³⁾	XVC6M15S	XVC6M15SK
	Red / orange	XVC6B2K	XVC6B2	XVC6M2 ⁽³⁾	XVC6B25S ⁽³⁾	XVC6M25S	XVC6M25SK
	Red / Orange / green	XVC6B3K	XVC6B3	XVC6M3 ⁽³⁾	XVC6B35S ⁽³⁾	XVC6M35S	XVC6M35SK
	red / orange / green / blue	XVC6B4K	XVC6B4	XVC6M4 ⁽³⁾	XVC6B45S ⁽³⁾	XVC6M45S	XVC6M45SK
	red / orange / green / blue / Clear	XVC6B5K	XVC6B5	XVC6M5 ⁽³⁾	XVC6B55S ⁽³⁾	XVC6M55S	XVC6M55SK

(3) To order products for base mounting, add the letter **K** to the end of the reference (ex. XVC6M1K)



Ø 100 mm / Up to IP54

Complete, pre-wired tower lights		Steady / Flashing light ⁽¹⁾					
Light source (included)		LEDs					
Base mount		Base mounting					
Buzzer		Without buzzer		With buzzer + flashing light			
Degree of protection		up to IP54		up to IP54			
Voltage		24V DC	100-240V AC	24V DC	100-240V AC	24V DC	100 - 240V AC
References (2)	Red	XVC1B1K	XVC1M1K	XVC1B1SK	XVC1M1SK	XVC1B1HK	XVC1M1HK
	Red / orange	XVC1B2K	XVC1M2K	XVC1B2SK	XVC1M2SK	XVC1B2HK	XVC1M2HK
	Red / Orange / green	XVC1B3K	XVC1M3K	XVC1B3SK	XVC1M3SK	XVC1B3HK	XVC1M3HK
	red / orange / green / blue	XVC1B4K	XVC1M4K	XVC1B4SK	XVC1M4SK	-	-
	red / orange / green / blue / Clear	XVC1B5K	XVC1M5K	XVC1B5SK	XVC1M5SK	-	-

(1) Flashing function can be simply selected/programmed by wiring

(2) The colours are listed in the same order as the mounting order of the illuminated units (from top to bottom)

Ø 45 mm / IP40



Illuminated beacons XVDLS		Steady light	Flashing light
Light source		Incandescent BA 15d bulb, 5 W max. (not included)	"Flash" discharge tube, 0.5 J
Degree of protection		IP 40	
References (1)	24...230 V AC/DC	XVDLS3●	–
	24 V AC/DC	–	XVDLS6B●
	120 V AC	–	XVDLS6G●
	230 V AC	–	XVDLS6M●

(1) To obtain the complete reference, replace the ● by the number designating the colour as follow: 3 = green , 4 = red , 5 = orange, 6 = blue, 7 = clear, 8 = yellow.

Accessories

XVDLS

Incandescent bulbs, with BA 15d base	Beacons XVDLS		
Description	24 V, 4 W	120 V, 5 W	230 V, 5 W
References	DL1BEBS	DL1BEGS	DL1BEMS



XVC4 / XVC6

Mounting accessories	Tower lights Ø 40 mm, XVC4			Tower lights Ø 60 mm, XVC6		
Description	Support tube mounting			Support tube mounting	Base mounting	Support tube mounting
Diameter (mm)	Ø 90	Ø 84	–	Ø 100	Ø 84	–
For use with	–	–	–	XVC6●●and XVC6●●5S	XVC6●●K and XVC6●●5SK	XVC6B●and XVC6B●5S, XVC6M●and XVC6M●5S
Height to be added (mm)	32	24,5	82	30	21,6	82
References	Metal fixing plate	XVCZ11	–	XVCZ02	XVCZ12	–
	Plastic fixing plate	–	XVCZ01	–	–	–
	Wall mounting bracket	–	–	XVCZ31	–	XVCZ32



XVC1

Mounting accessories	Tower lights Ø 100 mm, XVC1			
Description	Vertical support			
Diameter (mm)	Ø 140	Ø 140	–	–
For use with	XVC1●●K and XVC1●●SK	XVC1●●HK (with siren)	XVC1●●K and XVC1●●SK	XVC1●●HK (with siren)
Height to be added (mm)	300	306	–	–
References	Metal fixing plate (2)	XVCZ13	XVCZ14	–
	Metal fixing bracket	–	–	XVCZ23
				XVCZ24

(2) Chromium plated-steel extension tube



Ø 70 mm / Up to IP66

Illuminated beacons XVBL		Steady light		Flashing light	
Light source		Incandescent BA 15d bulb, 10 W max. (not included)	Protected BA 15d LED (included)	Protected BA 15d LED (included)	"Flash" discharge tube 5 J (2)
Degree of protection		IP 66			
References (1)	12...250 V AC/DC	XVBL3●	–	–	–
	24 V AC/DC	–	XVBL0B●	XVBL1B●	XVBL6B●
	120 V AC	–	XVBL0G●	XVBL1G●	XVBL6G●
	230 V AC	–	XVBL0M●	XVBL1M●	XVBL6M●



Ø 70 mm / Up to IP66

Tower lights XVBC comprising 2 to 5 signalling units (3)		Base units	Steady light		Flashing light	"Flash" light	Audible units (90 db at 1 m)
Light source		–	Incandescent BA 15d bulb, 10 W max. (not included)	Integral protected LED	Integral protected LED	"Flash" discharge tube 5 J (2)	–
Degree of protection		IP 66					
Base unit references	with cover	XVBC21 (4)	–	–	–	–	–
	without cover	XVBC07 (5)	–	–	–	–	–
References (2)	12... 230 V AC/DC	–	XVBC3●	–	–	–	–
	24 V AC/DC	–	–	XVBC2B●	XVBC5B●	XVBC6B●	–
	120 V AC	–	–	XVBC2G●	XVBC5G●	XVBC6G●	–
	230 V AC	–	–	XVBC2M●	XVBC5M●	XVBC6M●	–
Audible unit references	12...48 V AC/DC	–	–	–	–	–	XVBC9B
	unidirectional 120...230 V AC	–	–	–	–	–	XVBC9M

(1) To obtain the complete reference, replace the ● by the number designating the colour as follow: 3 = green, 4 = red, 5 = orange, 6 = blue, 7 = clear, 8 = yellow.

(2) To order a lens unit with a 10 J discharge tube, replace the number 6 by 8 in the reference (example: XVBL6B● becomes XVBL8B●).

(3) A tower light comprises: 1 base unit + 1 to 5 signalling units maximum.

(4) For connection on AS-Interface, order base unit XVBC21A (side cable entry) or XVBC21B (bottom cable entry with M12 connector on flying lead).

(5) For indicator banks with "flash" discharge tube unit.



Ø 70 mm / Up to IP54

Illuminated beacons XVEL		Steady light		Flashing light
Light source		Incandescent BA 15d bulb, 5 W max. (not included)	Integral LED	"Flash" discharge tube, 1 J
Degree of protection		IP 42/IP 54 (with sealing kit)		
References (1)	24... 240 V AC/DC	XVEL3●	–	
	24 V AC/DC	–	XVEL2B●	XVEL6B●
	120 V AC	–	XVEL2G●	XVEL6G●
	230 V AC	–	XVEL2M●	XVEL6M●

2



Ø 70 mm / Up to IP54

Indicator banks XVEC comprising 2 to 5 signalling units (2)		Base units	Steady light		Flashing light	"Flash" light	Audible units (85 db at 1 m)
Light source		–	Incandescent BA 15d bulb, 5 W max. (not included)	Integral LED	Integral LED	"Flash" discharge tube 1 J	–
Degree of protection		IP 42/IP 54 (with sealing kit)					
Base unit references	IP 42	XVEC21	–	–	–	–	–
	IP 54	XVEC21P	–	–	–	–	–
Lens unit references (1)	24...230 V AC/DC	–	XVEC3●	–			
	24 V AC/DC	–	–	XVEC2B●	XVEC5B●	XVEC6B●	XVEC9B
	120 V AC	–	–	XVEC2G●	XVEC5G●	XVEC6G●	XVEC9G
	230 V AC	–	–	XVEC2M●	XVEC5M●	XVEC6M●	XVEC9M

(1) To obtain the complete reference, replace the ● by the number designating the colour as follow: 3 = green , 4 = red , 5 = orange, 6 = blue, 7 = clear, 8 = yellow.

(2) A tower light comprises: 1 base unit + 1 to 5 signalling units maximum.

Modular tower lights

Ø 45, Ø 50 mm, complete or for customer assembly



Ø 45 mm / IP42

Complete, pre-wired tower light XVM (1)		2 sig. units + integral buzzer (2)		3 signalling units + integral buzzer (2)				
		Steady light		Steady light		Steady light + "flash" (3)		
Light source (included)		Incandescent BA 15d bulb, 5 W max.	BA 15d "Super bright" LED	Incandescent BA 15d bulb, 5 W max.	BA 15d "Super bright" LED	Incandescent BA 15d bulb, 5 W max.	BA 15d "Super bright" LED	
Degree of protection		IP 54						
Signalling colours		Red - Green		Red - Orange - Green				
References		24 V AC/DC	XVMB1RGS	XVMB2RGSSB	XVMB1RAGS	XVMB2RAGSSB	XVMB1R6AGS	XVMB2R6AGSSB
		120 V AC/DC (bulb) - 120 V AC (LED)	XVMG1RGS	XVMG2RGSSB	XVMG1RAGS	XVMG2RAGSSB	XVMG1R6AGS	XVMG2R6AGSSB
		230 V AC/DC (bulb) - 230 V AC (LED)	XVMM1RGS	XVMM2RGSSB	XVMM1RAGS	XVMM2RAGSSB	XVMM1R6AGS	XVMM2R6AGSSB

(1) Tower lights XVM are also available as separate components for customised assembly by the user: please refer to www.schneider-electric.com.

(2) To order products without an integral buzzer, delete the letter **S** at the end of the reference (example: XVMB2RGS becomes XVMB2RG).

(3) Flash signalling colour: red - 0.8 J.



Ø 50 mm / IP65

Tower lights XVP comprising 2 to 5 signalling units (4), black clamping ring (5)		Base unit	Steady or flashing light signalling	"Flash" light signalling		Audible units (55...85 dB at 1 m)
Light source		–	Incandescent BA 15d bulb, 7 W max. (not included)	"Flash" discharge tube 0.3 J	"Flash" discharge tube 0.6 J	–
Degree of protection		IP 65				
Base unit		with cover	XVPC21	–	–	–
References (6)		250 V max.	–	XVPC3●	–	–
		24 V AC/DC (flash) - 24 V DC (buzzer)	–	–	XVPC6B●	XVPC09B
		120 V AC	–	–	XVPC6G●	XVPC09G
		230 V AC	–	–	XVPC6M●	XVPC09M

(4) A tower light comprises: 1 base unit + 1 to 5 signalling units maximum.

(5) To order products with a cream clamping ring, add the letter **W** to the end of the reference (example: base unit + green lens unit: XVPC21W + XVPC33W etc.).

(6) To obtain the complete reference, replace the ● by the number designating the colour as follow: 3 = green , 4 = red , 5 = orange, 6 = blue, 7 = clear, 8 = yellow.



Bulbs		Beacons and tower lights XVB / XVP (1)			
Type of light source		Incandescent BA 15d base 7 W	Incandescent BA 15d base 10 W (not XVP)	LED (2) BA 15d base	Flashing LED (2) BA 15d base
References	12 V	DL1BEJ	DL1BLJ	–	–
	24 V	DL1BEB	DL1BLB	DL1BDB●	DL1BKB●
	48 V	DL1BEE	DL1BLE	–	–
	120 V	DL1BEG	DL1BLG	DL1BDG●	DL1BKG●
	230 V	DL1BEM	DL1BLM	DL1BDM●	DL1BKM●

(1) Tower lights XVP can be fitted with 5 W incandescent bulbs: see beacons XVDLS / XVE.

(2) To obtain the complete reference, replace the ● by the number designating the colour as follow: 1 = white, 3 = green, 4 = red, 5 = orange, 6 = blue, 8 = yellow.



Bulbs		Tower lights XVM / XVE			
Type of light source		Incandescent BA 15d base 5 W	LED (3) BA 15d base	Flashing LED (3) BA 15d base	"Flash" discharge tube, 0.8 Joule BA 15d base
References	24 V	DL1EDBS	DL2EDB●	DL1EKB●	DL6BB
	120 V	DL1EDGS	DL2EDG●	DL1EKG●	DL6BG
	230 V	DL1EDMS	DL2EDM●	DL1EKM●	DL6BM

(3) To obtain the complete reference, replace the ● by the number designating the colour as follows: 1 = white, 3 = green, 4 = red, 6 = blue, 8 = orange.



Mounting accessories		Beacons and tower lights XVB / XVE		Tower lights XVP		Tower lights XVM	
		Aluminium tube with integral black plastic fixing base	Plastic tube with integral black plastic fixing base	Aluminium tube with integral black plastic fixing base	Aluminium tube with steel fixing bracket	Aluminium tube with integral cream plastic fixing base	Aluminium tube with steel fixing bracket
Description		Aluminium tube with integral black plastic fixing base	Plastic tube with integral black plastic fixing base	Aluminium tube with integral black plastic fixing base	Aluminium tube with steel fixing bracket	Aluminium tube with integral cream plastic fixing base	Aluminium tube with steel fixing bracket
Diameter (mm)		Ø 25	Ø 25	Ø 20	Ø 20	Ø 20	Ø 20
Support tubes	60 mm	XVEZ13	–	–	–	–	–
	100 mm	–	–	–	XVPC02T	XVMZ02	XVMZ02T
	112 mm	–	–	XVPC02 (4)	–	–	–
	120 mm	XVBZ02	–	–	–	–	–
	140 mm	–	XVDC02	–	–	–	–
	250 mm	–	–	–	XVPC03T	XVMZ03	XVMZ03T
	260 mm	–	–	XVPC03 (4)	–	–	–
	400 mm	–	–	–	XVPC04T	XVMZ04	XVMZ04T
	410 mm	–	–	XVPC04 (4)	–	–	–
	420 mm	XVBZ03	–	–	–	–	–
	820 mm	XVBZ04	–	–	–	–	–
Fixing plates,	for vertical support	XVBC12		XVPC12 (4)		–	
	for horizontal support	XVBZ01		–		XVMZ06	

(4) To order an aluminium support tube with integral cream fixing base, add the letter **W** to the end of the reference (example: XVPC02W).



Ø 84 / 106 mm

Complete, pre-wired rotating mirror beacons		Ø 84 mm		Ø 106 mm	
Light source (included)		" Super bright " LEDs			
Base mount		3 x Ø 05			
Buzzer		Without buzzer			
Degree of protection		IP23 (IP 65 with accessories)		IP23 (IP 65 with accessories)	
Voltage		12V AC/DC	12V AC/DC	12V AC/DC	12V AC/DC
References	Red	XVR08J04	XVR08B04	XVR10J04	XVR10B04
	Orange	XVR08J05	XVR08B05	XVR10J05	XVR10B05
	Green	XVR08J03	XVR08B03	XVR10J03	XVR10B03
	Blue	XVR08J06	XVR08B06	XVR10J06	XVR10B06



Ø 120 mm

Complete, pre-wired rotating mirror beacons		Ø 120 mm			
Light source (included)		" Super bright " LEDs			
Base mount		3 x M5			
Buzzer		Without buzzer		With buzzer	
Degree of protection		IP23			
Voltage		12V AC/DC	24V AC/DC	12V AC/DC	24V AC/DC
References	Red	XVR12J04	XVR12B04	XVR12J04S	XVR12B04S
	Orange	XVR12J05	XVR12B05	XVR12J05S	XVR12B05S
	Green	XVR12J03	XVR12B03	XVR12J03S	XVR12B03S
	Blue	XVR12J06	XVR12B06	XVR12J06S	XVR12B06S



Ø 130 mm

Complete, pre-wired rotating mirror beacons		Ø 130 mm			
Light source (included)		" Super bright " LEDs			
Base mount		3 x Ø 09			
Buzzer		Without buzzer			
Degree of protection		IP66 - Resistant to vibration		IP66 and IP67	
Voltage		12V DC	24V DC	24V AC/DC	120V AC 230V AC
References	Red	XVR13J04	XVR13B04	XVR13B04L	XVR13G04L XVR13M04L
	Orange	XVR13J05	XVR13B05	XVR13B05L	XVR13G05L XVR13M05L

Accessories for rotating mirror beacons



Accessories for rotating mirrors		Reflecting prism	Rubber base	Metal angle bracket	Metal fixing plate
To be used for/with		–	Increasing the IP degree	Horizontal support	Horizontal support
Height (mm)		–	–	–	300
References	Ø 84 mm	XVRZR1	XVRZ081	XVCZ23	–
	Ø 106 mm	XVRZR2	XVRZ082	XVCZ23	XVCZ13
	Ø 120 mm	XVRZR3	–	XVCZ23	XVCZ13
	Ø 130 mm	XVRZR3	–	XVR012L	–

2

Electronic alarms and multisound sirens



Sirens and electronic alarms		Sirens	Multisound sirens pre-wired	Electronic alarms Panel Mount DIN72		Electronic alarms Panel Mount DIN96	
Sound level		106 dB	105 dB	90 dB		96 dB	
Tones		2	43	16		16	
Channels		–	8	4		4	
Degree of protection		IP 65	IP53	IP 54		IP 54	
Colors		White	White	Black	White	Black	White
References	12/24V AC/DC	XVS10BMW	–	XVS72BMB● (1)	XVS72BMW● (1)	XVS96BMB● (1)	XVS96BMW● (1)
	12/24V DC	–	XVS14BMW	–	–	–	–
	120V AC	XVS10GMW	XVS14GMW	–	–	–	–
	230V AC	XVS10MMW	XVS14MMW	–	–	–	–

(1) To obtain a complete reference, replace the ● by the letter as follow: P = PNP, N = NPN (ex. XVS72BMBP)



Type XACA "Pistol grip"

2

Degree of protection	IP 65 / Nema 4, 4X / Class II				
Rated operational characteristics	AC 15 (240 V 3 A), DC 13				
Conventional thermal current	lthe	10 A			
Connection	Screw clamp terminals, 1 x 2.5 mm ² or 2 x 1.5 mm ²				
For control of	single-speed motors 		2-speed motors 		
Dimensions (mm)	W x H x D	52 x 295 x 71 (x 85 with ZA2BS834)		52 x 295 x 71 (x 85 with ZA2BS834)	
Number of operators	mechanically interlocked	2		2	
	Emergency stop	without	ZA2BS834	without	ZA2BS834
References		XACA201	XACA2014	XACA207	XACA2074



Type XACA

For control of single-speed motors					
Dimensions (mm)	W x H x D	80 x 314 x 70 (x 90 with ZA2BS834)		80 x 440 x 70 (x 90 with ZA2BS844)	
Number of operators	mechanically interlocked between pairs	2		4	
	Emergency stop	without	ZA2BS834	without	ZA2BS844
References		XACA271	XACA2714	XACA471	XACA4714

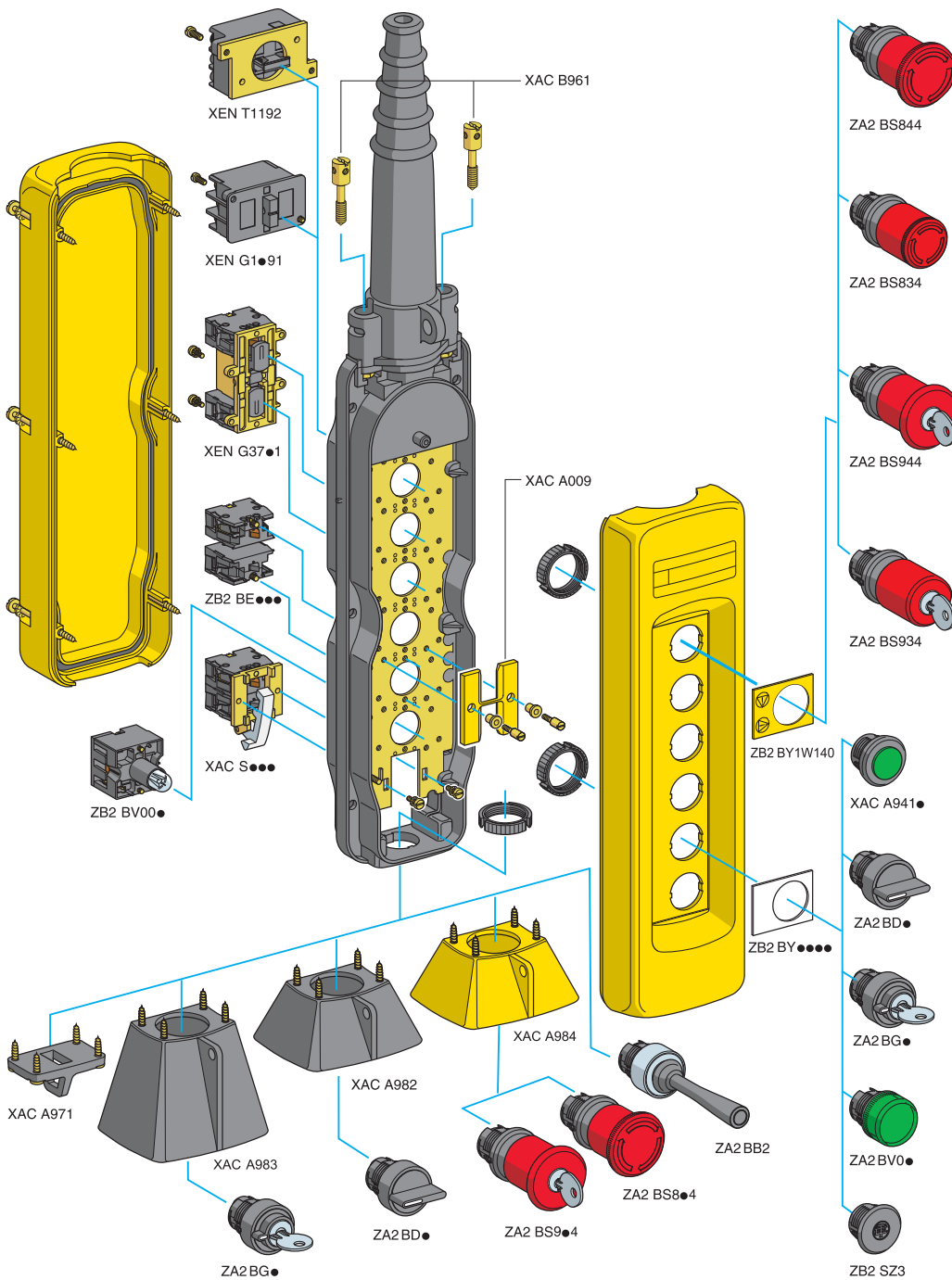


For control of single-speed motors				
Dimensions (mm)	W x H x D	80 x 500 x 70 (x 90 with ZA2BS844)		80 x 560 x 70
Number of operators	mechanically interlocked between pairs	6		8
	Emergency stop	without	ZA2BS844	without
References		XACA671	XACA6714	XACA871

Empty enclosures type XACA

Number of ways	2	3	4	5	6	8	12
References	XACA02	XACA03	XACA04	XACA05	XACA06	XACA08	XACA12

Separate components (for mounting in enclosures XACA)



Mushroom head, latching, trigger action (1)		
turn to release	Ø 40	ZA2BS844
	Ø 30	ZA2BS834

Mushroom head, latching, trigger action (1)		
key release	Ø 40	ZA2BS944
	Ø 30	ZA2BS934

Booted operators		
white	○	XACA9411
black	●	XACA9412

Selector switch		
2 pos. stay put	ZA2BD2	
3 pos. stay put	ZA2BD3	

Key switch		
key n° 455	2 pos. stay put	ZA2BG4
	3 pos. stay put	ZA2BG5

Pilot light heads		
white	○	ZA2BV01
green	●	ZA2BV03
red	●	ZA2BV04
yellow	●	ZA2BV05

Pilot light bodies		
direct supply	ZB2BV006	
direct supply, through resistor	ZB2BV007	

Blanking plug		
with seal and fixing nut	ZB2SZ3	

Isolating switch, slow break, for front mounting	
Emergency stop NC+NC+NC with positive opening operation	XENT1192

Contacts blocks for XACA941●	
Single-speed NC+NO	XENG1491
2-speed NC+NO+NO	XENG1191

Double blocks latching, slow break	
Single-speed NO+NO	XENG3781
Single-speed NO+NC	XENG3791

Contact blocks	
Single-speed NO	ZB2BE101
Single-speed NC	ZB2BE102

Contact blocks (for mounting in enclosure base)	
NO	XACS101
NC+NO	XACS105

Protective guard (for base mounted units)	
For selector switch	XACA982/983
For emergency stop pushbutton	XACA984

Legends, 30 x 40 mm



References	ZB2BY4901	ZB2BY4903	ZB2BY4907	ZB2BY4909	ZB2BY4913	ZB2BY4915	ZB2BY4930	ZB2BY2303	ZB2BY2304
References	ZB2BY2904	ZB2BY2906	ZB2BY2910	ZB2BY2912	ZB2BY2916	ZB2BY2918	ZB2BY2931	blank white or yellow background	ZB2BY1W140

(1) Trigger action mechanically latching Emergency stop pushbuttons conform to standards EN/IEC 60204-32, EN/ISO 13850, Machinery directive 2006/42/EC and standard EN/IEC 60947-5-5.



Type		Characteristics		
Display	LCD screen size / Resolution	3.4" / monochrome (200 X 80 pixels)		
	Type	Green, orange, red	White, pink, red	Green, orange, red
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad		
	Curves / Alarm logs	Yes, with log / Yes, incorporated		
Communication	Serial link	1 RJ45 (RS 232 - RS 485)		1 Terminal Block RS232
	Networks	–	–	–
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic), Uni-TE, Modbus, Modbus TCP		Zelio
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows XP, Vista and 7) or Vijeo Designer Limited Edition		
Dimensions W x D x H (mm)		116,5 x 38,5 x 77,5		
Compatibility with PLCs		«Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340»		Zelio
«Compact Flash» card slot		No		
USB port		1 Host type A + 1 Device type miniB		
Built-in Ethernet TCP/IP		No		
Supply voltage		24 VDC		
References		HMISTO511	HMISTO512	HMISTO501



Type		Characteristics	
Display	LCD screen size / Resolution	3.5" / QVGA (320 X 240 pixels)	5.7" / QVGA (320 X 240 pixels)
	Type	TFT 65 536 colours	
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad	
	Curves / Alarm logs	Yes, with log / Yes, incorporated	
Communication	Serial link	1 RJ45 (RS 232 - RS 485)	
	Networks	Ethernet, IEEE 802.3, 10/100 BASE-T, RJ45	
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic), Uni-TE, Modbus, Modbus TCP	
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows XP, Vista and 7) or Vijeo Designer Limited Edition	
Dimensions W x D x H (mm)		Front: 98 x 16 x 81	Front: 163 x 17.5 x 129.5
		Rear : 118 x 30 x 98	
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340	
«Compact Flash» card slot		No	
USB port		1 Host type A + 1 Device type miniB	
Built-in Ethernet TCP/IP		Yes	Yes
Supply voltage		24 VDC	
References		HMISTU655	HMISTU855

Small Panel Magelis XBT N with matrix, semi-graphic screen (1)



Type		Characteristics			
Display	Capacity	2 lines, 20 characters		1 to 4 lines, 5 to 20 characters	
	Type	Back-lit LCD green		Back-lit LCD 3 colours green, orange, red	
Data entry		Via keypad with 8 keys (4 customizable keys)			
Function	Representation of variables	Alphanumeric		Alphanumeric, bargraph, curves, button and light	
	Alarm log	No	Yes	Yes	Yes
Communication	Serial link	1 RJ45 (RS 232 - RS 485)		1 Sub-D25 (RS 232 - RS 485) + 1 miniDin RS232 (2)	
Downloadable protocols		Uni-TE, Modbus Master		Uni-TE, Modbus Master, Siemens, Rockwell, Omron, Mitsubishi, Zelio (2)	
Development software		Vijeo Designer Lite (on Windows XP and Vista)			
Dimensions W x D x H (mm)		132 x 37 x 74			
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon M340		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon Momentum, Modicon M340, Zelio (2)	
	Supply voltages	5 VDC or PLC power supply		24 VDC	
References		XBTN200	XBTN400	XBTN410	XBTN401

(1) Except XBTN200: alphanumeric screen.

(2) For XBTN401 only

Magelis XBT N with matrix, semi-graphic screen, dedicated



Type		Characteristics	
Display	Capacity	1 to 4 lines, 5 to 20 characters	
	Type	Back-lit LCD green	Back-lit LCD 3 colours (green, orange, red)
Data entry		Via keypad with 8 keys	
Function	Representation of variables	Alphanumeric, bargraph, curves, button and light	
	Alarm log	Yes	
Communication	Serial link	1 Sub-D25	1 miniDin RS232 + 1 Sub-D25
Downloadable protocols		Modbus	Zelio
Development software		Vijeo Designer Lite (on Windows XP and Vista)	
Dimensions W x D x H (mm)		132 x 37 x 74	
Compatibility with PLCs		Motor starter	Zelio
	Supply voltages	Tesys Model U	(including connection cable)
References		XBTNU400	XBTNSR2 (3)

(3) Including : 1 XBTN401 + 1 cable SR2CBL08 for Zelio

Small Panel Magelis XBT R with matrix, semi-graphic screen (1)



Type		Characteristics		
Display	Capacity	4 lines, 20 characters		
	Type	Back-lit LCD green	Back-lit LCD, 3 colours green, orange, red	
Data entry		Via keypad with 20 keys (12 customizable keys)		
Function	Representation of variables	Alphanumeric, bargraph, curves, button and light		
	Alarm log	Yes	Yes	Yes
Communication	Serial link	1 RJ45 (RS 232 - RS 485)	1 Sub-D25 (RS 232 - RS 485) + 1 miniDin (RS232)	
Downloadable protocols		Uni-TE, Modbus Master	Uni-TE, Modbus Master/Slave (1), Siemens, Rockwell, Omron, Mitsubishi, Zelio (1)	
Development software		Vijeo Designer Lite (on Windows XP and Vista)		
Dimensions W x D x H (mm)		137 x 37 x 118		
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon M340	Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon Momentum, Modicon M340, Zelio (1)	
Supply voltages		5 VDC or PLC power supply	24 VDC	
References		XBTR400	XBTR410	XBTR411

(1) For XBTR411 only

Magelis XBT RT with semi-graphic and touchscreen



Type		Characteristics		
Display	Capacity	10 lines, 33 characters		
	Type	Back-lit LCD green	Back-lit LCD green, orange, red	
Data entry		Via keypad with 12 keys (10 customizable keys) or touchscreen		
Functions	Representation of variables	Alphanumeric, bargraph, curves, button and light		
	Alarm log	Yes	Yes	
Communication	Serial link	1 RJ45 (RS 232 - RS 485) + 1 miniDin (RS232) (2)		
Downloadable protocols		Uni-TE, Modbus Master, Siemens, Rockwell, Omron, Mitsubishi		
Development software		Vijeo Designer Lite (on Windows XP and Vista)		
Dimensions W x D x H (mm)		137 x 37 x 118		
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon M340, Modicon Quantum, Zelio (2)		
Supply voltages		5 VDC or PLC power supply	24 VDC	
References		XBTRT500	XBTRT511	

(2) For XBTRT511 only



Type		Characteristics		
Display	LCD screen size / Resolution	3.8" / QVGA		
	Type	STN monochrome, amber or red	TFT 256 colour	
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad		
	Curves / Alarm logs	Yes, with log / Yes, incorporated		
Communication	Serial link	1 RJ45 (RS 232 - RS 485)		
	Networks	–	Ethernet, IEEE 802.3 10/100 BASE-T, RJ45	
Downloadable protocols	Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic) Uni-TE, Modbus, Modbus TCP			
Development software	Vijeo Designer VJD●●●TG●V●●M (on Windows XP, Vista and 7)			
Dimensions W x D x H (mm)	118 x 30 x 98			
Compatibility with PLCs	Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340			
«Compact Flash» card slot	No			
USB port Host type A	1	1	1	
Built-in Ethernet TCP/IP	No	Yes		
Supply voltage	24 VDC			
References	XBTGT1105	XBTGT1135	XBTGT1335	

Magelis XBT GT with 5.7" touchscreen



Type		Characteristics						
Display	LCD screen size / Resolution	5.7" / QVGA					5.7" / VGA	
	Type	STN Monochrome	STN, colour	TFT, colour	65536 colours			
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad						
	Curves / Alarm logs	Yes, with log / Yes, incorporated						
Communication	Serial link	1 Sub-D9 (RS 232/RS 422 - RS 485) + 1 RJ45 (RS 485)						
	Networks	–	Ethernet, IEEE 802.3 10/100 BASE-T, RJ45	–	Ethernet, IEEE 802.3 10/100 BASE-T, RJ45	Ethernet 10/100 BASE-T	Ethernet, IEEE 802.3 10/100 BASE-T, RJ45	
Downloadable protocols	Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic) Uni-TE, Modbus, Modbus TCP/IP							
Development software	Vijeo Designer VJD●●●TG●V●●M (on Windows XP, Vista and 7)							
Dimensions W x D x H (mm)	167.5 x 60 x 135							
Compatibility with PLCs	Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340, Modicon Momentum							
«Compact Flash» card slot	No	Yes						
USB port Host type A	1						2	
Video in	No							
Built-in Ethernet TCP/IP	No	No	Yes	No	Yes	Yes	Yes	
Supply voltage	24 VDC							
References	XBTGT2110	XBTGT2120	XBTGT2130	XBTGT2220	XBTGT2330	XBTGT2930	XBTGT2430	



Type		Characteristics							
Display	LCD screen size / Resolution	7.5" / VGA			10.4" / VGA			10.4" / SVGA	
	Type (colour)	STN	TFT	TFT	STN	TFT	TFT	TFT	
	Number of colours	4096	65536	65536	4096	65536	65536	65536	
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad							
	Curves / Alarm logs	Yes, with log / Yes, incorporated							
Communication	Serial link	1 Sub-D9 (RS 232/RS 422 - RS 485) + 1 RJ45 (RS 485)							
	Networks	Ethernet, IEEE 802.3 10/100 BASE-T, RJ 45							
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic) Uni-TE, Modbus, Modbus TCP/IP							
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows XP, Vista and 7)							
Dimensions W x D x H (mm)		215 x 60 x 170			313 x 56 x 239			271 x 57 x 213	
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340							
«Compact Flash» card slot		Yes							
USB port Host type A		1	1	1	2	2	2	2	
Video in		No	No	Yes	No	No	Yes	No	
Built-in Ethernet TCP/IP		Yes							
Supply voltage		24 VDC							
References		XBTGT4230	XBTGT4330	XBTGT4340	XBTGT5230	XBTGT5330	XBTGT5340	XBTGT5430	

Magelis XBT GT with 12.1" and 15" touchscreen



Type		Characteristics			
Display	LCD screen size / Resolution	12,1" / SVGA		15" / XGA	
	Type (colour)	TFT		TFT	
	Number of colours	65536		65536	
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad			
	Curves / Alarm logs	Yes, with log / Yes, incorporated			
Communication	Serial link	1 Sub-D9 (RS 232/RS 422 - RS 485) + 1 RJ45 (RS 485)			
	Networks	Ethernet, IEEE 802.3 10/100 BASE-T, RJ 45BASE-T, RJ 45			
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic) Uni-TE, Modbus, Modbus TCP/IP			
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows XP, Vista and 7)			
Dimensions W x D x H (mm)		313 x 56 x 239		395 x 60 x 294	
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340			
«Compact Flash» card slot		Yes			
USB port Host type A		2			
Video in		No		Yes	
Built-in Ethernet TCP/IP		Yes			
Supply voltage		24 VDC			
References		XBTGT6330		XBTGT6340	
				XBTGT7340	

Advanced Panel Magelis XBT GK with touchscreen and keypad



Type	Characteristics		
Display	Screen size / Resolution	5.7" / QVGA	
	Type	STN monochrome black and white	TFT Colour 65536 colours
Data entry	Soft function keys with LED	14	18
	Static function keys with LED	10 + legends	12 + legends
	Service keys / Alphanumeric keys	8 / 12	
	Touchscreen and industrial pointer	Yes	
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad	
	Curves	Yes, with log	
	Alarm logs	Yes	
Communication	Serial link	1 Sub-D9 (RS 232/RS 422 - RS 485) + 1 RJ45 (RS 485)	
	Networks	– Ethernet, IEEE 802.3 10/100 BASE-T, RJ 45	
Downloadable protocols	Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic) Uni-TE, Modbus, Modbus TCP/IP		
Development software	Vijeo Designer VJD●●●TG●V●●M (on Windows XP, Vista and 7)		
«Compact Flash» card slot	Yes		
Dimensions W x D x H (mm)	220.3 x 88 x 265	296 x 91 x 332	197 x 92.6 x 147
Compatibility with PLCs	Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340		
USB port	1	1	2
Video in	No	No	No
Built-in Ethernet TCP/IP	No	Yes	
Supply voltage	24 VDC		
References	XBTGK2120	XBTGK2330	XBTGK5330

Magelis XBT GTW with 8.4", 12", 15" touchscreen



Type	Characteristics		
Pre-installed Software	OS: Windows XP Embedded, Internet Explorer, Office & Acrobat Reader, .NET, Vijeo Designer Run Time unlimited		
	–	Vijeo Citect Web Client	
Touchscreen	8.4" LCD TFT	12" LCD TFT	15" LCD TFT
Resolution	SVGA 800 x 600	SVGA 800 x 600	XGA 1024 x 768
Front panel ports	–	1 x USB	1 x USB
Processor	Celeron M @ 600 MHz	Celeron M @ 1GHz	Celeron M@1GHz
RAM	512MB ▶ 1024MB	512MB ▶ 1024MB	1024MB
Storage	CF 2GB expandable to 4GB	CF 2GB expandable to 4GB	CF 4GB
Extension	–	1 x PCMCIA slot (for 1 type II card)	1 PCMCIA slot (for 1 type III card or 2 type I cards)
Ethernet ports	2 (10/100/1G + 10/100)	2 (10/100/1G + 10/100)	2 (10/100/1G + 10/100)
Ports I/O	4 x USB, 2 x RS232	4 x USB, 1 x RS232	4 x USB, 2 x RS232
Power supply	24 VDC		
Dimension	230 x 65 x 177	313 x 60 x 239	395 x 65 x 294
References	XBTGTW450	XBTGTW652	HMITW7353



Type		Characteristics	
+ Screen			
Display	screen size / Resolution	5,7" / VGA	
	Type (colour)	TFT	
	Number of colours	65 536	
Data entry	Function keys	11 + label	
	Operaton key	1 with LED (validation touchscreen)	
Safety components	Key Switch	Yes for ON/OFF	
	3 positions Enable switch	Yes, OK signal in intermediate position only	
	Emergency stop	Yes, red with 2 safe contacts and one auxiliary contact	
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad	
	Curves / Alarm historic	Yes, with log / Yes, incorporated	
Connection	32-pins connector (communication, alimentation, I/O)		
Downloadable protocols	Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic) Uni-TE, Modbus, Modbus TCP/IP		
Development software	Vijeo Designer VJD●●●TG●V●●M (on Windows XP, Vista and 7)		
«Compact Flash» card slot	Yes		
Dimensions W x D x H (mm)	224 x 174 x 87.1		
USB port	1		
Supply voltage	24 VDC		
Reference	XBT GH2460		
+ Cable interface		connection with junction box	
Type of connector	2 x 32-pins speed connectors		
Length	3 m	5 m	10 m
Reference	XBTZGHL3	XBTZGHL5	XBTZGHL10
+ Junction box		connection with PLCs	
Communcation	Serial link	1 SubD9 (RS232 / RS422 - RS 425)	
	Network	1 Ethernet RJ45 IEEE 802.3 10/100 T-BASE,	
Connection	32 pins connector	Interface cable 3 or 10 m	
	24 pins screw terminals blocks	For alimentation 24 VDC, state of I/O safety components	
Reference	XBTZGJBOX		

A large number of accessories (cables, memory cards, protective sheets, etc ...) is available for the Advanced panels range.





Type		Characteristics	
Display	LCD screen size / Resolution	5.7" / QVGA to 10,4" / VGA	«5.7" (QVGA/VGA), 7.5" (VGA), 10.4" (VGA/SVGA), 12.1" (SVGA), 15" (XGA)»
	Type	STN monochrome or TFT color	STN monochrome, STN 4096 colors, TFT 65000 colors
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad	
	Curves / Alarm logs	Yes, with log / Yes, incorporated	
	Control	5 languages IEC	
Communication	Serial link	1 RJ45 (RS 485) + 1 Sub9 (RS 232/RS 422 - RS 485)	
	Networks	Ethernet, IEEE 802.3 10/100 BASE-T, RJ45 depending on model	
Downloadable protocols	Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic), Uni-TE, Modbus, Modbus TCP		
Development software	SoMachine (under Windows XP and Vista)		
Dimensions W x D x H (mm)	Depending on model		
Compatibility with PLCs	Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340		
«Compact Flash» card slot	Yes		
USB port	1 or 2		
Built-in Ethernet TCP/IP	Depending on model		
Built-in I/O	No		
Extensions	CANopen module mandatory		
Supply voltage	24 VDC		
References	XBTGK2●/53		XBTGT2●/4●/5●/63/73

Control extension

Type of module	CANopen Master
Characteristics	Class M10 limited 16 slaves, Standard DS301 V4.02
Reference	XBTZGCANM



Type		Characteristics		
Display	LCD screen size / Resolution	3,8" / QVGA	5,7" / QVGA	
	Type	STN monochrome, amber or red	STN monochrome, gray	STN 4096 colours
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad		
	Curves / Alarm logs	Yes, with log / Yes, incorporated		
	Control	5 languages IEC		
Communication	Serial link	–	1 Sub9 (RS 232/RS 422 - RS 485)	
	Networks	–	–	Ethernet, IEEE 802.3 10/100 BASE-T, RJ45
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Sematic) Uni-TE, Modbus, Modbus TCP		
Development software		SoMachine (on Windows XP and Vista)		
Dimensions W x D x H (mm)		130 x 76 x 104	207 x 76 x 157	
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340		
«Compact Flash» card slot		No		
USB port Host type A		1	1	1
Built-in Ethernet TCP/IP		No	No	Yes
Integrated I/O		12I/6O 24 VDC	16I/16O 24 VDC	
Extensions		2 modules TM2 or CANopen module	3 modules TM2 or CANopen module	
Supply voltage		24 VDC		
References	Source Output	XBTGC1100T	XBTGC2120T	XBTGC2230T
	Sink Output	XBTGC1100U	XBTGC2120U	XBTGC2230U

Extensions

Type of module	CANopen Master						
Characteristics	Class M10 limited 16 slaves, Standard DS301 V4.02						
References	XBTZGCCAN						

Type of module	Digitals Inputs / Outputs						
Characteristics	8I 24 VDC Screw terminal	16I 24 VDC Screw terminal	16I 24 VDC HE10	32I 24 VDC HE10	8I 120 VAC Screw terminal	4I 24 VDC 4O Relays Screw terminal	16I 24 VDC 8O Relays Screw terminal
References	TM2DDI8DT	TM2DDI16DT	TM2DDI16DK	TM2DDI32DK	TM2DAI8DT	TM2DMM8DRT	TM2DMM24DRF

Type of module	Digitals Inputs / Outputs					
Characteristics	8O Transistor 24 VDC Screw terminal	16O Transistor 24 VDC HE10	32O Transistor 24 VDC HE10	8O Relays 230 VAC 30 VDC Screw terminal	16O Relays 230 VAC 30 VDC Screw terminal	–
References	Source Output	TM2DD08TT	TM2DD016TK	TM2DD032TK	TM2DRA8RT	TM2DRA16RT
	Sink Output	TM2DD08UT	TM2DD016UK	TM2DD032UK	–	–

Type of module	Analog Inputs / Outputs					
Characteristics	2I Current/Voltage	2I Thermocouple	4I Current/Voltage Temperature	8I Current/Voltage	8I Temperature	8I PTC
References	TM2AMI2HT	TM2AMI2LT	TM2AMI4LT	TM2AMI8HT	TM2ARI8LRJ TM2ARI8LT	TM2ARI8HT

Type of module	Analog Inputs / Outputs				
Characteristics	1O Current/Voltage	2O Voltage	2I Current/Voltage 1O Current/Voltage	2I Temperature 1O Current/Voltage	4I Current/Voltage 2O Current/Voltage
References	TM2AMO1HT	TM2AVO2HT	TM2AMM3HT	TM2ALM3LT	TM2AMM6HT



		Smart 8.4	Smart 12	Smart 15		
Pre-installed Software		OS: Windows XP Embedded, Internet Explorer, Office & Acrobat Reader, .NET				
		–	Vijeo Designer Runtime demo, Vijeo Citect Web Client			
Touch screen		8.4" LCD TFT	12" LCD TFT	15" LCD TFT		
Resolution		SVGA 800x600	SVGA 800x600	XGA 1024x768		
Front side port		–	1 x USB	1 x USB		
Processor		Celeron M@600MHz	Celeron M@1GHz	Celeron M@1GHz		
RAM		512MB ▶ 1024MB	512MB ▶ 1024MB	1024MB		
Storage		CF 2GB expandable to 4GB	CF 2GB expandable to 4GB	CF 4GB Flash Disk 15GB		
Extension		–	1 x PCMCIA slot (for 1 type II card)	1 PCMCIA slot (for 1 type III card or 2 type I cards)		
Ethernet ports		2 (10/100/1G + 10/100)	2 (10/100/1G + 10/100)	2 (10/100/1G + 10/100)		
I/O ports		4 x USB, 2 x RS 232	4 x USB, RS 232	4 x USB, 2x RS 232		
Certification		UL 508, CSA 142, Marine (1)	UL 508, CSA 142	UL508, cUL, UL1604 (Haz-Loc Class 1 Div 2) (1), Marine DNV (1)		
Dimensions W x D x H (mm)		230 x 65 x 17	313 x 60 x 239	395 x 65 x 294		
iPC without maintenance (Compact Flash disk)	License VJDSNRTMPC for Vijeo iPC without maintenance unlimited, to be ordered separately.	AC	MPCST11NAJ00T	MPCST21NAJ20T	HMIPSC7AE03	–
		DC	MPCST11NDJ00T	MPCST21NDJ20T	HMIPSC7DE03	–
iPC without maintenance (Flash disk) Vijeo Citect Lite 1200 E/S Vijeo Citect Full 500 E/S	License VJDSNRTMPC for Vijeo iPC without maintenance unlimited, to be ordered separately.	AC	–	–	–	HMIPSF7AP03
		DC	–	–	–	HMIPSF7DP03
		AC	–	–	–	HMIPSF7APL3
		AC	–	–	–	HMIPSF7APF3

(1) DC version, only

Magelis Compact iPC with 8.4", 12", 15" touchscreen



		Compact iPC 8.4"	Compact iPC 12"	Compact iPC 15"		
Pre-installed Software		Windows XP PRO, Vijeo Designer Run Time Demo				
Touch screen		8.4" LCD TFT	12" LCD TFT	15" LCD TFT		
Resolution		SVGA 800x600	XGA 1024x768	XGA 1024x768		
Front side port		–	1 x USB	1 x USB		
Processor		Celeron M@1GHz	Celeron M@1.5GHz	Pentium M@1.6GHz		
RAM		512MB ▶ 1024MB	512MB ▶ 1024MB	512MB ▶ 2GB 1,5GB ▶ 2GB		
Drive devices		–	–	Engraver DVD		
Storage		HDD ≥ 80 GB	HDD ≥ 250 GB or Flash disk 15 GB	HDD ≥ 80 GB or Flash disk 15 GB		
Extension		–	1 PCMCIA slot (for 1 type II card)	1 PCMCIA slot (for 1 type III card or 2 type I card)		
Ethernet ports		2 (10/100/1G + 10/100)	2 (10/100/1G + 10/100)	2 (10/100/1G + 10/100)		
I/O ports		4 x USB, 2 x RS 232	4 x USB, 1 x RS 232	4 x USB, 4 x RS 232		
Certification		UL508, CSA	UL508, CSA	UL508, CSA, UL1604 (Haz-Loc Class 1, Div 2)		
Dimensions W x D x H (mm)		230 x 120 x 177	313 x 100 x 239	395 x 100 x 294		
General Purpose (Hard Drive)	License VJDSNRTMPC for Vijeo Designer Run Time ≥ 5.1, unlimited, to be ordered separately.	AC	MPCKT12NAX00N	MPCKT22NAX20N	MPCKT55NAX20N	–
		DC	–	–	MPCKT55NDX20N	–
Heavy Duty (Flash disk)		AC	–	MPCKT22MAX20N	MPCKT55MAX20N	–
	SCADA Edition (Vijeo Citect)	AC	–	–	–	MPCKT55MAX20L
	Vijeo Citect Lite 1200 I/O	–	–	–	–	MPCKT55MAX20L
	Vijeo Citect Full 500 I/O	–	–	–	–	MPCKT55MAX20V



		Smart BOX	Compact PC BOX
Pre-installed Software		Windows XP PRO, Vijeo Designer Run Time Demo	
Processor		Celeron M@600MHz	Celeron M@1GHz
RAM	Default ► Max	256MB ► 1024MB	512MB ► 1024MB
Storage		CF 2 GB	HDD ≥ 80 GB
Drives		–	–
Extension		–	1 x PCI
Video ports		1 x RGB	1 x RGB
Ethernet ports		2 (10/100/1G + 10/100)	2 (10/100/1G + 10/100)
I/O ports		4 x USB, 2 x RS 232	4 x USB, 2 x RS 232
Certification		UL508, CSA, UL1604 (Haz-Loc Class 1 Div 2), ATEX2-22, Marine DNV (1)	UL508, CSA
Connection for iDisplay		Yes	Yes
for Front Panel		No	No
Dimensions W x D x H (mm)		218 x 65 x 165	218 x 115 x 165
iPC General Purpose (Hard Drive)	License VJDSNRTMPC for Vijeo Designer Run Time ≥ 5.1, unlimited, to be ordered separately.	AC –	MPCKN02NAX00N
iPC without maintenance (Compact Flash disk)	License VJDSNRTMPC for Vijeo Designer Run Time ≥ 5.1, unlimited, to be ordered separately.	AC MPCSN01NAJ00T (2)	–
		DC MPCSN01NDJ00T	–

(1) Marine DNV and ATEX 2-22 on DC version only

(2) With delivered external alimentation adaptator

Magelis Flex PC BOX



		Flex PC BOX F			Flex PC BOX H		
Pre-installed Software		Windows XP PRO, Vijeo Designer Run Time Demo					
Processor		Celeron M1,86Ghz	Core Duo 2Ghz		Celeron M1,86Ghz	Core Duo 2Ghz	
RAM	Default ► Max	512MB>2GB	1GB>2GB	2GB	512MB>2GB	1GB>2GB	2GB
Storage		HDD ≥ 250GB with option RAID or Flash Disk 15GB			HDD ≥ 250GB with option RAID or Flash Disk 15GB		
Drives		Engraver DVD	Engraver DVD		Engraver DVD		
Extension		2PCI			4PCI		
Video ports		1 x DVI-I (RGB)					
Ethernet ports		2 (10/100/1 G + 10/100)					
I/O ports		4 x USB, 4 x RS 232					
Certification		UL508, cUL, UL1604 (Haz-Loc Class 1 Div 2), ATEX2-22 (1)					
Connection for iDisplay		Yes					
for Front Panel		Yes					
Dimensions W x D x H (mm)		243 x 160 x 289			243 x 205 x 289		
iPC General Purpose (Hard Drive)	License VJDSNRTMPC for Vijeo Designer Run Time ≥ 5.1, unlimited, to be ordered separately.	AC MPCFN02NAX00N	MPCFN05NAX00N	–	MPCHN02NAX00N	MPCHN05NAX00N	–
		DC MPCFN02NDX00N	MPCFN05NDX00N	–	MPCHN02NDX00N	MPCHN05NDX00N	–
Heavy Duty (Flash disk)		–	MPCFN05MAX00N	–	–	MPCHN05MAX00N	–
Heavy Duty (Flash disk) Vijeo Citect full 500 I/O		–	–	MPCFN05MAX00V	–	–	MPCHN05MAX00V

(1) ATEX 2/22 for DC version only



Front Panel	12" touch & keypad	15" touch & keypad	15" touch	19" touch
Touchscreen	12" LCD TFT	15" LCD TFT	15" LCD TFT	19" LCD TFT
Resolution	SVGA 800x600	XGA 1024x768	XGA 1024x768	SXGA 1280x1024
Front side port	1 x USB	1 x USB	1 x USB	1 x USB
Dimensions W x D x H (mm)	420 x 31 x 320	483 x 31 x 365	420 x 31 x 320	460 x 44 x 390
References	MPCYB20NNN00N	MPCYB50NNN00N	MPCYT50NNN00N	MPCYT90NNN00N

Industrial Display

Magelis iDisplay

with 15", 19" touchscreen



	15" touch & keypad	15" touch	19" touch
Touchscreen	15" LCD TFT	15" LCD TFT	19" LCD TFT
Resolution	XGA 1024x768	XGA 1024x768	SXGA 1280x1024
Front side port	1 x USB	1 x USB	1 x USB
Video ports	1 x VGA & 1 x DVI	1 x VGA & 1 x DVI	1 x VGA & 1 x DVI
Touchscreen ports	1 x USB & 1 x RS 232	1 x USB & 1 x RS 232	1 x USB & 1 x RS 232
Power supply	100...240VAC	100...240VAC	100...240VAC
Certification	UL508, CSA	UL508, CSA	UL508, CSA
Dimensions W x D x H (mm)	483 x 65 x 365	395 x 60 x 294	460 x 65 x 390
References	MPCNB50NAN00N	MPCYT50NAN00N	MPCYT90NAN00N

* Available with Vijeo Designer ≥ 5.0



Vijeo Designer configuration software enables creation of automated system control operator dialogue applications for Magelis STO/STU, XBT GT, GK, GTW, GH terminals and Smart & Compact iPC and PC BOX. It also enables management of the multimedia functions of XBT GTW and Smart & Compact iPC (video and audio) and offers users of Ethernet terminals and iPC remote access via a Web browser (WEB Gate function).

Configuration

Vijeo Designer configuration software enables fast, simple processing of operator dialogue projects thanks to its ergonomics, developed around 6 configurable windows.

It also offers comprehensive application management tools:

- . Project creation; projects comprising one or several targets (terminal or iPC).
- . Recipe editor (32 groups of 256 recipes of max. 1024 ingredients).
- . User action list (eg. script) for application adaptability.
- . Application variable cross-referencing.
- . Vectorial graphic library for more attractive graphic screens.
- . Application block diagram documentation.
- . Simulation mode for simple design office application testing.
- . High-performance graphic editor for simple block diagram creation (over 30 animated preconfigured generic objects).
- . Support of layers and masks for faster development.
- . Data sharing (up to 300 variables on 8 terminals).
- . Management of 40 alphabets (including simplified Chinese, Korean, Arabic and Hebrew) with the opportunity to have 15 languages per application and dynamic change.
- . Programmable controller database sharing (Unity Pro, PL7, Concept, TwidoSoft, ProWORX, ModSoft), process variables or operators actions
- . Advanced traceability function (periodic, at event or on request).
- . Project backup on terminal for simple maintenance.
- . User-friendly data recovery tool.
- . Support of standard USB peripherals (USB key up to 4 GB).
- . Support of external USB keyboards and mice.
- . Integration with Schneider Electric equipment (buffer diag., variables access, Unity DDT and unlocated variables.)
- . Event-triggered e-mail function
- . Over 35 third party protocols
- . Multilingual software : English, French, German, Italian, Spanish, Portuguese and Simplified Chinese.
- . Printing function

The Vijeo Designer Limited Edition, downloadable or free access allows you to configure the Magelis STO/STU.

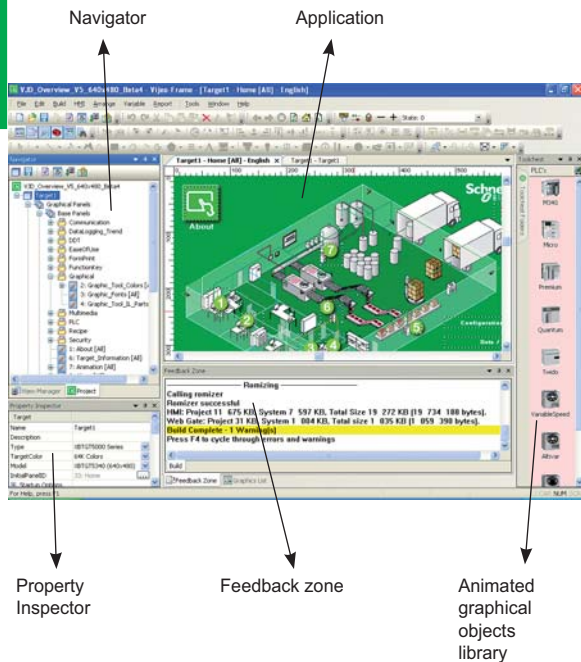
Industrial intelligence option: Intelligent Data Service

Intelligent Data Service (IDS) is an extension of Vijeo Designer for the PC (Magelis or standard PC) which supports the implementation of control solutions for one or a number of terminals (up to 8). This extension offers total traceability. Both process variables and operator actions are tracked so that the right decisions can be made at the right time (Industrial Business Intelligence).

Powerful Data can be collected from multiple terminals via Ethernet without impairing HMI reaction times.

Flexible Various storage methods are supported, CSV file can be read directly in MS Excel, recording in user-defined format in an SQL database or secure IDV (Intelligent Data Vault) files to ensure compatibility with the requirements of 21 CFR Part 11.

2



Vijeo Designer Lite _____ Configuration software

Magelis XBT N, R, RT



Vijeo Designer Lite configuration software enables the creation of simple operator dialogue applications on Magelis XBT N, R and RT Small Panel ranges.

It also enables transparent recovery of all applications for Magelis XBT N and R produced using its predecessor: XBT L1000.

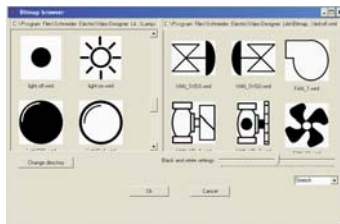
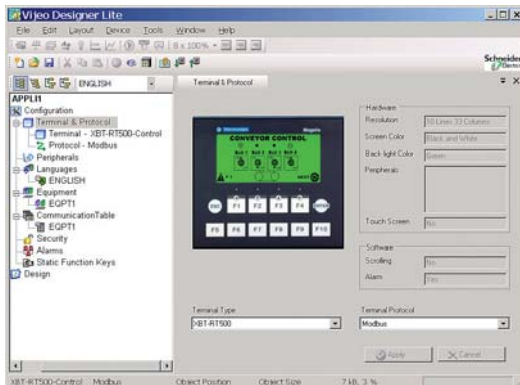
For simplified installation and improved consistency, Vijeo Designer Lite retains the main characteristics of Vijeo Designer software (ergonomics, interface ...) which has become the reference in the HMI field.

Configuration

Vijeo Designer Lite software enables fast and easy creation of different types of pages (application page, alarm pages, help pages...) and the installation of navigation between pages.

It offers:

- Graphic objects developed for Magelis XBT RT (bar charts, trend curves...)
- Character fonts Byzantine, simplified Chinese, Cyrillic, Japanese
- Project reports
- Application simulation on PC
- Six languages : English, French, German, Italian, Spanish and Chinese.



Selection guide for Vijeo Designer Lite

Number of licenses	Composition	References
Single (1)	Without cable With USB cable	VJDSNDTMSV●●M VJDSUDTMSV●●M

Software is delivered on CD-ROM and can be executed under Windows 2000, XP and Vista.
●● represents version number.

These references are downloadable on Schneider-Electric.com

Selection guide for Vijeo Designer

Number of licences	Composition	References
Single (1)	Without cable With USB cable	VJDSNDTGSV●●M VJDSUDTGSV●●M
Group (3)	Without cable	VJDGNDTGSV●●M
Team (10)	Without cable	VJDTNDTGSV●●M
Facility (Unlimited)	Without cable	VJDFNDTGSV●●M

The software is supplied on DVD and runs under Windows XP, Windows Vista and Windows 7.
●● represent the version number.

Runtime pour Magelis iPC	Composition	References
Single (1)	Without cable	VJDSNRTMPC
IDS Single (1)	Without cable	VJDSNTRCKV●●M

Zelio

Designed for hard-wired logic control applications to complement PLCs when performing simple functions such as counting, measurement and control, the single-function products in the Zelio range of relays offer optimum results.



3

The challenges of industrial competitiveness mean that control systems are now present in all fields of application. The Zelio range of innovative, effective and reliable relays supports the Twido programmable controllers and Modicon automation platforms. With Zelio you optimise your processes, reduce your energy bills and enhance the safety of personnel and equipment.



Modicon

Modicon automation platforms improve performance, quality and profitability for your installations, production sites and machines. Conforming to international standards and simple to set up, the Modicon range integrates seamlessly into any control system.

3 | Automation



Relays

Electromechanical plug-in relays, Zelio Relay	3/2 to 3/4
Solid-state relays, Zelio Relay	3/5
Control and measurement relays, Zelio Control	3/6 to 3/10
Counters, Zelio Count	3/11
Timing relays, Zelio Time	3/12 to 3/13
Analog interface, Zelio analog	3/14 to 3/15
Smart relays, Zelio Logic	3/16 to 3/17

Programmable controllers

Programmable controllers, Twido	3/18 to 3/21
----------------------------------------------	--------------

Programmable Automation Controllers

Programmable Automation Controllers, Modicon M340	3/22 to 3/29
Programmable Automation Controllers, Modicon Premium	3/30 to 3/37
Programmable Automation Controllers, Modicon Quantum	3/38 to 3/45

Software

Programming software, Zelio Soft 2	3/17
Programming software, Twido Suite	3/20
Configuration software, Unity Pro	3/46 to 3/47
Programming software, PL7, Concept, ProWORX32	3/48 to 3/49
SCADA software, Vijeo Citect	3/50
Reporting software, Vijeo Historian	3/51



Type of relay	Interface relays RSB			Miniature relays RXM			
Contact characteristics							
Thermal current I _{th} in A (temperature ≤ 55°C)	8	12	16	12	10	6	3
Number of contacts	2 "C/O"	1 "C/O"	1 "C/O"	2 "C/O"	3 "C/O"	4 "C/O"	4 "C/O"
Contact material	AgNi	AgNi	AgNi	AgNi	AgNi	AgNi	AgAu
Switching voltage, min. / max.	5 / 250 VAC/DC			12 / 250 VAC/DC			
Switching capacity, min. / max. (mA / VA)	5 / 2000	5 / 3000	5 / 4000	10 / 3000	10 / 2500	10 / 1500	2 / 1500
Coil characteristics							
Average consumption, inrush,	0.75 VA / 0.45 W			1.2 VA / 0.9 W			
Permissible voltage variation	0.8/0.85...1.1 Un (50/60Hz or =)			0.8...1.1 Un (50/60Hz or =)			
References	(1)	(1)	(1)	(2)	(2)	(2)	
Coil supply voltage on DC	6 VDC	RSB2A080RD	RSB1A120RD	RSB1A160RD	–	–	–
	12 VDC	RSB2A080JD	RSB1A120JD	RSB1A160JD	RXM2AB2JD	RXM3AB2JD	RXM4AB2JD
	24 VDC	RSB2A080BD	RSB1A120BD	RSB1A160BD	RXM2AB2BD	RXM3AB2BD	RXM4AB2BD
	48 VDC	RSB2A080ED	RSB1A120ED	RSB1A160ED	RXM2AB2ED	RXM3AB2ED	RXM4AB2ED
	60 VDC	RSB2A080ND	RSB1A120ND	RSB1A160ND	–	–	–
Coil supply voltage on AC	110 VDC	RSB2A080FD	RSB1A120FD	RSB1A160FD	RXM2AB2FD	RXM3AB2ED	RXM4AB2ED
	24 VAC	RSB2A080B7	RSB1A120B7	RSB1A160B7	RXM2AB2B7	RXM3AB2B7	RXM4AB2B7
	48 VAC	RSB2A080E7	RSB1A120E7	RSB1A160E7	RXM2AB2E7	RXM3AB2E7	RXM4AB2E7
	120 VAC	RSB2A080F7	RSB1A120F7	RSB1A160F7	RXM2AB2F7	RXM3AB2F7	RXM4AB2F7
	220 VAC	RSB2A080M7	RSB1A120M7	RSB1A160M7	–	–	–
	230 VAC	RSB2A080P7	RSB1A120P7	RSB1A160P7	RXM2AB2P7	RXM3AB2P7	RXM4AB2P7
	240 VAC	RSB2A080U7	RSB1A120U7	RSB1A160U7	–	–	RXM4GB2U7

Sockets for relays

Type of socket	For interface relays RSB			For miniature relays RXM			
Mixed input/output type sockets with location for protection module							
	–	–	–	RXZE2M114(5)	–	RXZE2M114	RXZE2M114
	–	–	–	RXZE2M114M(5)	–	RXZE2M114M	RXZE2M114M
Separate input/output type sockets with location for protection module							
	RSZE1S48M	RSZE1S35M	RSZE1S48M(3)	RXZE2S108M	RXZE2S111M	RXZE2S114M	RXZE2S114M
Protection modules							
Diode	6...230 VDC	RZM040W		RXM040W			
RC circuit	24...60 VAC	RZM041BN7		RXM041BN7			
	110...240 VAC	RZM041FU7		RXM041FU7			
Varistor	6...24 VDC or AC	RZM021RB (6)		RXM021RB			
	24...60 VDC or AC	RZM021BN (6)		RXM021BN			
	110...230 VDC or AC	RZM021FP (6)		RXM021FP			
	24 VDC or AC	–		–			
	240 VDC or AC	–		–			
Multifunction timer module	24...230 VDC or AC	–		–			
Accessories							
Plastic maintaining clamp		RSZR215		RXZR335			
Metal maintaining clamp		–		RXZ400			
Label for socket		RSZL300		RXZL420 (except RXZE2M114)			
Bus jumper	2 poles	–		RXZS2			
DIN rail adapter		–		RXZE2DA			
Panel mounting adapter		–		RXZE2FA			

(1) References for relays without socket, for relays with socket, add the letter **S** to the end of the selected reference. (Example: RSB2A080B7 becomes RSB2A080B7S).

(2) References for relays with LED, for relays without LED, replace the number 1 in the reference by 2. (Example: RXM2AB2JD becomes RXM2AB1JD)

(3) To use RSB 1A160 ●● relay with socket, terminals must be interconnected

Universal and power relays



Universal relays RUM					Power relays RPM				RPF	
Cylindrics			Faston							
10	10	3	10	10	15	15	15	15	30 (4)	30 (4)
2 "C/O"	3 "C/O"	3 "C/O"	2 "C/O"	3 "C/O"	1 "C/O"	2 "C/O"	3 "C/O"	4 "C/O"	2 "N/O"	2 "C/O"
AgNi	AgNi	AgAu	AgNi	AgNi	AgNi	AgNi	AgNi	AgNi	AgSnO ₂	AgSnO ₂
12 / 250 VAC/DC					12 / 250 VAC/DC				12 / 250 VAC/DC	
10 / 2500	10 / 2500	3 / 750	10 / 2500	10 / 2500	100 / 3750	100 / 3750	100 / 3750	100 / 3750	100 / 7200	100 / 7200
2...3 VA / 1.4 W					0.9 VA / 0.7 W	1.2 VA / 0.9 W	1.5 VA / 1.7 W	1.5 VA / 2 W	4 VA / 1.7 W	
(2)	(2)	–	(2)	(2)	(2)	(2)	(2)	(2)	–	–
–	–	–	–	–	–	–	–	–	–	–
RUMC2AB2JD	RUMC3AB2JD	–	RUMF2AB2JD	RUMF3AB2JD	RPM12JD	RPM22JD	RPM32JD	RPM42JD	RPF2AJD	RPF2BJD
RUMC2AB2BD	RUMC3AB2BD	RUMC3GB2BD	RUMF2AB2BD	RUMF3AB2BD	RPM12BD	RPM22BD	RPM32BD	RPM42BD	RPF2ABD	RPF2BBD
RUMC2AB2ED	RUMC3AB2ED	RUMC3GB2ED	RUMF2AB2ED	RUMF3AB2ED	RPM12ED	RPM22ED	RPM32ED	RPM42ED	–	–
–	–	–	–	–	–	–	–	–	–	–
RUMC2AB2FD	RUMC3AB2FD	–	RUMF2AB2FD	RUMF3AB2FD	RPM12FD	RPM22FD	RPM32FD	RPM42FD	RPF2AFD	RPF2BFD
RUMC2AB2B7	RUMC3AB2B7	RUMC3GB2B7	RUMF2AB2B7	RUMF3AB2B7	RPM12B7	RPM22B7	RPM32B7	RPM42B7	RPF2AB7	RPF2BB7
RUMC2AB2E7	RUMC3AB2E7	RUMC3GB2E7	RUMF2AB2E7	RUMF3AB2E7	RPM12E7	RPM22E7	RPM32E7	RPM42E7	–	–
RUMC2AB2F7	RUMC3AB2F7	RUMC3GB2F7	RUMF2AB2F7	RUMF3AB2F7	RPM12F7	RPM22F7	RPM32F7	RPM42F7	RPF2AF7	RPF2BF7
–	–	–	–	–	–	–	–	–	–	–
RUMC2AB2P7	RUMC3AB2P7	RUMC3GB2P7	RUMF2AB2P7	RUMF3AB2P7	RPM12P7	RPM22P7	RPM32P7	RPM42P7	RPF2AP7	RPF2BP7
–	–	–	–	–	–	–	–	–	–	–

3

For universal relays RUM					For power relays RPM				For power relays RPF	
RUZC2M	RUZC3M	RUZC3M	–	–	RPZF1	RPZF2	RPZF3	RPZF4	–	–
–	–	–	–	–	–	–	–	–	–	–
RUZSC2M	RUZSC3M	RUZSC3M	RUZSF3M	RUZSF3M	–	–	–	–	–	–
RUW240BD	–	–	–	–	1 and 2 poles		3 and 4 poles		–	–
–	–	–	–	–	RXM040W	–	–	–	–	–
RUW241P7	–	–	–	–	RXM041BN7	–	–	–	–	–
–	–	–	–	–	RXM041FU7	–	–	–	–	–
–	–	–	–	–	RXM021RB	–	–	–	–	–
–	–	–	–	–	RXM021BN	–	–	–	–	–
–	–	–	–	–	RXM021FP	–	–	–	–	–
RUW242B7	–	–	–	–	RUW242B7	–	–	–	–	–
RUW242P7	–	–	–	–	–	–	–	–	–	–
RUW101MW	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–
RUZC200	–	–	–	–	RPZF1 (for 1 pole relays)				–	–
RUZL420	–	–	–	–	–	–	–	–	–	–
RUZS2	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	RPZ1DA	RXZE2DA	RPZ3DA	RPZ4DA	–	–
–	–	–	–	–	RPZ1FA	RXZE2FA	RPZ3FA	RPZ4FA	–	–

(4) 30A with 13 mm space between relays; 25 A when relay mounting side by side

(5) Max 10 A operating

(6) With LED



Type of relay		Pre-assembled equipped with LED and protection circuit	
		Sold in lots of 10	
Contact characteristics			
Thermal current I _{th} in A	6		
Number of contacts	1 C/O		
Contact material	AgSnO ₂		
Switching voltage, min/max	12 / 300 V AC/DC		
Switching capacity min/max (mA /VA)	100 / 1500		
Coil characteristics			
Average consumption, inrush	0.17 W		
permissible voltage variation	-10% / +15%		
Socket connexion	Screw connector		Spring terminal
	Socket supply voltage	Coil supply voltage	
References	12 V AC/DC	12 V DC	RSL1PVJU
	24 V AC/DC	24 V DC	RSL1PVBU
	48 V AC/DC	48 V DC	RSL1PVEU
	110 V AC/DC	60 V DC	RSL1PVFU
	230 V AC/DC	60 V DC	RSL1PVPU
			RSL1PRJU
			RSL1PRBU
			RSL1PREU
			RSL1PRFU
			RSL1PRPU

RSL relays



Type of relay		Relay for customer assembly	
		Sold in lots of 10	
Number of contacts	1 C/O		
	Coil supply voltage		
References	12 V DC	RSL1AB4JD	
	24 V DC	RSL1AB4BD	
	48 V DC	RSL1AB4ED	
	60 V DC	RSL1AB4ND	

Sockets



Type of socket		Sockets for customer assembly with LED and protection circuit	
		Sold in lots of 10	
Socket connection	Screw connector		Spring terminal
	Socket supply voltage		
References	12 and 24 V AC/DC	RSLZVA1	RSLZRA1
	48 and 60 V AC/DC	RSLZVA2	RSLZRA2
	110 V AC/DC	RSLZVA3	RSLZRA3
	230 V AC/DC	RSLZVA4	RSLZRA4



Type of relay	Panel mounted without heat sink and thermal interface					
Contact characteristics						
Thermal current I _{th} in A	10	25	50	75	90	125
Number of contacts	1 NO					
Type if switching	Zero voltage switching					
Output	SPST contact					
Connection	Screw connector					
Control voltage range	3...32 V DC			4...32 V DC		
Operating voltage	24...280 V AC			48...530 V AC	48...660 V AC	
References	SSRPCDS10A1	SSRPCDS25A1	SSRPCDS50A1	SSRPCDS75A2	SSRPCDS90A3	SSRPCDS125A3
Control voltage range						
Control voltage range	90...280 V AC					
Operating voltage	24...280 V AC			80...530 V AC	48...660 V AC	
References	SSRPP8S10A1	SSRPP8S25A1	SSRPP8S50A1	SSRPP8S75A2	SSRPP8S90A3	SSRPP8S125A3

3

SSRD relays



Type of relay	Rail DIN mounted With integrated heat sink			
Contact characteristics				
Thermal current I _{th} in A	10	20	30	45
Number of contacts	1 NO			
Type if switching	Zero voltage switching			
Output	SPST contact			
Connection	Screw connector			
Control voltage range	4...32 V DC			3...32 V DC
Operating voltage	24...280 V AC			
References	SSRD0S10A1	SSRD0S20A1	SSRD0S30A1	SSRD0S45A1
Control voltage range				
Control voltage range	90...280 V AC			90...140 V AC
Operating voltage	24...280 V AC			
References	SSRDP8S10A1	SSRDP8S20A1	SSRDP8S30A1	SSRDP8S45A1

Accessories



Type of accessory	Heat sink	Thermal interface
For relay	SSRP	
References	SSRAH1	SSRAT1

Zelio Control Relays

3-phase monitoring relays



Function	presence of phase +phase sequence		+phase sequence, +regeneration +phase unbalance, +under/over voltage	
Monitoring voltage range	208...480 VAC	208...440 VAC	208...480 VAC	220 ... 440 VAC
Outputs	1 C/O	2 C/O	1 C/O	2 C/O
References	RM17TG00	RM17TG20	RM17TE00	RM35TF30

3



Function	presence of phase +under/over voltage		+presence of neutral +under/over voltage
Monitoring voltage range	208...480 VAC	220...480 VAC	120...277 VAC (phase-neutral)
Outputs	1 C/O	2 C/O	2 C/O
References	RM17UB310	RM35UB330	RM35UB3N30

Level / Speed monitoring relays



Function	Conductive liquid level monitoring	Non-conductive material level monitoring	Over/under Speed monitoring
Power supply	24...240 VAC/DC		
Monitoring range	0,25...5 K Ω 5...100 K Ω 0,05...1 M Ω	Input of sensor : Contact / PNP / NPN	Interval between pulses: 0.05...0.5 s, 0.1...1 s, 0.5...5 s 1...10 s, 0.1...1 mn, 0.5...5 mn 1...10 mn
Output	2 C/O	1 C/O	1 C/O
Reference	RM35LM33MW	RM35LV14MW	RM35S0MW

Current / Voltage /Frequency monitoring relays

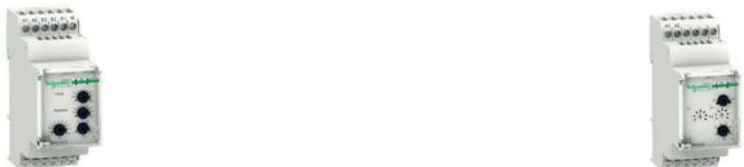


Function	Voltage Monitoring Under or Over Voltage		
Power Supply	24...240 VAC/DC 50/60Hz		
Monitoring range	0.05...0.5 V 0.3...3 V 0.5...5 V	1...10 V 5...50 V 10...100 V	15...150 V 30...300 V 60...600 V
Outputs	2 C/O		2 C/O
References	RM35UA11MW	RM35UA12MW	RM35UA13MW

3



Function	Voltage Monitoring Under or Over Voltage			Under and Over Voltage	
Power Supply	self powered			self powered	
Monitoring range	9...15 VDC	20...80 VAC/DC	65...260 VAC/DC	20...80 VAC/DC	65...260 VAC/DC
Outputs	1 C/O	1 C/O	1 C/O	1 C/O	1 C/O
References	RM17UAS14	RM17UAS16	RM17UAS15	RM17UBE16	RM17UBE15



Function	Current Monitoring		Frequency Monitoring
	over current	over or under current	Over or under frequency
Power supply	24...240 VAC/DC	24...240 VAC/DC 50/60 Hz	120...277 VAC 50/60 Hz
Monitoring range	2...20 A built-in CT	2...20 mA 10...100 mA 50...500 mA	0.15...1.5 A 0.5...5 A 1.5...15 A
Output	1 C/O	2 C/O	2 C/O
Reference	RM17JC00MW	RM35JA31MW	RM35JA32MW
			RM35HZ21FM

Zelio Control Relays

Lift / Pump / Motor monitoring relays



Function	Lift motor room temperature monitoring		+phase presence +phase sequence
Power supply	24...240 VAC/DC 50/60Hz		
Monitoring range	input PT100 3 wires Under -1...+11 °C Over +34...+46 °C		208...480 VAC 50/60Hz input PT100 3 wires Under -1...+11 °C Over +34...+46 °C
Output	1 C/O	2 NO	2 C/O
Reference	RM35ATL0MW	RM35ATR5MW	RM35ATW5MW



Function	Pump protection Current monitor +3 phase monitor	Motor Protection Winding Temperature monitor +3 phase monitor	
Power supply	self powered (single phase :230 VAC 50/60 Hz)	24...240 VAC/DC	
Monitoring range	Current: 0.1...10 A Voltage (three phase): 208...480 VAC 50/60Hz	Winding Temperature: PTC sensor Three phase voltage: 208...480 VAC 50/60Hz	
Output	1 C/O	2 NO	2 NO
Reference	RM35BA10	RM35TM50MW	RM35TM250MW

Control relays for 3-phase supplies



Function	Rotational direction and presence of phases					
		+Undervoltage	+ Over and undervoltage	+ Asymmetry		
Adjustable time delay	without	without	0.1...10 s	0.1...10 s	fixed, 0.5 s	0.1...10 s
Supply voltage	220...440V	380...440V	400V	380...440V	380...440V	380...440V
Output	2 C/O	2 C/O	2 C/O	2 C/O	1 C/O	2 C/O
References	RM4TG20	RM4TU02	RM4TR34 (1)	RM4TR32 (2)	RM4TA02	RM4TA32

(1) Relay with fixed voltage thresholds.

(2) Relay with adjustable voltage thresholds.

3

Current and voltage measurement relays

(3) Basic reference. To be completed with the letters indicating the required voltage, as shown below:

Voltage	VAC, 50/60 Hz	VDC
24...240 V	MW	MW
110...130 V	F	–
220...240 V	M	–
380...415 V	Q	–



Function	Detection of over and undercurrent					
			over and undercurrent			
Measuring range	3...30 mA	0.3...1.5 A	0.05 ...0.5 V	1...10 V	30...300 V	180...270 V
	10...100 mA	1...5 A	0.3 ...3 V	5...50 V	50...500 V	
Adjustable time delay	0.1...1 A	3...15 A	0.5...5 V	10...100 V		
	0.05...30 s	0.05...30 s	0.05...30 s	0.05...30 s	0.05...30 s	0.1...10 s
Output	2 C/O	2 C/O	2 C/O	2 C/O	2 C/O	2 C/O
References	RM4JA31** (3)	RM4JA32** (3)	RM4UA31** (3)	RM4UA32** (3)	RM4UA33** (3)	RM4UB35

(4) Basic reference. To be completed with the letters indicating the required voltage, as shown below:

Voltage	RM4-LG01	RM4-LA32	
	VAC, 50/60 Hz	VAC, 50/60 Hz	VDC
24 V	B	B	–
24...240 V	–	MW	MW
110...130 V	F	F	–
220...240 V	M	M	–
380...415 V	Q	Q	–



Liquid level control relays

Control relays	Empty or fill	
Sensitivity scale	5 ... 100 kΩ	0.25 ... 5 kΩ 2.5 ... 50 kΩ 25 ... 500 kΩ
Time delay	without	adjustable, 0.1 to 10 s
Output	1 C/O	2 C/O
References	RM4LG01• (4)	RM4LA32** (4)

Liquid level control probe type	Measuring electrode and reference electrode	1 simple stainless steel electrode in PVC protective casing
Mounting	suspended	suspended
Maximum operating temperature	100°C	100°C
References	LA9RM201	RM79696043



Type of relay			Size 24 x 48 mm - 1/32 DIN				
Input type			Thermocouple PT100 probe			Voltage/Current 1...5 V / 4...20 mA	
Integrated functions			Hysteresis, PID, auto-tuning, fuzzy logic, rampe 8 steps, automatic operating mode				
Alarm output			-		1	-	-
Communication			ModBus		-	ModBus	ModBus
Supply voltage			100...240 VAC		-	24 V AC/DC	100...240 VAC
References	Number/Output type	1/relay	REG24PTP1RHU	REG24PTP1ARHU	REG24PTP1RLU	REG24PUJ1RHU	REG24PUJ1RLU
		1/solid-state	REG24PTP1LHU	REG24PTP1ALHU	REG24PTP1LLU	REG24PUJ1LHU	REG24PUJ1LLU
		1/4-20 mA	REG24PTP1JHU	-	REG24PTP1JLU	-	-



Type of relay			Format 48 x 48 mm - 1/16 DIN			
Input type			Universal			
Integrated functions			Hysteresis, PID, auto-tuning, fuzzy logic, rampe 16 steps, automatic and manual operating mode			
Alarm output			2			
Communication			ModBus		-	ModBus
Supply voltage			100...240 VAC		-	24 V AC/DC
References	Number/Output type	1/relay	REG48PUN1RHU	REG48PUNL1ARHU	REG48PUN1RLU	
		2/relay	REG48PUN2RHU	-	REG48PUN2RLU	
		1/solid-state	REG48PUN1LHU	REG48PUNL1LHU	REG48PUN1LLU	
		1 + 1 solid-state	REG48PUN2RLHU	-	REG48PUN2RLLU	
		1/4-20 mA	REG48PUN1JHU	-	REG48PUN1JLU	
		1/solid-state + 1/4-20 mA	REG48PUN2LJHU	-	REG48PUN2LJLU	



Type of relay			Size 96 x 48 mm - 1/8 DIN			
Input type			Universal			
Integrated functions			Hysteresis, PID, auto-tuning, fuzzy logic, rampe 16 steps, automatic and manual operating mode			
Alarm output			3			
Communication			ModBus		-	ModBus
Supply voltage			100...240 VAC		-	24 V AC/DC
References	Number/Output type	1/relay	REG96PUN1RHU	REG96PUNL1RHU	REG96PUN1RLU	
		2/relay	REG96PUN2RHU	-	REG96PUN2RLU	
		1/solid-state	REG96PUN1LHU	REG96PUNL1LHU	REG96PUN1LLU	
		1 + 1 solid-state	REG96PUN2RLHU	-	REG96PUN2RLLU	
		1/4-20 mA	REG96PUN1JHU	-	REG96PUN1JLU	
		1/solid-state + 1/4-20 mA	REG96PUN2LJHU	-	REG96PUN2LJLU	



Display	Mechanical				LCD
Supply voltage	24 VDC				Battery
Number of digits displayed	5	6	6	8	8
Counting frequency	20 Hz	10 Hz	25 Hz	25 Hz	7.5 kHz
Type of zero reset	Manual	Without	Manual	Without	Manual (1)
Front face dimensions, W x H	41.5 x 31 mm	30 x 20 mm	60 x 50 mm	60 x 50 mm	48 x 24 mm
References	XBKT50000U10M	XBKT60000U00M	XBKT60000U10M	XBKT80000U00M	XBKT81030U33E

(1) With electrical interlocking.

Compteurs horaires



Display	Mechanical		LCD
Supply voltage	24 VAC	230 VAC	Battery
Number of digits / display	7 (99,999.99 h)	7 (99,999.99 h)	8 (999,999.99 h)
Supply frequency	50 Hz	50 Hz	Mode: 1/100 hour
Type of zero reset	Without	Without	Manual (1)
Front face dimensions, W x H	48 x 48 mm	48 x 48 mm	48 x 24 mm
References	XBKH70000004M	XBKH70000002M	XBKH81000033E

Totalisers



Display	LCD		LED			
Number of digits displayed	6					
Counting frequency	5 kHz					
Type of reset	Manual, electric and automation					
Front face dimensions, W x H	48 x 48 mm					
Preselection number	1	2	1	2		
References	Supply voltage	24 VDC	XBKP61130G30E	XBKP61230G30E	XBKP62130G30E	XBKP62230G30E
	115 VAC		XBKP61130G31E	XBKP61230G31E	–	–
	230 VAC		XBKP61130G32E	XBKP61230G32E	XBKP62130G32E	XBKP62230G32E



Type of modular timer width 17.5 mm, relay output	On-delay	Multifunction		
External control	no	–	–	–
Supply voltage	24 VDC - 24 ...240 VAC	24 VDC - 24 ...240 VAC	–	12 ... 240VAC/DC
Timing range	0.1 s...100 h	0.1 s...100 h	0.1 s...10 h	0.1 s...100 h
Output	1 C/O	1 C/O	1 C/O	1 C/O
References	RE11RAMU	RE11RMMU (1)	RE11RMEMU (2)	RE11RMMW (1)

(1) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation, Pulse output, Timing after closing/opening of control contact.

(2) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation.

3



Type of modular timer width 17.5 mm, relay output	Asymmetrical flashing	Pulse on energisation	Off delay	Timing on impulse
External control	–	–	–	–
Supply voltage	24 VDC - 24...240 VAC	24 VDC - 24...240 VAC	24 VDC - 24...240 VAC	24 VDC - 24...240 VAC
Timing range	0.1 s...100 h	0.1 s...100 h	0.1 s...100 h	0.1 s...100 h
Output	1 C/O	1 C/O	1 C/O	1 C/O
References	RE11RLMU	RE11RHMU	RE11RCMU	RE11RBMU



Type of modular timer width 17.5 mm, solid-state output	On-delay	Off-delay	Multifunction (3)
Supply voltage	24...240 VAC/DC	24...240 VAC	24...240 VAC
Timing range	0.1 s...100 h	0.1 s...100 h	0.1 s...100 h
Output	solid-state	solid-state	solid-state
References	RE11LAMW	RE11LCBM	RE11LMBM

(3) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation, Pulse output, Timing after closing/opening of control contact.



Panel-mounted relays	Timer on-delay	Asymmetrical flasher	Multifunction (4)	Multifunction (5)
Power supply	24...240 VAC/DC			
Time range	0,02 s...300 h			
Output	2 relay 5 A			
Reference	RE48ATM12MW	RE48ACV12MW	RE48AMH13MW (6)	RE48AML12MW
	Back panel mounting socket RUZC2M	RUZC3M	RUZC2M	RUZC3M
	Front panel mounting socket RE48ASOC8SOLD	RE48ASOC11SOLD	RE48ASOC8SOLD	RE48ASOC11SOLD

(4) Timer on-delay / pulse on energization

(5) Timer on-delay / calibrator / timer off-delay / symmetrical flasher

(6) 1 selectable in instantaneous

Industrial timers



Type of single function relay width 22.5 mm, relay output	On-delay		Off-delay		
	no	yes	no	yes	yes
External control	no	yes	no	yes	yes
Supply voltage	24 VAC/DC 110...240 VAC	24 VAC/DC 42...48 VAC/DC 110...240 VAC	24...240 VAC/DC	24 VAC/DC 42...48 VAC/DC 110...240 VAC	24 VAC/DC 42...48 VAC/DC 110...240 VAC
Timing range	0.05 s...300 h	0.05 s...300 h	0.05 s...10 mn	0.05 s...300 h	0.05 s...300 h
Output	1 C/O	2 C/O (1)	1 C/O	2 C/O (1)	1 C/O
References	RE7TL11BU	RE7TP13BU	RE7RB11MW	RE7RL13BU	RE7RM11BU

(1) 1 selectable in instantaneous mode.



Type of relay width 22.5 mm, relay output	Single function		Multifunction	
	Asymmetrical flashing	Pulse on energisation	6 functions (2)	8 functions (3)
External control	yes	no	–	–
Supply voltage	24 VAC/DC 42...48 VAC/DC 110...240 VAC	24 VAC/DC 110...240 VAC	24 VAC/DC 42...48 VAC/DC 110...240 VAC	24 VAC/DC 110...240 VAC
Timing range	0.05 s...300 h	0.05 s...300 h	0.05 s...300 h	0.05 s...300 h
Output	1 C/O	1 C/O	1 C/O	2 C/O (4)
References	RE7CV11BU	RE7PE11BU	RE7ML11BU	RE7MY13BU

(2) RE7ML11BU functions: On-delay, Off-delay, Pulse on energisation with start on energisation, Pulse on energisation with start on opening of remote control contact, Flashing with start during the OFF period, Flashing with start during the ON period.

(3) REMY13BU functions: On-delay, Off-delay, Pulse on energisation with start on energisation, Pulse on energisation with start on opening of remote control contact, Flashing with start during the OFF period, Flashing with start during the ON period, Star-delta starting with double On-delay timing, Star-delta starting with contact for switching to star connection.

(4) 1 selectable in instantaneous mode

Miniature plug-in relays, relay output



Functions				
Timing ranges	7 switchable ranges	0.1 s...1 s - 1 s...10 s - 0.1 min...1 min - 1 min...10 min - 0.1 h...1 h - 1 h...10 h - 10 h...100 h		
Relay output		4 timed C/O contacts		2 timed C/O contacts
Rated current		3 AC 5 A		AC 5 A
Voltages	24 VDC	RE XL4TMBD	RE XL2TMBD	
	24 VAC 50/60 Hz	RE XL4TMB7	RE XL2TMB7	
	120 VAC 50/60 Hz	RE XL4TMF7	RE XL2TMF7	
	230 VAC 50/60 Hz	RE XL4TMP7	RE XL2TMP7	
Socket with mixed contact terminals	With screw clamp	RXZE2M114	RXZE2M114	
	With connector	RXZE2M114M	RXZE2M114M	



Type	Thermocouple				
Temperature range	0...150 °C 32...302 °F	0...300 °C 32...572 °F	0...600 °C 32...1112 °F	0...600 °C 32...1112 °F	0...1200 °C 32...2192 °F
Output range	0...10 V / 0...20 mA - 4...20 mA Switchable				
Dimensions H x W x D	80 x 22,5 x 80 mm				
Voltage	24 VDC - Non isolated				
References	RMTJ40BD	RMTJ60BD	RMTJ80BD	RMTK80BD	RMTK90BD

3

Universal PT 100



Type	PT 100				
Temperature range	-40...40 °C -40...104 °F	-100...100 °C -148...212 °F	0...100 °C 32...212 °F	0...250 °C 32...482 °F	0...500 °C 32...932 °F
Output range	0...10 V / 0...20 mA - 4...20 mA Switchable				
Dimensions H x W x D	80 x 22,5 x 80 mm				
Voltage	24 VDC - Non isolated				
References	RMPT10BD	RMPT20BD	RMPT30BD	RMPT50BD	RMPT70BD

Optimum PT 100



Type	PT 100				
Temperature range	-40...40 °C -40...104 °F	-100...100 °C -148...212 °F	0...100 °C 32...212 °F	0...250 °C 32...482 °F	0...500 °C 32...932 °F
Output range	0...10 V				
Dimensions H x W x D	80 x 22,5 x 80 mm				
Voltage	24 VDC - Non isolated				
References	RMPT13BD	RMPT23BD	RMPT33BD	RMPT53BD	RMPT73BD

3

Universal Analog Converter



Type	Analog Converter			
Input range	0...10 V or 4...20 mA	0...10 V / -10...+10 V 0...20 mA 4...20 mA	0...50 V / 0...300 V 0...500 V	0...1,5 A / 0...5 A 0...15 A
Output range	0...10 V or 4...20 mA	0...10 V / -10...+10 V 0...20 mA 4...20 mA Switchable	0...10 V 0...20 mA 4...20 mA Switchable	0...10 V or 0...20 mA ou 4...20 mA
Dimensions H x W x D	80 x 22,5 x 80 mm			80 x 45 x 80 mm
Voltage	24 VDC - Non isolated	24 VDC - Isolated	24 VDC - Isolated	24 VDC - Isolated
References	RMCN22BD	RMCL55BD	RMCV60BD	RMCA61BD



Compact smart relays	With display, a.c. power supply						
Supply voltage	24 VAC		48 VAC	100...240 VAC			
Number of inputs/outputs	12	20	20	10	12	20	20
Number of inputs	Discrete inputs						
	8	12	12	6	8	12	12
Number of outputs	4 relay	8 relay	8 relay	4 relay	4 relay	8 relay	8 relay
Dimensions, W x D x H (mm)	71.2x59.5x107.6		124.6x59.5x107.6	71.2x59.5x107.6		124.6x59.5x107.6	
Clock	yes	yes	no	no	yes	no	yes
References	SR2B121B	SR2B201B	SR2A201E	SR2A101FU (1)	SR2B121FU	SR2A201FU (1)	SR2B201FU

(1) Programming on smart relay in LADDER language only



Compact smart relays	With display, d.c. power supply					
Supply voltage	12 VDC		24 VDC			
Number of inputs/outputs	12	20	10	12	20	20
Number of inputs	Discrete inputs					
	8	12	6	8	12	12
	including 0-10 V analogue inputs					
	4	6	-	4	2	6
Number of outputs	4 relay	8 relay	4 relay	4	8 relay	8
Dimensions, W x D x H (mm)	71.2x59.5x107.6		71.2x59.5x107.6		124.6x59.5x107.6	
Clock	yes	yes	no	yes	no	yes
References	SR2B121JD	SR2B201JD	SR2A101BD (1)	SR2B12●BD (2)	SR2A201BD (1)	SR2B20●BD (2)

(1) Programming on smart relay in LADDER language only

(2) Replace the ● by number 1 to order a smart relay with **relay output** or by 2 for a smart relay with **transistor output** (Example: SR2B121BD)



Compact smart relays	Without display and without buttons					
Supply voltage	100...240 VAC			24 VDC		
Number of discrete inputs/outputs	10	12	20	10	12	20
Number of inputs	Discrete inputs					
	6	8	12	6	8	12
	including 0-10 V analogue inputs					
	-	-	-	-	4	6
Number of outputs	4 relay	4 relay	8 relay	4 relay	4 relay	8 relay
Dimensions, W x D x H (mm)	71.2x59.5x107.6		124.6x59.5x107.6	71.2x59.5x107.6		124.6x59.5x107.6
Clock	no	yes	yes	no	yes	yes
References	SR2D101FU (1)	SR2E121FU	SR2E201FU	SR2D101BD (1)	SR2E121BD (3)	SR2E201BD (3)

(1) Programming on smart relay in LADDER language only

(3) To order a smart relay for a **24 VAC supply** (no analogue inputs), delete the letter **D** from the end of the reference (**SR2E121B** and **SR2E201B**)

Modular, SR3



Modular smart relays*	With display						
	24 VAC		100...240 VAC		12 VDC	24 VDC	
Supply voltage	24 VAC		100...240 VAC		12 VDC	24 VDC	
Number of inputs/outputs	10	26	10	26	26	10	26
Number of inputs	Discrete inputs		6		16	16	
	including 0-10 V analogue inputs		-		6	4	
Number of outputs	4 relay		10 relay		10 relay		10
	71.2x59.5x107.6		124.6x59.5x107.6		124.6x59.5x107.6		124.6x59.5x107.6
Dimensions, W x D x H (mm)	71.2x59.5x107.6		124.6x59.5x107.6		124.6x59.5x107.6		71.2x59.5x107.6
Clock	yes		yes		yes		yes
References	SR3B101B	SR3B261B	SR3B101FU	SR3B261FU	SR3B261JD	SR3B10BD (1)	SR3B26BD (1)

*The modular base can be fitted with one I/O extension module. The 24 VDC modular base can be fitted with one communication module and/or one I/O extension module

(1) Replace the ● by number 1 to order a smart relay with relay output (SR3B101BD) or by 2 for a smart relay with transistor output (SR3B102BD)



Extension modules for Zelio Logic SR3B●●●●● (2)	Communication		Discrete Inputs/Outputs			Analogue Inputs/Outputs
	Modbus	Ethernet				
Network	-		-			-
Number of inputs/outputs	-		6	10	14	4
Number of inputs	Discrete		4		6	-
	Analogue (0...10 V, 0...20 mA, PT100)		-		-	2 (1 PT100 max.)
Number of outputs	Relay		2 relay		4 relay	6 relay
	Analogue (0...10 V)		-		-	2
Dimensions, W x D x H (mm)	35.5x59.5x107.6		35.5x59.5x107.6		72x59.5x107.6	
References	24 VAC		SR3XT61B	SR3XT101B	SR3XT141B	
	100...240 VAC		SR3XT61FU	SR3XT101FU	SR3XT141FU	
	12 VDC		SR3XT61JD	SR3XT101JD	SR3XT141JD	
	24 VDC		SR3MBU01BD	SR3NET01BD	SR3XT61BD	SR3XT101BD

(2) The power supply of the extension modules is provided via the Zelio Logic modular relays

Zelio Soft 2 software and programming tools



Zelio Soft 2 software, connecting cables, wireless connecting, memory	Multilingual programming software	Connecting cables				Wireless connection	Back-up memory
Description	CD ROM PC (Windows XP, Vista 32 bits and Windows 7 32 bits) (3)	Serial PC/Smart relay	USB PC/Smart relay	XBT N/R Interface	HMISTO Interface	Bluetooth interface	EEPROM
References	SR2SFT01	SR2CBL01	SR2USB01	SR2CBL08	SR2CBL09	SR2BTC01	SR2MEM02

(3) CD-ROM including Zelio Soft 2 programming software, an application library, a self-training manual, installation instructions and a user's manual

Communication interface for SR2/SR3

Interface, modems, Zelio Logic Alarm software	Communication interface	Modems (4)		Alarm management software
Supply voltage	12...24 VDC	12...24 VDC	12...24 VDC	-
Description	-	Analogue modem	GSM modem	PC CD-ROM (Windows 98, NT, 2000, XP)
Dimensions, W x D x H (mm)	72x59.5x107.6	120.7x35x80.5	111x 25.5x54.5	-
References	SR2COM01	SR2MOD01	SR2MOD02	SR2SFT02

(4) Must be used in conjunction with communication interface SR2COM01



Type of base		Compact			
Number of digital i/O		10	16	24	40
Number of digital inputs (24 VDC)		6 sink/source	9 sink/source	14 sink/source	24 sink/source
Number of digital outputs		4 relay (2 A)	7 relay (2 A)	10 relay (2 A)	14 relay (2 A), 2 solid-state (1 A)
Type of connection		Screw terminals (non removable)			
Possible I/O expansion modules		–	–	4	7
Counting		3 x 5 kHz, 1 x 20 kHz			
PWM positioning		–			
Serial ports		1 x RS 485	1 x RS 485; option: 1 x RS 232C or RS 485		
Protocol		Modbus master/slave, ASCII, I/O relocation			
Ethernet port		–	–	–	RJ45 Ethernet
Dimensions, W x D x H		80 x 70 x 90 mm	80 x 70 x 90 mm	95 x 70 x 90 mm	157 x 70 x 90 mm
References	Supply voltage 100...240 VAC	TWDLCAA10DRF	TWDLCAA16DRF	TWDLCAA24DRF	TWDLCAE40DRF (1)
	Supply voltage 19.2...30 VDC	TWDLCAA10DRF	TWDLCAA16DRF	TWDLCAA24DRF	TWDLCAE40DRF (1)
	Real-time clock (option)	TWDXCPRTC			
	Display unit (option)	TWDXCPODC			
	Memory cartridge (option)	TWDXCPMFK32 (3)			TWDXCPMFK64 (4)

(1) 40 I/O version without Ethernet also available: TWDLCAA40DRF and TWDLCAE40DRF



Type of base		Modular		
Number of digital i/O		20		40
Number of digital inputs (24 VDC)		12 sink/source	12 sink/source	24 sink/source
Number of digital outputs		8 transistor, source (0.3 A)	6 relay (2 A) & 2 trans., source (0.3 A)	16 transistor, source (0.3 A)
Type of connection		HE10 connector	Removable screw terminals	HE10 connector
Possible I/O expansion modules		4	7	7
Supply voltage		24 VDC		
Counting		2 x 5 kHz, 2 x 20 kHz		
PLS/PWM positioning		2 x 7 kHz		
Serial ports		1 x RS 485; option: 1 x RS 232C or RS 485		
Protocol		Modbus master/slave, ASCII, I/O relocation		
Dimensions, W x D x H		35.4 x 70 x 90 mm	47.5 x 70 x 90 mm	47.5 x 70 x 90 mm
References		TWDLMDA20DTK (2)	TWDLMDA20DRT	TWDLMDA40DTK (2)
	Real-time clock (option)	TWDXCPRTC		
	Display unit (option)	TWDXCPODM		
	Memory cartridge (option)	TWDXCPMFK32 (3)	TWDXCPMFK64 (4)	

(2) Sink version transistor outputs also available: TWDLMDA20DUK and TWDLMDA40DUK

(3) Application backup, program transfer

(4) Memory expansion, application backup, program transfer

Programmable controllers

I/O modules



Type of module		Analogue inputs						
Number of inputs		2 I	2 I	4 I	8 I	8 I	8 I	8 I
Connection		Removable screw terminals						
Inputs	Range	Thermocouples type K, J, T	0...10 V (1) 4...20 mA (2)	0...10 V (1) 0...20 mA (2) θ °C	0...10 V (1) 0...20 mA (2)	PTC/NTC	Thermo probe Pt100 / Pt1000 -200...+600 °C	
	Resolution	12 bits (4096 points)			10 bits (1024 points)		12 bits (4096 points)	
Supply voltage		24 VDC						
Dimensions, W x D x H		23.5 x 70 x 90 mm					39.1x70x90 mm	
References		TM2AMI2LT	TM2AMI2HT	TM2AMI4LT	TM2AMI8HT	TM2ARI8HT	TM2ARI8LT	TM2ARI8LRJ

(1) Non differential

(2) Differential



Type of module		Analogue Outputs, Inputs/Outputs (mixed)				
Number of inputs and/or outputs		1 O	2 O	2 I / 1 O	2 I / 1 O	4 I / 2 O
Connection		Removable screw terminals				
Inputs	Range	–	–	0...10 V (1) 4...20 mA (2)	Thermocouple type K, J & T 3-wire Pt 100 thermal probe	0...10 V (1) 4...20 mA (2)
	Resolution	–	–	12 bits (4096 points)	12 bits (4096 points)	12 bits (4096 points)
Outputs	Range	0...10 V (1) 4...20 mA (2)	± 10 V	0...10 V (1) 4...20 mA (2)	0...10 V (1) 4...20 mA (2)	0...10 V (1) 4...20 mA (2)
	Resolution	12 bits	11 bits + sign	12 bits	12 bits	12 bits
Supply voltage		24 VDC				
Dimensions, W X D x H		23.5 x 70 x 90 mm				
References		TM2AMO1HT	TM2AVO2HT	TM2AMM3HT	TM2ALM3LT	TM2AMM6HT

(1) Non differential

(2) Differential



Type of module		Digital Inputs/Outputs						
Number of inputs and/or outputs		8	16	16	32	4 I / 4 O	16 I / 8 O	
Connection		Removable screw terminals			HE10 connectors		Removable screw terminals	Spring terminals (non removable)
References	Inputs	24 VDC sink	TM2DDI8DT	–	–	–	–	
		24 VDC sink/source	–	TM2DDI16DT	TM2DDI16DK	TM2DDI32DK	–	
		120 V sink	TM2DAI8DT	–	–	–	–	
	Outputs	Relay (2 A)	TM2DRA8RT	TM2DRA16RT	–	–	–	
		Transistor, source 0.5 A	TM2DDO8TT	–	–	–	–	
		Transistor, source 0.4 A	–	–	TM2DDO16TK	TM2DDO32TK	–	
		Transistor, sink 0.1 A	TM2DDO8UT	–	TM2DDO16UK	TM2DDO32UK	–	
	Inputs, 24 VDC + Outputs, Relais 2 A		–	–	–	–	TM2DMM8DRT	TM2DMM24DRF



Type of module	Serial interface			Serial interface adaptor		
	RS 232C	RS 485		RS 232C	RS 485	
Physical layer (non isolated)						
Connection	Mini-DIN connector	Screw terminals		Mini-DIN connector	Screw terminals	
Protocol	Modbus master/slave, ASCII, I/O relocation					
Twido base compatibility	Modular base TWDLMDA			Compact base TWDLCAA16/24DRF Modular base via integrated display module TWDXCPODM		
References	TWDNOZ232D	TWDNOZ485D	TWDNOZ485T	TWDNAC232D	TWDNAC485D	TWDNAC485T

3



Type of module	Modem for Twido	CANopen expansion	Ethernet interface	Modbus isolation module	Modbus junction module	AS-Interface master
Number of modules	–	1	1	–	–	2 (1)
Connection	–	SUB-D9	RJ45	RJ45	RJ45	Removable screw terminals
Twido base compatibility	–	20, 24 or 40 I/O base	All models	All models	All models	20, 24 or 40 I/O base
References	SR2MOD03	TWDNCO1M	499TWD01100	TWDXCAISO	TWDXCAT3RJ	TWDNOI10M3

(1) 2 modules max., 62 digital slaves max., 7 analogue slaves max., AS-Interface/M3, V 2.11 (profile S.7.4 not supported)

Programming software



Software, connecting cables, interfaces	TwidoSuite software EN/FR	Connecting cables		Bluetooth® USB adaptor	Bluetooth® gateway
Application	PC with Windows XP or Vista	Twido/PC USB port	Twido/PC serial port	For PC not fitted with Bluetooth®	For Twido controller
References	TWDBTFU10M	TSXCUSB485 (2) TSXCRJMD25 (2)	TSXPCX1031 (2)	VW3A8115	VW3A8114

(2) For Twido Extreme: order the reference VW3A8106

Programmable controllers

Bases



Fixing and connection	Fixing kit	70-pin connector	Pre-wired 70-pin connector
Details	4 spacers, 8 washers, 8 shock mounts	80 pins, 80 blanking plugs, 1 cover	Pre-wired with 1.5 m long cable, free wires other end
Degree of protection	–	IP67	IP67
References	TWDXMTK4	TWDFCNK70	TWDFCWK70L015

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Separate components	Crimping tool
Application	Crimping wires onto pins of 70-pin connector
References	TWDXMTCT



Type of processor			Standard	High-performance			
Number of racks			2 (4, 6, 8 or 12 slots)	4 (4, 6, 8 or 12 slots)			
Maximum configuration			Maximum 24 slots for processor and modules (excluding power supply module)	Maximum 48 slots for processor and modules (excluding power supply module)			
Functions	Max. no. (1)	Discrete I/O	512	1024			
		Analog I/O	128	256			
	Control channels	Programmable loops (via CONT-CTL process control EFB library)					
	Counter channels	20	36				
	Motion control	–	Independent axes on CANopen bus (via MFB library)	Independent axes on CANopen bus (via MFB library)			
	Integrated connections	Ethernet TCP/IP	–		1 RJ45 port, 10/100 Mb/s, with Transparent Ready class B10 standard web server		
		CANopen master bus Integrated port	–	1 (SUB-D9)	–		
		Serial link	1 RJ45 port, Modbus master/slave RTU/ASCII or character mode (non isolated RS 232C/RS 485), 0.3...19.2 Kb/s		–		
		USB port	1 port, 12 Mb/s				
	Communication module	Ethernet TCP/IP	1 RJ45 port, 10/100 Mb/s with: - Transparent Ready class B30 standard web server with BMX NOE 0100 module - Transparent Ready class C30 configuration web server with BMX NOE 0110 module				
Internal user	Total capacity	2048 Kb	4096 Kb				
RAM	Program, constants and symbols	1792 Kb	3584 Kb				
	Data	128 Kb	256 Kb				
Execution time for one instruction	Boolean	0.18 µs	0.12 µs				
	On words or fixed point arithmetic	Single-length words	0.38 µs	0.25 µs			
		Double-length words	0.26 µs	0.17 µs			
	On floating points	1.74 µs	1.16 µs				
No. of K instructions executed per ms	100% Boolean	5.4 Kinst/ms	8.1 Kinst/ms				
	65% Boolean and 35% fixed arithmetic	4.2 Kinst/ms	6.4 Kinst/ms				
System overhead	Master task	1.05 ms	0.70 ms				
	Fast task	0.20 ms	0.13 ms				
References			BMX P341000	BMX P342000	BMX P3420102	BMX P342020	BMX P3420302

(1) Only affects in-rack modules. The remote I/O on the CANopen bus are not included in these maximum numbers.

Memory cards



Type of card	8 MB memory card	8 MB memory card + 8 MB files	8 MB memory card + 128 MB files
Use	Supplied as standard with each processor. Used for:	As replacement for the memory card supplied as standard with each processor, used for:	
	Backup of program, constants, symbols and data	–	File storage, 8 MB
	–	File storage, 128 MB	–
Compatibility	Activation of class B10 web server	–	–
	BMX P34 1000/20...	BMX P34 20...	–
References	BMX RMS 008MP	BMX RMS 008MPF	BMX RMS 0128MFP



Type of module		Ethernet Network Communication		
Speed		10/100 Mb/s		10/100 Mb/s
Protocols		Modbus TCP	TCP/IP (Uni-TE, Modbus)	EtherNet/IP and Modbus/TCP
Conformity class		Transparent Ready class B30		-
Communication service	I/O Scanning service	Yes		Yes
Transparent Ready	FDR service	Yes (client/server)		Yes (client / server)
	SNMP network management service	Yes		Yes (agent)
	Global Data service	Yes		No
	SOAP/XML Web service	No	Server	-
	Bandwidth management	Yes		Yes
	Qos	-		Yes
	RSTP	-		No SOAP
References		BMX NOE 0100	BMX NOE 0110	BMXNOC0401
Memory card	Use	Provides services conforming to Transparent Ready: Class B		No
			Class C 32 MB available for user web pages	
References		BMX RWS B000M	BMX RWS FC032M	

Qos: Quality of Service - RSTP: Rapid Spanning Tree Protocol



Type of module		PROFIBUS DP V1		
Designation		PROFIBUS Remote Master (Ethernet Modbus TCP/PROFIBUS DP V1) compatible with all programmable automation under UNITY and supporting the I/O scanning service		
		Standard version 0...65°	Hardened version -25...70°, varnished	
Speed		9.6 Kb...12 Mb		
Interface		RS485 isolated (Sub-D 9 pin female connector)		
PROFIBUS Services		Master Class 1 and 2, support for 125 slaves, Sync & Freeze, Extended diagnostics. Delivered with communication DTM allowing any FDT tool to access the PROFIBUS slaves from the Ethernet network by way of the PROFIBUS Remote Master		
References		TCSEGPA23F14F	TCSEGPA23F14FK	

Type of module	Serial link (1)	AS-Interface (1)
Number of interfaces	2	1
Speed	115 Kbits/s	-
Profile	-	M4 (AS-i V3)
References	BMX NOM 0200	BMX EIA 0100

(1) For BMXNOC0401 (EtherNet/IP), Profibus DP Gateway TSX EGPA23F14F, Modbus Plus Gateway TCS EGDB23F24FA



Type of module	Power supply modules				
Voltage	24 VDC isolated	24...48 VDC isolated	100...240 VAC		
Nominal input current	1A at 24 VDC	1.65 A at 24 VDC 0.83 A at 48 VDC	0.61 A at 115 VAC 0.31 A at 220 VDC	1.04 A at 0.52 A	100...150 VDC
Micro-break duration	≤ 1				
Integrated protection	Via internal fuse (not accessible)				
Max. useful power	17W	32 W	20 W	36 W	
Max. dissipated power	8.5 W				
Removable connectors (set of 2)	supplied as standard to be ordered separately		BMX XTS CPS10 (cage clamp) BMX XTS CPS20 (spring-type)		
References	BMX CPS 2010	BMX CPS 3020	BMX CPS 2000	BMX CPS 3500	BMX CPS 3504 (1)

Racks



Designation	Racks			
Type of modules to be installed	BMX CPS power supply, BMX P34 processor, I/O modules and application-specific modules (counter, communication)			
No. of slots	4	6	8	12
References	BMX XBP 0400	BMX XBP 0600	BMX XBP 0800	BMX XBP 1200

Rack extensions

Designation	Rack extension module	Kit for rack extension
	Standard module to interconnect rack	A complete assembly kit for to racks distant from 0.8 m or less
References	BMX XBE 1000	BMX XBE 2005



Type of module			DC input modules					
Number of inputs			16	16	32	64	16	16
Connection			Screw or spring-type 20-way removable terminal block		1 connector 40-way	2 connectors 40-way	Screw or spring-type 20-way removable terminal block	
Nominal input values			Voltage		24 V	48 V	24 V	125 VDC
			Current		3.5 mA	2.5 mA	1 mA	3 mA
			Logic		Positive (<i>sink</i>)			Negative (<i>source</i>)
Input limit values			At state 1		Voltage		≥11 V	≥34 V
					Current		> 2 mA (for U ≥11 V)	> 2 mA (for U ≥34 V)
					Voltage		≥11 V	≥15 V
					Current		> 1 mA (for U ≥5 V)	> 2 mA (for U ≥15 V)
			At state 0		Voltage		< 5 V	< 10 V
					Current		≥1.5 mA	≥0.5 mA
References			BMX DDI 1602	BMX DDI 1603	BMX DDI 3202K	BMX DDI 6402K	BMX DAI 1602	BMX DDI 1604 (1)

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Type of module			AC input modules					
Number of inputs			16			8		
Connection			Screw or spring-type 20-way removable terminal block					
Nominal input values			Voltage		24 VAC	48 AC		
			Current		3 mA	10.4 mA		
			Frequency		50/60 Hz			
Input limit values			At state 1		Voltage		≥15 V	≥34 V
					Current		≥2 mA	≥74 V
					Voltage		≥159 V	≥159 V
					Current		≥2.5 mA	≥6 mA
			At state 0		Voltage		≤5 V	≤10 V
					Current		≤1 mA	≤20 V
					Current		≤4 mA	≤40 V
References			BMX DAI 1602	BMX DAI 1603	BMX DAI 1604	BMX DAI 0805 (2)		



Type of module			DC solid state output modules			
Number of inputs			16	16	32	64
Connection			Screw or spring-type 20-way removable terminal block		One 40-way connector	Two 40-way connectors
Nominal output values			Voltage		24 VDC	
			Current		0.5 V	0.1 V
			Logic		Positive (<i>source</i>)	Negative (<i>sink</i>)
Output limit values			Voltage (ripple included)		19...30 (possible up to 34 V, limited to 1 hour in every 24 hours)	
			Current per channel		0.625 A	0.125 A
			Current per module			
Maximum dissipated power			4	2.26	3.6	6.85
References			BMX DDO 1602	BMX DDO 1612	BMX DDO 3202K	BMX DDO 6402K



Type of module		Triac output modules
Number of inputs		16
Connection		Screw or spring-type 20-way removable terminal block
Operating voltage	Nominal	100...240 VAC
	Limit	85...288 VAC
Currents	Maximum	0.6 per channel, 2.4 per common, 4.8 for all 4 commons.
	Minimum	25 mA at 100 V a, 25 mA at 240 V a.
Maximum inrush current		≤ 20/cycle
Reference		BMX DAO1605



Type of module		Relay output modules		
Number of inputs		8	16	8
Connection		Screw or spring-type 20-way removable terminal block		
Max. operating voltage	DC	10...34 VDC	24...125 VDC (resistive load)	
	AC	10...264 VAC	200...264 VAC (Cosφ = 1)	100...150 VDC
Response time	Activation	< 10 ms		
	Deactivation	< 8 ms	< 12 ms	
Dissipated power		2.7 W max	3 W	
References		BMX DRA 0805	BMX DRA 1605	BMX DRA 0804 (1)



Type of module		24 VDC mixed I/O modules			
		Inputs	Solid state outputs	Inputs	Solid state outputs
Number of I/O		8	8	16	16
Connection		Screw or spring-type 20-way removable terminal block		One 40-way connector	
Input limit values	At state 1	Voltage	≥11V	≥11V	
		Current	≥3 mA (for U ≥11)	≥2 mA (for U ≥11)	
	At state 0	Voltage	5 V	5 V	
		Current	≤1.5 mA	≤1.5 mA	
Sensor power supply (ripple included)		19...30 V (possible up to 30 V, limited to 1 hour in every 24 hours)			
Output limit values	Voltage (ripple included)		19...30 (possible up to 30 V, limited to 1 hour in every 24 hours)		
	Current	per channel	0.625 A	0.125 A	
		per module	5 A	3.2 A	
Maximum dissipated power		3.7 W		4 W	
References		BMX DDM 16022		BMX DDM 3202K	



Type of module		Mixed input/relay output modules	
		24 VDC inputs	24 VDC or 24...240 VAC relay outputs
Number of I/O		8	8
Connection		Screw or spring-type 20-way removable terminal block	
Nominal values	Inputs	Voltage	24 VDC (positive logic)
		Current	3.5 mA
	Outputs	DC voltage	24 VDC
		DC	2 (resistive load)
		AC voltage	220 VAC, Cosφ = 1
AC	2 A		
Input limit values	At state 1	Voltage	≥11V
		Current	≥2 mA (for U ≥ 11 V)
	At state 0	Voltage	5 V
		Current	≤1.5 mA
Sensor power supply (ripple included)		19...30 V (possible up to 30 V, limited to 1 hour in every 24 hours)	
Maximum dissipated power		3.1 W	
Reference		BMX DDM 16025	



Type of module	Analog input module				
Input type	Isolated high-level inputs	Isolated high-level inputs	Non isolated high-level inputs	Isolated inputs, low-level voltage, resistors, temperature probes, thermocouples	
Number of channels	4	8	8	4	8
Nature of inputs	± 10 V, ± 5 V, 0...5 V, 0...10 V, 1...5 V 0...20 mA, 4...20 mA, ± 20 mA			±40 mV, ±80 mV, ±160 mV, ±320 mV, ±640 mV, ±1.28 V	
Resolution	0.35 mV/0.92 µA			15 mV + sign	
Reference	BMX AMI 0410	BMX AMI 0810 (1)	BMX AMI 0800 (1)	BMX ART 0414	BMX ART 0814



Type of module	Analog output module		
Output type	Isolated high-level outputs		Non isolated high-level outputs
Number of channels	2	4	8
Range	Voltage	± 10 V	–
	Current	0...20 mA and 4...20 mA	–
Resolution	15 bits + sign		
Reference	BMX AMO 0210	BMX AMO 0410 (1)	BMX AMO 0802 (1)

Type of module	Mixed analog I/O module	
Channel type	Non-isolated high-level inputs	Non-isolated high-level outputs
Number of channels	4	2
Ranges	±10 V, 0...5 V, 0...10 V, 1...5 V, 0...20 mA, 4...20 mA	
Maximum conversion value	Voltage	± 11.25 V
	Current	0...30
Resolution	14 bits, 12 bits, 13 bits, 12 bits	12 bits, 11 bits
Reference	BMX AMM 0600	

Counter and motion control modules



Type of module	Counter module			Motion Control Module
	32 bits	16 bits	32 bits	
Modularity	2 channels	8 channels	4 channels	4 channels
No. of sensor inputs	6 per channel	2 per channel	3 per channel	4 auxiliary inputs
No. of actuator outputs	2 per channel			2 auxiliary outputs
Module cycle time	1 ms	5 ms		–
Applications	Upcounting, downcounting, measurement, frequency meter, frequency generator, axis following	Upcounting, downcounting, measurement		Frequency generator, Move, set position
References	BMX EHC 0200	BMX EHC 0800		BMX MSP 0200



Removable terminal blocks	20-way			28-way
For use with modules	BMX AMI 0410 - BMX AM0 0210 - BMX AMM 0600 - BMX EHC 0800			BMX MSP 200, BMX AMI 0800 / AMI 0810
For use with TOR modules	All 8 and 16 channel modules			
Composition	Cage clamp	Screw clamp	Spring-type	
Reference	BMX FTB 2000	BMX FTB 2010	BMX FTB 2020	BMX FTB 2820

Some racks, power supply, communication modules and specific modules, plus all the analog modules are now available in «ruggedized version». The references of these products end by a H.



Type of processor		TSX 5710	TSX 5720	TSX 5730
		4 racks max.	16 racks max.	16 racks max.
Number of I/O in racks	Discrete	512	1024	1024
	Analog	24	80	128
Integrated process control		No / Yes	30 loops / Yes	45 loops / Yes
Application-specific channels (counter, position control, weighing)		8	24	32
Bus	AS-Interface cabling system	2	4	8
	CANopen machine bus	1	1	1
	INTERBUS, Profibus DP fieldbus	–	1	3
Networks (Ethernet, Modbus Plus, Fipway)		1	2	3
Memory capacity	Without PCMCIA extension	96 Kb data/prog.	160/192 Kb data/prog. (1)	192/208 Kb data/prog. (1)
	With PCMCIA extension	96 Kb data/224 Kb prog.	160/192 Kb data (1)/768 Kb prog.	192/208 Kb data (1)/1,75 MB prog.
Execution time for one instruction without ext. PCMCIA	Boolean	0.19 µs	0.19 µs	0.12 µs
	On word or arithmetic	0.25 µs	0.25 µs	0.17 µs
Reference	Without integrated port	TSXP57104M (6)	TSXP57204M (6)	TSXP57304M (6)
	Integrated Ethernet	TSXP571634M (2) (6)	TSXP572634M (6)	TSXP573634M (6)
	Integrated CANopen	–	–	–
	Integrated Fipio	TSXP57154M (6)	TSXP57254M (6)	TSXP57354M (6)

Processors under PL7 software



Type of processor		TSX 5710	TSX 5720	TSX 5730
		4 racks max.	16 racks max.	16 racks max.
Number of I/O in racks	Discrete	512	1024	1024
	Analog	24	80	128
Integrated process control		No	30 loops	45 loops
Application-specific channels (counter, position control, weighing)		8	24	32
Bus	AS-Interface cabling system	2	4	8
	CANopen machine bus	1 (with TSXP57103M)	1	1
	INTERBUS, Profibus DP fieldbus	–	1	2
Networks (Ethernet, Modbus Plus, Fipway)		1	1	3
Memory capacity	Without PCMCIA extension	32 K words data/prog.	48 K words data/prog. (4)	64/80 K words data/prog. (4)
	With PCMCIA extension	32 K words data/64 K words prog.	32 K words data (4)/160 K words prog.	80/96 K words data (4)/384 K words prog.
Execution time for one instruction without ext. PCMCIA	Boolean	0.19 µs	0.19 µs	0.12 µs
	On word or arithmetic	0.25 µs	0.25 µs	0.17 µs
Reference	Without integrated port	TSXP57103M (6)	TSXP57203M (6)	TSXP57303AM (6)
	Integrated Ethernet	–	TSXP572623M (6)	TSXP573623AM (6)
	Integrated Fipio	TSXP57153M (6)	TSXP57253M (6)	TSXP57353AM (6)
	Integrated Ethernet and Fipio	–	TSXP572823M (6)	–

(1) The second value corresponds to the integrated memory capacity when the processor is equipped with a Fipio manager integrated link

(2) Processor with double format

(3) PC format card on PCI bus

(4) The second value corresponds to the processor with integrated Fipio bus manager link.

(5) with PL7 V4.4 min.

(6) For coated version add C at the end of the reference: example **TSXP571634M** becomes **TSXP571634MC**

HotStandBy offer

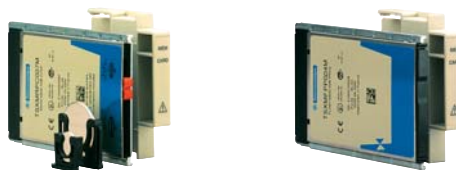


	TSX 5740 16 racks max.	TSX 5750 16 racks max.	TSX 5760 16 racks	TSXH5724M 16 racks	TSXH5744M 16 racks
	2048	2048	2048	512	512
	256	512	512	80	128
	60 loops / Yes	90 loops / Yes	90 loops / Yes	30 loops / Yes	60 loops / Yes
	64	64	64	16 (serial communication)	16 (serial communication)
	8	8	8	0	0
	1	1	1	0	0
	4	5	5	0	0
	4	4	4	2	4
	320 Kb data/prog.	1024 Kb data/prog.	2048 Kb data/prog.	192 Kb	440 Kb
	440 Kb data/2 MB prog.	1024 Kb data/7 MB prog.	2048 Kb data/7 MB prog.	192 Kb data/768 Kb prog.	440 Ko data/2 MB prog.
	0.06 µs	0.037 µs	0,037 µs	0,039 µs	0,039 µs
	0.07 µs	0.045 µs	0,045 µs	0,054 µs	0,054 µs
	-	-	-	TSXH5724M (6)	TSXH5744M (6)
	TSXP574634M (6)	TSXP575634M (6)	TSXP576634M (6)		
	-	-	-		
	TSXP57454M (6)	TSXP57554M (6)	-		

3

Modicon Premium Programmable Automation Controller

Memory extensions for Unity Pro processors



Type of PCMCIA card		Application		Additional data
Technology		SRAM	Flash EPROM only	SRAM
Memory size	96 Kb	–	TSXMFPB096K (3)	–
	128 Kb	TSXMRPP128K	TSXMFP128K	–
	224 Kb	TSXMRPP224K / TSXMCP224K	TSXMFP224K	–
	384 Kb	TSXMRPP384K	TSXMFP384K	–
	448 Kb	TSXMRPC448K (1)	–	–
	512 Kb	–	TSXMCP512K (2) / TSXMFP512K	–
	768 Kb	TSXMRPC768K (1)	–	–
	1 MB	TSXMRPC001M (1) (6)	TSXMFP001M	–
	1.7 MB	TSXMRPC01M7	–	–
	2 MB	TSXMRPC002M (1)	TSXMCP002M (2) / TSXMFP002M	–
	3 MB	TSXMRPC003M (1) (6)	–	–
	4 MB	–	TSXMFP004M	TSXMRPF004M
	7 MB	TSXMRPC007M (1) (6)	–	–
	8 MB	–	–	TSXMRPF008M

(1) By configuration, the user can reserve part of the memory space for data storage (recipes, production data) on request.

(2) These cards have an additional SRAM area for storing data (recipes, production data).

(3) Backup cartridge of the program when this one reside entirely in PLC internal memory.

Memory extensions for PL7 processors



Type of PCMCIA card		Application		Additional data
Technology		SRAM	Flash EPROM only	SRAM
Memory size (4)	32 K words	TSXMRPP128K	TSXMFP128K	–
	64 K words	TSXMRPP224K	TSXMFP224K	–
	64 K words/128 K words	TSXMRPP384K	TSXMCP224K	–
	96 K words	–	TSXMFPB096K	–
	128 K words	TSXMRPC448K	TSXMFP384K	–
	128 K words/128 K words	TSXMRPC768K (5)	–	–
	256 K words	TSXMRPC001M (6)	–	–
	256 K words/640 K words	TSXMRPC01M7 (5)	–	–
	384 K words/640 K words	TSXMRPC002M	–	–
	512 K words	TSXMRPC003M (5) (6)	–	–
	992 K words/640 K words	TSXMRPC007M (6)	–	–
	2048 K words	–	–	TSXMRPF004M

(4) The 1st value corresponds to the size of the application area, the second to the size of the additional data area for storing data (recipes, production data, etc).

(5) These cards have an additional SRAM area for storing application object symbols.

(6) For coated version add C at the end of the reference: example **TSXMRPC001M** becomes **TSXMRPC001MC**

Power supply modules (1)



Type of power supply module for	Premium					Atrium (2)
Input voltage	24 VDC		100...240 VAC	100...120/200...240 VAC		24 VDC
Output voltage	5 VDC/24 VDC					
Total useful power	26 W	50 W	26 W	50 W	77 W	26 W
Format	Standard	Double	Standard	Double	Double	–
Reference	TSXPSY1610M (4)	TSXPSY3610M (4)	TSXPSY2600M (4)	TSXPSY5500M (4)	TSXPSY8500M (4)	TSXPSI2010

(1) Process power supplies see chapter 6 "Power supply"

(2) Only for Atrium slot-PLCs under Unity

3

Racks



Type of rack	Non extendable		Extendable
For configuration	Mono-rack		Multi-rack (16 max.)
	Dimensions WxDxP		
Reference	4 positions	188 x 160 x 151,5 mm (3)	–
	6 positions	261,6 x 160 x 151,5 mm (3)	TSXRKY6 (4)
	8 positions	335,3 x 160 x 151,5 mm (3)	TSXRKY8 (4)
	12 positions	482,6 x 160 x 151,5 mm (3)	TSXRKY12 (4)
			TSXRKY4EX (4)
			TSXRKY6EX (4)
			TSXRKY8EX (4)
			TSXRKY12EX (4)

(3) Height of I/O modules : 151,5 mm with HE 10 or SUB-D connectors, 165 mm with screw terminals

(4) For coated version add C at the end of the reference: example **TSXPSY1610M** becomes **TSXPSY1610MC**

Connection accessories

Type	Bus X daisy chaining cable for extendable racks	Line terminators and accessories
	–	Set of 2
Reference	–	TSXTLYEX
	–	TSXTVSY100 (2 Bus X Transient voltage suppressor) (5)
	L = 1 m	TSXCBY010K
	L = 3 m	TSXCBY030K
	L = 5 m	TSXCBY050K
	L = 12 m	TSXCBY120K
	L = 18 m	TSXCBY180K
	L = 28 m	TSXCBY280KT
	L = 38 m	TSXCBY380KT
	L = 50 m	TSXCBY500KT
	L = 72 m	TSXCBY720KT
	L = 100 m	TSXCBY1000KT

(5) Available 1Q 2010.

Modicon Premium Programmable Automation Controller

Discrete I/O modules



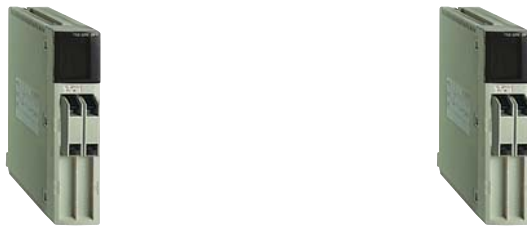
Type of module		Discrete inputs				
Connection		By screw terminals TSXBLY01 (1)		By HE 10 connector (2) high density		
Number of isolated channels		8	16	16 (3)	32	64
Input voltage	24 VDC	TSXDEY08D2 (5)	TSXDEY16D2 (5)	TSXDEY16FK (5)	TSXDEY32D2K (5)	TSXDEY64D2K (5)
	48 VDC	–	TSXDEY16D3 (5)	–	TSXDEY32D3K (5)	–
	24 VAC	–	TSXDEY16A2 (4) (5)	–	–	–
	48 VAC	–	TSXDEY16A3 (5)	–	–	–
	100...120 VAC	–	TSXDEY16A4 (5)	–	–	–
	200...240 VAC	–	TSXDEY16A5 (5)	–	–	–

- (1) Terminal block to be ordered separately
 (2) For use with Modicon ABE7 wiring system
 (3) Module with high-speed isolated inputs (filtering from 0.1 to 7.5 ms) able to activate the event-triggered task
 (4) Module also compatible with 24 VDC negative logic



Type of module		Discrete outputs							
		Solid state				Relay		Triac	
Connection		By screw terminals TSXBLY01 (1)		By HE10 conn. (2)		By screw terminals TSXBLY01 (1)			
Number of protected channels		8	16	32	64	8	16	8	16
Output voltage/current	24 VDC/0,5 A	TSXDSY08T2 (5)	TSXDSY16T2 (5)	–	–	–	–	–	–
	24 VDC/2 A	TSXDSY08T2 (5)	–	–	–	–	–	–	–
	24 VDC/0,1 A	–	–	TSXDSY32T2K (5)	TSXDSY64T2K (5)	–	–	–	–
	48 VDC/1 A	TSXDSY08T31 (5)	–	–	–	–	–	–	–
	48 VDC/0,25 A	–	TSXDSY16T3 (5)	–	–	–	–	–	–
	24...48 VDC-24...240 VAC/5 A Th.c	–	–	–	–	TSXDSY08R5A (5)	–	–	–
	24...120 VAC/5 A Th.c	–	–	–	–	TSXDSY08R4D (5)	–	–	–
	24...120 VAC/1 A	–	–	–	–	–	–	–	TSXDSY16S4 (5)
	48...240 VAC/1 A	–	–	–	–	–	–	–	TSXDSY16S5
	48...240 VA /2 A	–	–	–	–	–	–	TSXDSY08S5	–
	24 VDC-24...240 VAC/3A	–	–	–	–	TSXDSY08R5 (5)	TSXDSY16R5 (5)	–	–

- (1) Terminal block to be ordered separately
 (2) For use with Modicon ABE7 wiring system



Type of module		Discrete I/O	
Connection		By HE 10 connector (2) high density	
Number of inputs		16 high-speed	
Number of protected outputs		12 solid state	12 reflex or timed
Output voltage/current	24 VDC/0,5 A	TSXDYM28FK (5)	TSXDYM28RFK (5)

- (2) For use with Modicon ABE7 wiring system
 (5) For coated version add C at the end of the reference: example TSXDEY08D2 becomes TSXDEY08D2C

Connection accessories: See www.schneider-electric.com

Analog I/O modules



Type of module		Analog input					
		High level with common point			High level isolated	Low level isolated	
Connection		By 25-way SUB-D connector					By terminal block (1)
Number of channels		4 high-speed	8	16	8	16	4
Resolution		16 bits	12 bits		16 bits	16 bits	16 bits
Isolation	Between channels	Common point	Common point	Common point	± 200 VDC	± 100 VDC	± 2830 Vrms
	Between channels and earth	~ 1000 Vrms	~ 1000 Vrms	~ 1000 Vrms	~ 1000 Vrms	~ 1000 Vrms	~ 1780 Vrms
Reference	High level input (2)	TSXAEY420 (7)	TSXAEY800 (7)	TSYAEY1600 (7)	TSXAEY810 (7)	–	–
	Multi-range	–	–	–	–	TSXAEY1614 (3)(7)	TSXAEY414 (4)(7)

(1) Screw terminals **TSXBLY01** to be ordered separately

(2) ± 10 V, 0...10 V, 0...5 V, 1...5 V, 0...20 mA, 4...20 mA

(3) ± 63 mV thermocouple (B, E, J, K, L, N, R, S, T, U)

(4) ± 10 V, ± 5 V, 0...10 V, 0...5 V, 1...5 V, 0...20 mA, 4...20 mA, -13...+63 mV, 0...400 W, 0...3850 W, thermal probe, thermocouple



Type of module		Analog output	
		Isolated	With common point
Connection		By screw terminals TSXBLY01 (5)	By 25-way SUB-D connector
Number of channels		4	8
Resolution		11 bits + sign	13 bits + sign
Isolation	Between channels	~ 1500 Vrms	Common point
	Between channels and earth	~ 1500 Vrms	~ 1000 Vrms
Reference	Input signal (6)	TSXASY410 (7)	TSXASY800 (7)

(5) Terminal block to be ordered separately

(6) ± 10 V, 0...10 V, 0...20 mA, 4...20 mA.

(7) For coated version add C at the end of the reference: example **TSXAEY420** becomes **TSXAEY420C**

Modicon Premium Programmable Automation Controller Counter modules



Type of module	Counter		Counter/measurement	Electronic cam
Type of inputs for	Sensors (2) Incremental encoders (3)		Sensors (2) Encoders (3)(4)	Incremental encoders (3) Absolute encoders (5)
Counting	40 kHz		500 kHz/200 kHz (5)	
Cycle time module	5 ms	10 ms	1 ms	–
Number of channels	2	4	2	128 cams
Number of axes	–	–	–	1
Reference	TSXCTY2A (1)	TSXCTY4A (1)	TSXCTY2C (1)	TSXCXY1128 (1)

(1) For coated version add **C** at the end of the reference: example TSXCTY2A becomes TSXCTY2AC

(2) For 2/3-wire PNP/NPN 24 VDC sensors

(3) For 5 VDC RS422, 10...30 VDC Totem Pole incremental encoders

(4) For SSI serial or parallel output absolute encoders

(5) For RS485 serial or parallel output absolute encoders

Motion control modules



Module type	For translators (amplifier for stepper motor)		For analog control servomotors (for asynchronous and brushless motors)				
Control outputs	RS 422		+/- 10 V				
Compatible with drives	Lexium 05, Twin Line		Lexium 05 / 15 LP, MP and HP, Twin Line, Lexium 32				
Functions	Linear axes	–	Limited	Limited or infinite	Limited or infinite(6)		
	Slave axes	–	With static ratio	With dynamic ratio	–		
Frequency for each axis	187 kHz		500 kHz with incremental encoder, 200 kHz with absolute encoder (7)				
Number of axes	1	2	2	4	3		
Reference	TSXCFY11 (1)	TSXCFY21 (1)	TSXCAY21 (1)	TSXCAY41 (1)	TSXCAY22 (1)	TSXCAY42 (1)	TSXCAY33 (1)

(6) With linear interpolation on 2 or 3 axes

(7) SSI serial or with parallel outputs



Module type	Servomotors with SERCOS® digital ring (for brushless motors)		
Control outputs	SERCOS® network ring		
Compatible with ranges	Lexium 15 LP, MP, HP and Lexium 32 modular drive		
Functions	Linear or infinite independent axes, slave axes with cam profile or ratio		
Processing	4 sets of axes with linear interpolation from 2 to 8 axes	4 sets of axes with linear and circular interpolation from 2 to 3 axes (8)	4 sets of axes with linear interpolation from 2 to 8 axes
Frequency for each axis	4 MB SERCOS® network ring		
Number of axes	8 (9)	8 (9)	16 (10)
Reference	TSXCSY84	TSXCSY85	TSXCSY164


(8) TSXCSY85 module supplied with TJE trajectory editor: linear trajectories with links between segments according to polynomial or circular interpolation and circular trajectories.

(9) 8 real axes, 4 imaginary axes and 4 remote axes

(10) 16 axes (real axes, imaginary and remote axes)

Weighing modules



Type of module	ISP Plus	
	supplied uncalibrated	supplied calibrated and  offer
Load cell inputs / outputs	50 measurements (for 1 to 8 load cells) / 2 discrete and 1 RS 485 for display unit	
Reference	Without display unit TSXISPY101 (1)	Please consult your Schneider-electric agency
	With display unit TSXXBTN410 TSXISPY121	Please consult your Schneider-electric agency

Connection accessories: See www.schneider-electric.com

Communication modules



Type of module		Ethernet network communication					
Speed		10 Mb/s	10/100 Mb/s				
Standard services		Ethway, Modbus TCP (Uni-TE, Modbus)	Modbus TCP (Uni-TE, Modbus)			EtherNet/IP & Modbus TCP	
Transparent Ready	Class	C10	B30	B30	C30	D10	B30
	Global Data	–	Yes	Yes	Yes	–	–
	I/O Scanning	–	Yes	Yes	Yes	–	Yes
	QoS (3)	–	–	–	–	–	Yes
	TCP Open	Yes	–	–	Yes	–	–
Web server	Standard services	Yes	Yes	Yes	Yes	Yes	Yes
	FactoryCast services	Yes	–	–	Yes	–	–
	FactoryCast HMI services	–	–	–	–	Yes	–
Reference		TSXETY110WS (4)	TSXP57 (1)	TSXETY4103 (4)	TSXETY5103 (4)	TSXWMM100 (4)	TSXETC101 (2)

(1) References: see pages 3/30 and 3/31, Premium processors with integrated Ethernet TCP/IP port

(2) Seamless integration of Modbus and EtherNet/IP environments. Full integration in Unity (FDT/DTM technology). Available Unity V5

(3) QoS: Quality of Service

Profibus DPV1 is available for Modicon Premium

Please refer to page 3/23



Type of module	AS-Interface cabling system	CANopen machine bus	Fipio manager fieldbus	INTERBUS fieldbus	Profibus DP V0 fieldbus
Name and description	In-rack	PCMCIA	Integrated port	In-rack	In-rack
Speed	167 Kb/s	20 K...1 Mb/s	1 Mb/s	0.5 Mb/s	9.6 K...12 Mb/s
Reference	TSXSAY1000 (4)	TSXCPP110 (4)	TSXP57 (2)	TSXIBY100 (4)	TSXPBY100

(2) References: see pages 3/30 and 3/31, Premium processors with integrated Fipio port



Type of module		Serial links					
		Uni-Telway			Modbus		ASCII
Name and description		Integrated port	In-rack	PCMCIA	In-rack	PCMCIA	PCMCIA
Speed		19.2 Kb/s	19.2 Kb/s	1.2...19.2 Kb/s	19.2 Kb/s	1.2...19.2 Kb/s	1.2...19.2 Kb/s
Reference	With interface	RS 485	TSXP57 (1)	TSXSCY21601 (3) (4)	TSXSACP114 (4)	TSXSCY11601 (4)	TSXSACP114 (4)
		RS 232D	–	–	TSXSACP111 (4)	–	TSXSACP111 (4)
		20mA CL	–	–	TSXSACP112 (4)	–	TSXSACP112 (4)

(3) Also designed for Modbus serial (channel 0).



Type of module	Other networks		
	Modbus Plus	Fipway	Fipio (agent function)
Name and description	PCMCIA card	PCMCIA card	PCMCIA card
Speed	1 Mb/s	1 Mb/s	1 Mb/s
Reference	TSXMBP100 (4)	TSXFPP20 (4)	TSXFPP10 (4)

(4) For coated version add C at the end of the reference: example TSXETY110WS becomes TSXETY110WSC

Connection accessories: See www.schneider-electric.com

Modicon Quantum Programmable Automation Controller Processors under Unity Pro software



Type of processor		Simple applications	Simple and medium complexity applications
Max. number of discrete I/O (1)	Local	Unlimited (27 slots max.)	
	Remote/distributed	31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)	
Max. number of analog I/O (1)	Local	Unlimited (27 slots max.)	
	Remote/distributed	1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)	
Type of application-specific I/O		Counter, motion control, high-speed interrupt inputs, time-stamp, serial link, AS-Interface sensor/actuator bus	
Communication ports (2)	Integrated Modbus	2 RS 232/RS 485	2 RS 232
	Modbus Plus	1 integrated, 2 in local rack	1 integrated, 6 in local rack
	Ethernet TCP/IP	2 in local rack	6 in local rack
	Fieldbus	Profibus DP: 2 in local rack	Profibus DP: 6 in local rack
Memory capacity	Internal RAM	548 KB	1056 KB
	With PCMCIA extension	–	–
	Data storage	–	–
Reference		140CPU31110 (4)	140CPU43412U (4)

(1) The maximum values for the number of discrete or analog I/O are not cumulative

(2) The numbers of communication modules are not cumulative, 2 or 6 in local rack, depending on model

(3) Processor compatible with Unity Pro software after updating its firmware (via OS-Loader included in Unity Pro)

(4) For coated version add C at the end of the reference: example **T140CPU31110** becomes **140CPU31110C**

(5) Suitable for safety related application up to SIL2 and SIL3



Complex applications			Hot Standby redundant applications		Long distance HSBY CPU
Unlimited (26 slots max.)			Unlimited (13 slots max.)	Unlimited (26 slots max.)	Unlimited (13 slots max.)
31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)			31744 inputs and 31744 outputs	31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)	31744 inputs and 31744 outputs
Unlimited (27 slots max.)			Unlimited (13 slots max.)	Unlimited (27 slots max.)	Unlimited (13 slots max.)
1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)			1984 inputs and 1984 outputs	1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)	1984 inputs and 1984 outputs
Intrinsically safe I/O, counter, motion control, high-speed interrupt inputs, time-stamp, serial link, AS-Interface sensor/actuator bus			–	–	–
1 RS 232/485			1 RS 232/485	1 RS 232/485	1 RS 232/485
1 integrated, 6 in local rack			1 integrated	1 integrated, 6 in local rack	1 integrated
1 integrated, 6 in local rack			1 integrated, 6 in local rack	6 in local rack	1 integrated, 6 in local rack
Profibus DP: 6 in local rack			–	Profibus DP: 6 in local rack	–
768 KB	1024 KB	3072 KB	1024 KB	1024 KB	1024 MB
7 MB	7 MB	7 MB	7 MB	7 MB	7 MB
8 MB	8 MB	8 MB	–	8 MB	–
140CPU65150 (4)	140CPU65160 (4)	140CPU65260 (4)	140CPU65160S (5)	140CPU67160 (4)	140CPU67160S (5)
					140CPU67261

3

Modicon Quantum Programmable Automation Controller

Power supply modules ⁽¹⁾



Type of power supply module for			Quantum				
Input voltage			24 VDC	48...60 VDC	100...150 VDC	120...130 VAC	115/230 VAC
Output current			8 A/3 A (5)	8 A	8 A/3 A	8 A/3 A	11 A
Reference	Type	Standalone (2)	140CPS21100 (6)	–	140CPS51100 (6)	140CPS11100 (6)	–
		Summable	140CPS21400 (6)	140CPS41400 (6)	–	–	140CPS11420 (6)
		Redundant	140CPS22400 (6)	140CPS42400 (6)	140CPS52400 (6)	–	140CPS12420 (6)

(1) Process power supplies see chapter 6 "Power supply"

(2) The output current for the standalone power supply modules is 3 A

PCMCIA memory extensions



Type of PCMCIA card for Unity processors 140CPU65/67		Application		Additional data
Technology		SRAM	Flash EPROM	SRAM
Memory size	512 Kb/512 Kb (4)	–	TSXMCPC512K (3)	–
	1 MB (5)	TSXMRPC001M (6)	TSXMFPP001M	–
	2 MB (5)	TSXMRPC002M	TSXMFPP002M	–
	2 MB/1 MB (4)	–	TSXMCPC002M	–
	3 MB (5)	TSXMRPC003M (6)	–	–
	4 MB	–	TSXMFPP004M	TSXMRPF004M
	7 MB (5)	TSXMRPC007M (6)	–	–
	8 MB	–	–	TSXMRPF008M

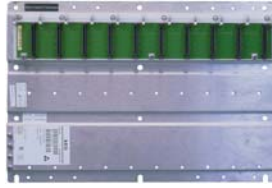
(3) These cards have an additional SRAM area for storing data (recipes, production data).

(4) The 1st value corresponds to the size of the application area, the second to the size of the additional data area for storing data (recipes, production data, etc)

(5) By configuration the user can reserve part of the memory space for data storage (recipes, production data, etc)

(6) For coated version add C at the end of the reference: example **TSXMRPC001M** becomes **TSXMRPC001MC**

Racks



Type		Racks	
	Dimensions WxDxH		
References	2 slots	104x104x290 mm	140XBP00200 (2)
	3 slots	143x104x290 mm	140XBP00300 (2)
	4 slots	184x104x290 mm	140XBP00400 (2)
	6 slots	265x104x290 mm	140XBP00600 (2)
	10 slots	428x104x290 mm	140XBP01000 (2)
	16 slots	671x104x290 mm	140XBP01600 (2)
	Rack extension module		

(1) Local extension module, to be placed in main rack and secondary rack.

(2) For coated version add C at the end of the reference: example **140XBP00200** becomes **140XBP00200C**

3

Connection accessories ⁽³⁾

Type		Cable for extension racks (main and secondary)
References	L = 1 m	140XCA71703
	L = 2 m	140XCA71706
	L = 3 m	140XCA71709

(3) **Other accessories:** See www.schneider-electric.com

Modicon Quantum Programmable Automation Controller

Discrete I/O modules



Type of module (5)		Discrete inputs					
Connection		By screw terminals 140XTS00200 (to be ordered separately)					
Number of isolated channels		16	4 groups of 8	3 groups of 8	2 groups of 8	6 groups of 16	8 groups of 2
Input voltage	5 VDC TTL (negative logic)	–	140DDI15310	–	–	–	–
	24 VDC	–	140DDI35300(1)(2)	–	–	140DDI36400	–
	10...60 VDC	–	140DDI85300	–	–	–	140DDI84100
	20...30 VDC	–	140DSI35300(1)	–	–	–	–
	125 VDC	–	–	140DDI67300	–	–	–
	24 VAC	140DAI34000	140DAI35300	–	–	–	–
	48 VAC	140DAI44000	140DAI45300	–	–	–	–
	115 VAC	140DAI54000	140DAI55300	–	140DAI54300	–	–
230 VAC	140DAI74000	140DAI75300	–	–	–	–	

(1) For negative logic, replace 00 at the end of the reference with 10, for example **140DDI35300** becomes **140DDI35310**.

(2) Non-interfering module in safety related application



Type of module (5)		Discrete outputs					
		Solid state					
Connection		By screw terminals 140XTS00200 (to be ordered separately)					
Number of protected channels		16	4 groups of 8	4 groups of 4	2 groups of 8	6 groups of 16	2 groups of 6
Output voltage/current	5 VDC TTL/0.075 A (3)	–	140DDO15310	–	–	–	–
	24 VDC/0.5 A	–	140DDO35301(1) 140DDO35300(2)	–	–	–	–
	10...30 VDC/0.5 A (4)	–	140DVO85300	–	–	–	–
	19.2...30 VDC/0.5 A	–	–	–	–	140DDO36400	–
	10...60 VDC/2 A	–	–	–	140DDO84300	–	–
	24...125 VDC/0.75 A	–	–	–	–	–	140DDO88500
	24...48 VAC/4 A	–	–	140DAO84220	–	–	–
	24...115 VAC/4 A	140DAO84010	–	–	–	–	–
	24...230 VAC/ 4-3 A	140DAO84000	140DAO85300	–	–	–	–
	100...230 VAC/4-3 A	–	–	140DAO84210	–	–	–

(1) For negative logic, replace 01 at the end of the reference with 10, for example **140DDO35301** becomes **140DDO35310**.

(2) Non-interfering module in safety related application

(3) Negative logic

(4) Controlled outputs



Type of module (5)		Discrete I/O			Discrete outputs	
		Solid state			Relay	
Connection		By screw terminals 140XTS00200 (to be ordered separately)				
Number of I/O		2 groups of 8/2 groups of 4		1 group of 4/ 4 isolated	–/16 NO	–/8 NO/NC
Input voltage		24 VDC	115 VAC	125 VDC	–	–
Output voltage/current		24 VDC / 4 A	115 VAC / 8 A	24...125 VDC / 16 A	2 A	5 A
Reference		140DDM39000	140DAM59000	140DDM69000	140DRA84000	140DRC83000

(5) For coated version add C at the end of the reference: example **140DDI15310** becomes **140DDI15310 C**

Connection accessories: See www.schneider-electric.com

Analog I/O modules



Type of module (4)	Analog inputs				
Connection	By screw terminals 140XTS00200 (to be ordered separately)				
Number of channels	8	16	8		
Input signal	4...20 mA 1...5 V	0...25/20 mA 4...20 mA	(1)	Thermal probe Pt, Ni	Thermocouple (2)
Resolution	12 bits	0...25000 points	16 bits	12 bits + sign	16 bits
Reference	140ACI03000	140ACI04000 (3)	140AVI03000	140ARI03010	140ATI03000

(1) 0...25 mA, ± 20 mA, 4...20 mA, 0...10 V, ± 10 V, 0...5 V, ± 5 V, 1...5 V.

(2) Type B, E, J, K, R, S, T, mV

(3) Non-interfering module in safety related application

3



Type of module (4)	Analog output		
Connection	By screw terminals 140XTS00200 (to be ordered separately)		
Number of channels	4	8	4
Input signal	4...20 mA	0...25/20 mA 4...20 mA	0...10 V, ± 10 V 0...5 V, ± 5 V
Resolution	12 bits	0...25000 points	12 bits
Reference	140ACO02000 (3)	140ACO13000	140AVO02000

(3) Non-interfering module in safety related application



Type of module (4)	Analog I/O
Connection	By screw terminals 140XTS00200 (to be ordered separately)
Number of inputs	4
Number of outputs	2
Input signal	0...20 mA, ± 20 mA, 4...20 mA, 0...10 V, ± 10 V, 0...5 V, ± 5 V, 1...5 V.
Resolution	Inputs 16 bits, outputs 12 bits
Reference	140AMM09000

(4) For coated version add C at the end of the reference: example 140ACI03000 becomes 140ACI03000C

Connection accessories: See www.schneider-electric.com

Modicon Quantum Programmable Automation Controller

Counter and special purpose modules



Type of module	High-speed counter		High-speed inputs with interrupt	Time-stamp system
Type of inputs for	Incremental encoders		Discrete 24 VDC (2)	Discrete 24...125 VDC
Counting frequency	100 kHz	500 kHz	–	–
Number of channels	5	2	16	32
Reference	140EHC10500	140EHC20200	140HLI34000	140ERT85410 (4)

(2) 3 operating modes: Interrupt, latch, high-speed inputs, on rising or falling edge.

3

Safety I/O modules



Type of modules	Analog	Discrete	
Connection	Screw terminal		
Number of inputs	8 analog inputs	16 discrete inputs	–
Number of outputs	–	–	16 discrete outputs
Input signal	4...20mA	24VDC	–
Output voltage	–	–	24VDC
Resolution	16 bits	–	–
Certification	Suitable for safety related application up to SIL2 and SIL3, UL, CE, CSA, Haz-loc		
Reference	140SAI94000S	140SDI95300S	140SDO95300S

Communication modules



Type of module		Ethernet TCP/IP network				
Speed		10/100 Mb/s				
Protocol		Modbus TCP	Modbus TCP	Modbus TCP	Modbus TCP	EtherNet/IP & Modbus TCP
Transparent Ready	Class	B30	B30	C30	D10	B30
	Global Data	Yes	Yes	Yes	–	–
	I/O Scanning	Yes	Yes	Yes	–	Yes
	FDR server	Yes	Yes	Yes	–	Yes
	SNMP protocol	Yes	Yes	Yes	Yes	Yes
Web server	QoS (1)	–	–	–	–	Yes
	Standard services	Yes	Yes	Yes	Yes	–
	FactoryCast services	–	–	Yes	Yes	–
FactoryCast HMI services		–	–	–	Yes	–
Reference		140CPU651* (2)	140NOE77101	140NOE77111	140NWM10000	140NOC77101

(1) QoS: Quality of Service

(2) 140 CPU 651 50, 140 CPU 651 60, 140 CPU 652 60, 140 CPU 671 60

3

PROFIBUS DPV1 is available for Modicon Quantum

Please refer to page 3/23



Type of module	Modbus Plus network	AS-Interface cabling system	Fieldbus INTERBUS	Profibus DP Master V1 (1)	Modnet fielbus
Name and description	Integrated link	In-rack	In-rack	In-rack	In-rack
Speed	1 Mb/s	167 Kb/s	0,5 Mb/s	to 12 Mb/s	375 Kb/s
Reference	140CPU*	140EIA92100	140NOA62200	PTQPDPMV1	140NOG11100

(1) from your partner Prosoft, www.prosoft-technology.com

* 140 CPU 311 10, 140 CPU 434 12U, 140 CPU 651 50, 140 CPU 651 60, 140 CPU 652 60, 140 CPU 671 60



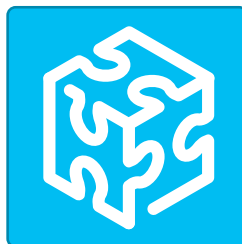
Type of module	Serial link	
	Modbus	ASCII
Name and description	Integrated link	In-rack
Speed	19.2 Kb/s	19.2 Kb/s
Reference	140CPU* (1)	140ESI06210

(1) RS 232/RS 485 on 140CPU651●● and 140CPU67160 processors and RS 232 on 140CPU31110, 140CPU43412A, 140CPU53414A processors.

* 140 CPU 311 10, 140 CPU 434 12U, 140 CPU 651 50, 140 CPU 651 60, 140 CPU 652 60, 140 CPU 671 60

To operate in a corrosive environment, Quantum modules can be ordered with a conformal coating applied to components of the product. Conformal coating will extend its life and enhance its environmental performance capabilities. To order conformal coating append a C to the standard catalog number. For example, 140CPS 11420 > 140CPS 114 20C

Automation systems Unity Pro, a SoCollaborative software For Modicon M340, Premium, and Quantum



Software type		Unity Pro Small version 4.1			
License type version 4.1		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Site (> 10 workstations)
References	Software pack	UNYSPUSFUCD41	UNYSPUSFGCD41	UNYSPUSFTCD41	–
	Update (1)	UNYSPUSZUCD41	UNYSPUSZGCD41	UNYSPUSZTCD41	–
Software type		Unity Pro Medium version 4.1			
License type version 4.1		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Site (> 10 workstations)
References	Software pack	UNYSPUMFUCD41	UNYSPUMFGCD41	UNYSPUMFTCD41	–
	Update (2)	UNYSPUMZUCD41	UNYSPUMZGCD41	UNYSPUMZTCD41	–
Software type		Unity Pro Large version 4.1			
License type version 4.1		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Site (> 10 workstations)
References	Software pack	UNYSPULFUCD41	UNYSPULFGCD41	UNYSPULFTCD41	UNYSPULFFCD41
	Update (3)	UNYSPULZUCD41	UNYSPULZGCD41	UNYSPULZTCD41	UNYSPULZFC41
Software type		Unity Pro Extra Large version 4.1			
License type version 4.1		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Site (> 10 workstations)
References	Software pack	UNYSPUEFUCD41	UNYSPUEFGCD41	UNYSPUEFTCD41	UNYSPUEFFCD41
	Update (4)	UNYSPUEZUCD41	UNYSPUEZGCD41	UNYSPUEZTCD41	UNYSPUEZFC41

- (1) From Concept S, PL7 Micro, ProWORX NxT Lite and ProWORX 32 Lite
 (2) From Concept S/M, PL7 M/J, ProWORX NxT Lite and ProWORX 32 Lite
 (3) From Concept S /M, PL7 M/J/P, ProWORX NxT Lite and ProWORX 32 Lite
 (4) From all models Concept, PL7, ProWORX NxT and ProWORX 32

Unity Pro, a SoCollaborative software, is common programming software for debugging and operation of Modicon M340, Premium, and Quantum programmable controller ranges. Unity Pro takes the recognized usage values of PL7 and Concept software and offers a complete set of new functions for improved productivity and opening to other software.

Five IEC61131-3 languages are supported as standard in Unity Pro with all debugging functions, either on the simulator or directly online with the programmable controller.

Thanks to symbolic variables independent of memory, structured data and user function blocks, application objects are a direct reflection of the automated process application components.

Unity Pro operator screens are user-configured in the application from graphic libraries. Operator accesses are simple and direct.

Unity V 5.0 (Unity V5.0 available 2Q 2010) integrates the PLCopen standard MFB (Motion Function Block) library, simplifying

installation of motion controllers on CANopen machine buses: Altivar 31, Altivar 71, Lexium 05, Lexium 15 LP, MP and HP, IclA.

Debugging and maintenance are simplified by animated graphic objects.

For diagnostics, a window clearly and chronologically displays all system and application faults with timestamping at source.

The fault cause search navigation function enables precise location of the source of missing conditions. XML format, the Web standard for data exchange, has been adopted as Unity application source format. By simple import/export, all or part of the application can be exchanged with other project software.

Finally, the converters integrated in Unity Pro automatically convert PL7 and Concept IEC 61131-3 standards and applications.

Unity software

Specialized software

Integrator system dedicated software

Software type		Unity Pro XL Alliance V3.0	
Licence type version 3.0		Single (1 workstation)	Team (10 workstations)
References	Software pack	UNYSPUEFUAL30	UNYSPUEFTAL30
	Old generation upgrade (1)	UNYSPUEZUAL30	UNYSPUSZTCD30
	Unity update	UNYSPUQZUAL30	UNYSPUQZTAL30
Software type		PLC Suite Alliance V3.0	
Licence type version 3.0		Single (1 workstation)	Team (10 workstations)
References	Pack (1)	UNYSPUQFUAL30	UNYSPUQFTAL30

(1) Including Unity Pro XL Alliance, Concept, PL7, ProWORX

Unity Pro application comparison software

Software type		Unity Dif	
Licence type version 2.2		Single (1 workstation), French and English languages (software and documentation)	
Reference	Software extension (1)	UNYSDUDFUCD20	
Licence type version 2.2		Site licence (100 workstations), French and English languages (software and documentation)	
Reference	Software extension (1)	UNYSDUZFCD22	

(1) Requires version Unity V2.1 or later

PLC application and Modicon M340 embedded software update

Software type		Unity Loader	
Licence type version 2.1		Single (1 workstation)	
Reference	Software pack (1)	UNYSMUZUCD21	

(1) This software is also included in all Unity Pro software packs, Service Pack SP1 available for download

SFC View application diagnostic and monitoring software

Software type		Unity SFC View	
Licence type version 2.0		Single (1 workstation)	
References	Software pack	UNYSDUMFUCD20	

EF/EFB function development software in C language

Software type		Unity EFB Toolkit	
Licence type version 3.1		Single (1 workstation), English language (software and documentation)	
References	Software pack	UNYSPUZFUCD31E	
	Renewal	UNYCSPSPUZBU	

Collaboration Unity Pro with W@de RTU modules

Software type		RTU Configuration Software for Unity Pro and W@de modules	
License type version 1.0		Single (1 workstation), English language (software and documentation)	
References	Software pack	UNYSRTZFUCD10	

Process application design and generation software

Software type		Unity UAG (Unity Application Generator)	
Licence type version 3.2		Single (1 workstation)	Site (> 10 workstations)
References	Software pack	UAGSEWLFUCD32	UAGSEWLFCD23

Specific Unity Pro solution design software pack

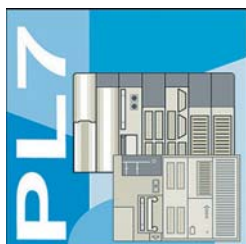
Software type		Unity UDE (Unity Developer's Edition)	
Licence type		Single (1 workstation), English language (software and documentation)	
Reference	Software pack	UNYUDEVFUCD21E	
Licence type version 2.1		Single upgrade from version 2.0 to version 2.1 (1 workstation), English language (software and documentation)	
References	Software pack	UNYUDEVRUCD21E	

Specific libraries according to the software used

Library type		Control Libraries				
Designation		Predictive Control Library (for Unity Pro and Concept)	Fuzzy Control Library (for Unity Pro)	TeSys Library (for Unity Pro)	HVAC Library (for Unity Pro)	Flow Calculation Library (for Unity Pro)
Licence type		Single Licence (1 work station)				
Reference		UNYLPCZAUCD10	UNYLFZZAUWB12	UNYLTSAUWB10	UNYLHVZAUWB10	UNYLAGZAUWB20

Library type		System Libraries	
Designation		Device and Process Library (for UAG)	Process Application Library (for UAG)
Licence type		Single Licence (1 workstation)	
Reference		UAGSBTDFUWB13	UAGSBTXFUWB20

*Includes Process Application Library (PAL) V2.0 and Device and Process Library (DPL) V1.0



PL7 is the common programming, debugging and operating software for the TSX Micro and Premium ranges of PLCs as well as Atrium coprocessors (see pages 3/12, 3/18 and 3/26).

PL7 offers 4 IEC languages: Instruction List (IL), Ladder Diagram (LD), Structured Text (ST) and Sequential Function Chart (SFC). You can use the most suitable language for each function in your application, making use of the multi-tasking structure of the processors.

For using application-specific functions, PL7 directly integrates the application-specific screens required for configuration and adjustment as well as supervisory and diagnostics activities.

Type of software		PL7 Micro for TSX Micro platform			
Type of license version 4.5		Single (1 station)	Single with SyCon V2.8	Group (3 stations)	Open Team (10 stations)
Reference	Software package	TLXCDPL7MP45	TLXCDPL7MPC45	TLXCD3PL7MP45	TLXOTPL7MP45M
	Update (1)	TLXRCDPL7MP45M	TLXRCDPL7MPC45M	TLXRCD3PL7MP45M	–
Type of license version 4.5		PL7 Junior for TSX Micro/Premium and Atrium coprocessor platforms			
Type of license version 4.5		Single (1 station)	Group (3 stations)		
Reference	Software package	TLXCDPL7JP45	TLXCD3PL7JP45		
	Update (1)	TLXRCDPL7JP45M	TLXRC3DPL7JP45M		
	Upgrade (2)	TLXUCDPL7JP45M	TLXUCD3PL7JP45M		
Type of license version 4.5		PL7 Pro for TSX Micro/Premium and Atrium coprocessor platforms			
Type of license version 4.5		Single (1 station)	Group (3 stations)	Open Team (10 stations)	Open Site
Reference	Software package	TLXCDPL7PP45	TLXCD3PL7PP45	TLXOTPL7PP45M	TLXOSPL7PP45M
	Update (1)	TLXRCDPL7PP45M	TLXRCD3PL7PP45M	–	–
	Upgrade (2)	TLXUCDPL7PP45M	TLXUCD3PL7PP45M	–	–

(1) From the previous software version.

(2) From lower level, earlier version software.

Specialist tools

EF function development software in C language

Type of software		PL7 SDKC for EF function development software in C language
PL7 SDKC software extension		For PL7 Micro/Junior/Pro
Reference		TLXLSDKCPL741M

Development of applications in C language

Type of software		PL7 FUZ for processing process applications using fuzzy logic
PL7 FUZ software extension		For PL7 Micro/Junior/Pro, TSX Micro/Premium
Reference		TLXLPL7FUZ34M

Comparison of PL7 applications

Type of software		PL7 DIF for comparison of applications	
PL7 DIF software extension		For PL7 Pro, TSX Micro/Premium	
Type of license		Single (1 station)	Site (> 10 stations)
Reference		TLXCDPL7DIF42	TLXOSPL7DIF42

Availability of control systems based on Premium platforms

Type of software		Warm Standby redundant
Warm Standby software extension		For PL7 Junior/Pro
Type of license		Single (1 station)
Reference		TLXCDWSBYP40F / E

Programming software

For Modicon Quantum, Momentum



Concept is the IEC programming software for the Momentum and Quantum range of PLCs. It provides advanced Microsoft Windows based tools that deliver a multi-language development environment for control system programming.

Uses familiar, standardized editors, bundled in a single application to create and integrate PLC control, communication and diagnostic logic.

Five IEC editors give users the freedom to choose the programming language that fits their application requirements: Function Block Diagram (FBD), Ladder Diagram (LD), Sequential Function Chart (SFC), Structured Text (ST) and Instruction List (IL).

Type of software		Concept for Quantum/Momentum platforms			
Type of license version 2.6		Single (1 station)	Group (3 stations)	10 users (10 stations)	Site
Software references	Concept S	372SPU47101V26	–	–	–
	Concept M	372SPU47201V26	–	–	–
	Concept XL	372SPU47401V26	372SPU47411V26	372SPU47421V26	372SPU47431V26
Update references	Concept S (3)	372ESS47101	–	–	–
	Concept M (3)	372ESS47201	–	–	–
	Concept XL (3)	372ESS47401	372ESS47403	372ESS47410	372ESS47400

(3) From an earlier software version.

3

Specialist tools

EF/EFB function development software in C language

Type of software		Concept EFB Toolkit	
Type of license		Version 2.6	Upgrade version 2.6
Reference	Software package	332SPU47001V26	372ESS47001

Concept service version limited to application loading

Type of software		Concept Application Loader	
Type of license		Version 2.6	
Reference	Software package	372SPU47701V26	

Software for designing and generating batch/process applications

Type of software		Unity UAG (Unity Application Generator)	
Type of license version 3.0		Single (1 station)	Site
Reference	Medium Software package	UAGSEWMFUCD22	UAGSEWMFFCD22
	Large Software package	UAGSEWLFUCD22	UAGSEWLFCD22



ProWORX for Modicon Quantum, Momentum

ProWORX 32 is the flexible, easy-to-use cross-platform LL984-programming software for Modicon range PLCs. It gives you the power to program your Modicon controllers online or offline, manage your I/O subsystems, and analyze your plant's activity in real-time, all in a familiar Windows environment.

ProWORX 32 provides client/server capabilities to organize user-groups and -rights, store projects at a central location and realize office-plant floor bridging.

The project emulator provides the ability to test projects prior to running them in the PLC run-time environment to ensure your system will run at peak efficiency.

Type of software		ProWORX for Quantum/Momentum platforms			
Type of license version 2.1		Single (1 station)	Group (3 stations)	Multi-user (10 stations)	Site
Software references	ProWORX 32 Server	372SPU78001PSEV	–	–	–
	ProWORX 32 Suite	372SPU78001PSSV	–	–	–
	ProWORX 32 Client, Full Dev.	372SPU78001PDEV	372SPU78001PSTH	372SPU78001PSTE	372SPU78001SITE
	ProWORX 32 Online	372SPU78101PONL	–	–	–
	ProWORX 32 Lite	372SPU71001PLDV	372SPU71001PLTH	372SPU71001PLTE	–
Upgrade to ProWORX 32 references (4)		372SPU78401LPUP	372SPU78401LPSTH	372SPU78401LPSTE	–

(4) Only possible for customers, who are "up-to-date" with CSP (continuing support program)

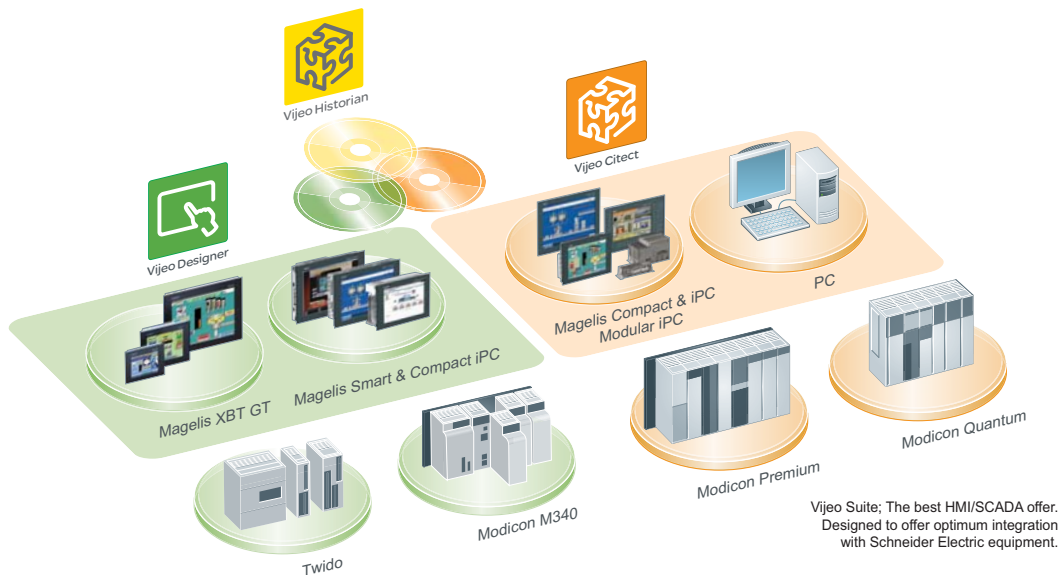


Vijeo Citect

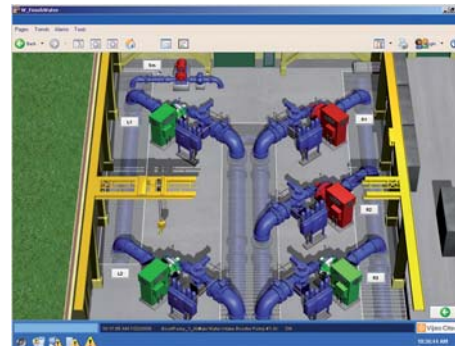
a SoCollaborative software

Type	Supervisory control and data acquisition (SCADA) software
Compatibility	All Schneider Electric automation platforms and third party devices
Operating system	Windows XP, Windows Vista and Windows server 2003 & 2005
Versions	The development licence (without network connectivity) allows free communication with PLCs for 10 minutes at a time. Vijeo Citect full server licences are available in 75 points, 150 points, 500 points, 1500 points, 5000 points, 15000 points and unlimited points
References	Vijeo Citect Lite (without network connectivity) is available in 100 - 1200 points Please contact your local sales representative

3



Vijeo Citect is a SoCollaborative software for operating and monitoring. With its powerful visualisation capabilities and operational features, it delivers actionable insight faster, enabling operators to respond quickly to process disturbances, thereby increasing their effectiveness. Its easy-to-use configuration tools and powerful features enable you to quickly develop and deploy solutions for any size application.



Benefits at a glance:

- **Full-redundancy for reliable architecture:** Vijeo Citect's in-built redundancy greatly reduces lost data and downtime, tolerating failure anywhere in your system.
- **Powerful graphics:** Vijeo Citect lets you develop true colour, easy-to-use graphics that provide the operator with an intuitive, consistent user interface.
- **Intuitive Process Analysis tool:** Vijeo Citect Process Analyst is an intuitive process analysis tool that sits directly in the SCADA system, providing a complete story of your plant and delivering actionable insight to the operators faster, thereby improving their efficiency and productivity.
- **Object-based configuration for rapid development:** Developing your control system is made quick and easy by Vijeo Citect's object-based configuration tools such as page templates, Genies, Super Genies, and SpeedLink.
- **Engineering with ease:** Vijeo Citect offers flexible and targeted system engineering tools to help you be more efficient. It accelerates your control system configuration process, significantly reducing your engineering time and costs and minimising your project risk.

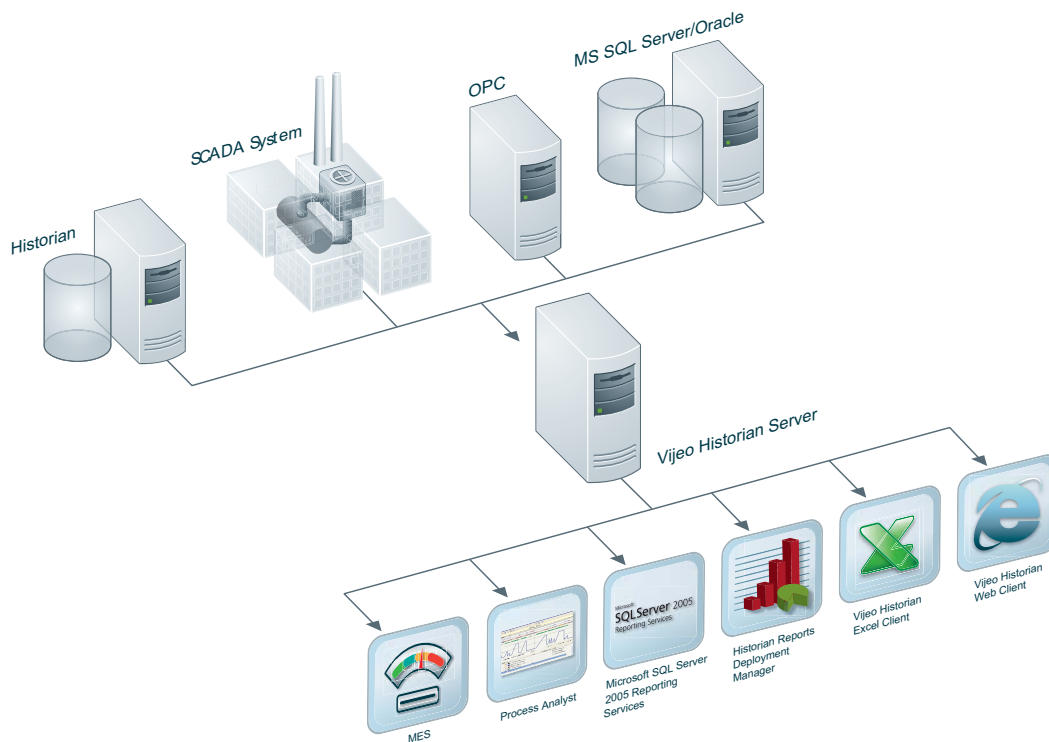
Vijeo Historian Reporting software



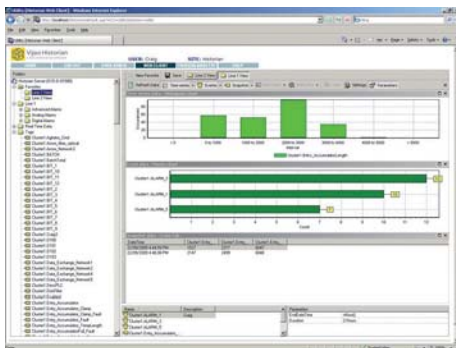
Vijeo Historian

a SoCollaborative software

Type	Historian software
Compatibility	All Schneider Electric automation platforms and third party devices
Operating system	Windows XP, Windows Vista and Windows server 2003 & 2005
References CD-ROM PC	Please contact your local sales representative



Vijeo Historian is a SoCollaborative software for the information management. It comprises the historian and portal functionalities of the solution, enabling you to accurately store data for long-term reporting while connecting your production and business systems through its active data transfers and simple, easy-to-use reporting.



Benefits at a glance:

- **Business systems integration:** Vijeo Historian reduces the complexity and cost of bridging the divide between senior management and plant operations through its simple, easy-to-use interface and its active data transfers that push data from the control systems up to the business systems.
- **An open data store:** Vijeo Historian utilises 100% Microsoft SQL Server 2005 as its embedded historical data store. Its open, industry-standard technology and trusted security integrate effortlessly into your business in a way that lowers your total cost of ownership.
- **Enterprise-wide reporting:** A range of reports can be produced using a convenient built-in historian in the familiar, open Microsoft user interface. Vijeo Historian also comes with a standard set of pre-configured reports, simplifying basic alarm and tag reporting.
- **Alarm management:** Pre-configured alarm reports based on the EEMUA (Engineering Equipment & Materials Users Association) 191 alarm management guidelines.
- **Going 'green' with the energy reports:** Energy reports help you perform a comprehensive energy assessment of your plant to determine how much energy is being consumed and how much could potentially be saved.

Altistart and Altivar

Use Altistart soft starters to start your motors smoothly and so protect the mechanics of your equipment. With the Altivar range of variable speed drives, you save energy and manage the speed of your motors to optimise and enhance productivity in your installations.



4

The Altistart, Altivar and Lexium ranges increase the efficiency of your machines, reduce their energy consumption and optimise their kinematics. Easy to install, offering intuitive programming and extensive communication options, they are easily integrated into your control system architectures.



Lexium

Controllers, drives, motors and linear positioning axes: Schneider Electric offers a complete range of motion control products and solutions suitable for even the most specialised applications. Designed with maximum simplicity in mind throughout a machine's entire service life, the Lexium range reduces costs and optimises productivity.

4 | Motion control



Soft starters and variable speed drives

Selection guide 4/3 and 4/7

Starters

Altistart 01 4/8 and 4/9
Altistart 22 4/10 and 4/11
Altistart 48 4/12 and 4/13

Drives

Altivar 12 4/14
Altivar 212 4/15
Altivar 312 4/16
Altivar 31C 4/17
Altivar 32 4/18
Altivar 61, 61Q, 61 Plus 4/19 to 4/25
Specific cards and extension for pumping and ventilation machines 4/26 and 4/27
Altivar 71, 71Q, 71 Plus 4/28 to 4/34
Altivar LIFT 4/35
Specific cards and extension for complex and high power machines 4/36 and 4/37

Accessories and options (Altistart et Altivar) 4/38 and 4/39

Controllers, drives, motors and linear motion axes

Selection Guide 4/40 to 4/42

Motion Controller Lexium LMC 4/43

Servo drives, servo motors Lexium 32 and accessories 4/44 to 4/51

Lexium 32 servo drives
Lexium BMH and Lexium BSH servo motors

Stepper Drives and Stepper Motors Lexium SD 4/52

Lexium SD2/Lexium SD3 stepper drives
Lexium BRS2/Lexium BRS3 stepper motors

Integrated Drives Lexium IL 4/53 to 4/55

Lexium ILA/ILE/ILS/ILT/ILP

Single axes and multi-axis Systems Linear Motion 4/56 and 4/57

Lexium PAS/CAS/TAS/MAX

Highlights



Altivar 32

More than 150 application-specific functions

The Altivar 32 range of variable speed drives controls asynchronous and synchronous motors rated from 0.18 to 15 kW operating in open loop mode in complex machines:

- Compact, vertical and slim format (45 mm)
- Integrated function blocks for creating simple control system functions (timers, counters, comparators, etc.)
- Machine safety functions integrated as standard (STO, SLS, SS1)
- Open design: communicates with most industrial networks

For more information, see page 4/18

4

Lexium 32 Inspired by Simplicity

The Lexium 32 servo drive range (0.15 to 7 kW) is a drive system designed for applications where high precision and dynamic positioning are critical:

- Suitable for packaging, materials processing (cutting, turning, milling, etc.) and handling, printing and textile applications
- 3 servo drive families and two types of servo motor available
- Simplified engineering: motor sizing, CAD and cabinet drawings, support for PLCopen libraries and SoMove setup software
- Integrated “Safe Torque Off” function
- Quick integration: wide selection of fieldbus modules

For more information, see page 4/44






Ultra slim and ultra powerful

Practical and innovative, the Altivar 32 and Lexium 32 ranges can help reduce the size of your enclosures by as much as 40%.

- Extra slim book format
- Easy to configure and setup with SoMove software
- Packed with common software tools, accessories and functions
- Homogeneous mounting and wiring systems
- High-performance communication system
- Built-in Bluetooth as standard
- Can be configured with the power off in its original packaging: configurations can be transferred remotely via mobile phone using SoMove Mobile software

Selection guide

Starters - Low voltage

		Simple machines		Complex machines/ Special machines
		⇒Applications: Compressors, fans, pumps, conveyors, car wash gantries, etc.	⇒Applications: Pumps, fans, turbines, compressors, conveyors, conveyor belts, lifting screws, escalators, etc.	⇒Applications: Pumps, high inertia fans and machines, compressors, conveyors, agitators, mixers, escalators, etc.
		Altistart 01	Altistart 22	Altistart 48
				
		Soft start and Soft start/soft stop units	Soft start/soft stop units	Soft start/soft stop units
Description		<ul style="list-style-type: none"> • Compact • Simple: easy mounting, wiring and adjustment • Efficient: Current peaks limitation on starting, reduction of mechanical shocks, increased service life for your machines • Energy saving 	<ul style="list-style-type: none"> • Innovative with its integrated Bypass contactor for motors up to 315 kW • Cost-effective • Compact dimensions • Quick setup • Protection of motor and starter • Energy saving • 3 controlled phases 	<ul style="list-style-type: none"> • Torque control system: controlled torque, prevention of pressure surges and limiting of temperature rises • Simple: quick setup • Protection of motor and starter: thermal protection, phase loss detection, locked rotor detection • Energy saving
Technical information	Power range for 50...60 Hz supply	0.37...15 kW	4... 400 kW	4... 1200 kW
	Voltage	Single-phase 110...480 V Three-phase 110...480 V	Three-phase 208...600 V Three-phase 230...440 V	Three-phase 208...690 V
	Drive/Output frequency	–	–	–
	Motor type	Asynchronous Synchronous	Yes No	Yes No
Communication	Integrated	–	Modbus	Modbus
	As an option	Can be used with TeSys U motor starter-controller to create a complete motor starter solution	–	DeviceNet, Fipio, PROFIBUS DP, Ethernet
Standards and certifications		IEC/EN 60947-4-2, C-Tick, CSA, UL, CE	IEC/EN 60947-4-2, C-Tick, CSA, UL, CE, GOST, CCC, Class A EMC	IEC/EN 60947-4-2, C-Tick, CSA, UL, CE, DNV, GOST, CCC, NOM, SEPRO and TCF, Classes A and B EMC
Intended use		Buildings, Simple machines.	Machines, Infrastructures and Buildings	

Selection guide

Standard drives - Low voltage

Simple machines

⇒ Applications:

- Simple machines for industry (small handling applications, packaging, pumps, fans, etc.)
- Simple consumer machines (access barriers, rotating advertising hoardings, medical beds, treadmills, dough mixers, etc.)
- Other types of application:
 - Mobile machines and small appliances equipped with a power socket
 - Applications which traditionally use other solutions (2-speed DC motors, mechanical drives, etc.).

⇒ Applications:

Simple industrial machines (material handling and packaging, textile machines, special machines, pumps and fans).

⇒ Applications:

Simple industrial machines (material handling and packaging, textile machines, special machines, pumps and fans).

Altivar 12



Variable speed drives for small machines with 240 V three-phase asynchronous motor

Altivar 312



Variable speed drives for three-phase asynchronous motors

Altivar 31C IP55



Variable speed drives for three-phase asynchronous motors for machines in harsh environments.

Description

- **Compact**
- **Easy to set up** (Plug & Play)
- **Reliable, cost-effective solution** for compact machines

- **Open:** large number of communication cards available as options
- **User-friendly:** simplified interface
- **Autotuning:** maximum performance

- **Rugged** even in the most hostile environments:
 - Installed as close as possible to the motor
 - Integrated functions for applications requiring IP55 degree of protection
 - Modbus and CANopen communication protocols
- **Flexibility** to adapt to each machine:
 - Customisable depending on the model
 - Easy configuration

Technical information

Power range for 50...60 Hz supply

0.18...4 kW

0.18...15 kW

0.18...15 kW

Voltage

Single-phase 100...240 V
Three-phase 200...240 V

Single-phase 200...240 V
Three-phase 200...600 V

Single-phase 200...240 V
Three-phase 380...500 V

Drive/Output frequency

0.5...400 Hz

0.5...500 Hz

0.5...500 Hz

Motor type Asynchronous
 Synchronous

Yes

Yes

Yes

No

No

No

Communication

Integrated
As an option

Modbus

Modbus and CANopen

Modbus and CANopen

–

CANopen Daisy chain,
DeviceNet, PROFIBUS DP,
Modbus TCP, Fipio

DeviceNet, Ethernet TCP/IP,
Fipio, PROFIBUS DP






Standards and certifications

IEC/EN 61800-5-1, IEC/EN 61800-3 (environments 1 and 2, categories C1 to C3)
CE, UL, CSA, C-Tick, GOST, NOM

IEC/EN 61800-5-1, IEC/EN 61800-3 (environments 1 and 2, categories C1 to C3)
CE, UL, CSA, C-Tick, GOST

Intended use

Machines

Complex machines	Complex machines/ Special machines		Pumps and Fans	
<p>⇒ Applications: Industrial machines: hoisting, packaging, material handling, special machines (wood-working machines, metal processing machinery, etc.).</p>	<p>⇒ Applications: High performance applications:</p> <ul style="list-style-type: none"> • Material handling • Hoisting • Wood-working machines • Process machinery • Textile machines • Packaging 	<p>⇒ Applications: High performance applications:</p> <ul style="list-style-type: none"> • Material handling • Hoisting • Wood-working machines • Process machinery • Textile machines • Packaging 	<p>⇒ Applications: Range specifically for high performance pumps and fans for the industrial and building markets.</p>	<p>⇒ Applications: Pumping and ventilation machines in harsh environment</p>
<p>Altivar 32</p>  <p>Variable speed drives for asynchronous motors and open-loop synchronous motors</p>	<p>Altivar 71</p>  <p>For three-phase synchronous and asynchronous motors. Constant torque applications.</p>	<p>Altivar 71Q</p>  <p>Water-cooled variable speed drives for three-phase synchronous and asynchronous motors. Constant torque applications.</p>	<p>Altivar 61</p>  <p>Variable speed drives for three-phase asynchronous motors. Variable torque applications.</p>	<p>Altivar 61Q</p>  <p>Water-cooled variable speed drives for three-phase asynchronous and synchronous motors. Variable torque applications</p>
<ul style="list-style-type: none"> • Compact: "Book" format • Integrated Safety function compliant to IEC 61508 SIL3 and PL-e • Open: communication cards available as options • Integrated programmable logic functions • Simple setup • Energy saving : Control of energy efficient permanent magnet synchronous motors 	<ul style="list-style-type: none"> • Wide range • Quick start-up and easy diagnostics: multi-language graphic display terminal • Open to most industrial communication buses • Integrated safety functions • Motor control: high-performance in open-loop and closed loop mode 	<ul style="list-style-type: none"> • Improved robustness with water cooling • Efficient cooling system reduced need of air conditioning • Long time operation without maintenance • Excellent protection against corrosion due to stainless steel cooling pipes • Very high starting torque for frequent start-up applications 	<ul style="list-style-type: none"> • Wide range • Easy setup and diagnostics with the multi-language graphic display terminal • Open to the main communication buses 	<ul style="list-style-type: none"> • Improved robustness with water cooling • Efficient cooling system reduced need of air conditioning • Prolonged maintenance-free operational life • Excellent protection against corrosion due to stainless steel cooling pipes
0.18...15 kW	0.37...630 kW	90...630 kW	0.37...800 kW	110...800 kW
Single-phase 200...240 V Three-phase 380...480 V	Single-phase 200...240 V Three-phase 200...690 V	Three-phase 380...480 V Three-phase 500...690 V	Single-phase 200...240 V Three-phase 200...690 V	Three-phase 380...480 V Three-phase 500...690 V
0.1...599 Hz	0...599 Hz up to 37 kW / 200...240V and 380...480V 0...500 Hz for the rest of the range	0...500 Hz	0.1...599 Hz up to 37 kW / 200...240V and 380...480V 0.1...500 Hz for the rest of the range	0.1...500 Hz
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes
Modbus and CANopen	Modbus and CANopen	Modbus et CANopen	Modbus and CANopen	Modbus et CANopen
EtherNet/IP, Modbus TCP, PROFIBUS DP V1, EtherCAT, Devicenet	Modbus TCP, Fipio, Modbus/Uni-Telway, Modbus Plus, EtherNet/IP, DeviceNet, PROFIBUS DP, PROFIBUS DP V1, INTERBUS S, CC-Link,	Modbus TCP, Fipio, Modbus/Uni-Telway, Modbus Plus, EtherNet/IP, DeviceNet, PROFIBUS DP, PROFIBUS DP V1, INTERBUS S, CC-Link,	Modbus TCP, Fipio, Modbus/Uni-Telway, Modbus Plus, EtherNet/IP, DeviceNet, PROFIBUS DP, PROFIBUS DP V1, INTERBUS S, CC-Link, Lonworks, METASYS N2, APOGEE FLN P1, BACnet	HVAC protocols : LonWorks, BACnet, METASYS N2, APOGEE FLN P1 Industrial protocols: Modbus TCP, Modbus/Uni-Telway, Fipio, Modbus Plus, PROFIBUS DP, PROFIBUS DP V1, DeviceNet, Ethernet IP, CC-Link, INTERBUS
IEC/EN 61800-5-1, IEC/EN 61800-3 (environments 1 and 2, Categories C2 and C3), UL508C, EN 954-1 Category 3, ISO/EN 13849-1/-2 Category 3 (PL d), IEC 61800-5-2, IEC 61508 (parts 1&2) level SIL1 SIL2 SIL3, draft standard EN 50495E, CE, UL, CSA, C-Tick, GOST, NOM.	IEC/EN 61800-3, EN 55011, EN 55022, CSA, UL, C-TICK, CE, NOM, DNV, GOST	IEC/EN 61800-3, EN 55011, EN 55022, CSA, UL, C-TICK, CE, NOM, DNV, GOST	IEC/EN 61800-3, EN 55011, EN 55022, CSA, UL, C-TICK, CE, NOM, DNV, GOST	IEC/EN 61800-3, EN 55011, EN 55022, CSA, UL, C-TICK, CE, NOM, DNV, GOST
Machines	Machines, industrial processes and infrastructures	Machines, industrial processes or infrastructures	Buildings and infrastructures	Building or infrastructures

Selection guide

Specialized drives - Low voltage

HVAC

⇒ *Applications:*

Range specifically for HVAC applications (heating, ventilation, air conditioning) in buildings.

Lifts

⇒ *Applications:*

Lifts

Altivar 212



Variable speed drives for three-phase asynchronous motors.
Variable torque building HVAC applications.

Altivar LIFT



Variable speed drives for lifts.

Description

- **Compact size:** side-by-side mounting
- **Simplicity :** Dedicated HVAC functions and remote graphic keypad option
- **Openness :** Integrated communications for building management systems
- **EMC filters** built-in
- **Reduction of the total harmonic distortion** THDI<30%
- **Protection class:** IP21 and IP55

- **Quick start-up** and easy diagnostics with the multi-language graphic display terminal and dedicated Lift configuration menu.
- **Dedicated Lift functions** for greater comfort and safety
- **High-performance motor control** in open-loop and closed loop mode

Technical information

Power range for 50...60 Hz supply

0.75...75 kW

4...22 kW

Voltage

Three-phase 200...480 V

Single-phase 200...240 V
Three-phase 200...480 V

Drive/Output frequency

0.5...200 Hz

0...599 Hz

Number of quadrants

—

—

Cooling system

—

—

Protection class

—

—

Motor type

Asynchronous
Synchronous

Yes
No

Yes
No

Communication

Integrated
As an option

Modbus, METASYS N2, APOGEE FLN P1, BACnet
Lonworks

Modbus and CANopen
Modbus TCP, Fipio, Modbus/Uni-Telway, Modbus Plus, EtherNet/IP, DeviceNet, PROFIBUS DP, PROFIBUS DP V1, INTERBUS S, CC-Link

Standards and certifications

IEC/EN 61800-3, EN 55011, EN 55022, CSA, UL, C-TICK, CE, NOM



IEC/EN 61800-3, EN55011, EN 55022, CSA, UL, C-TICK, CE, NOM et EN81-1 (chap 12.7.3)

Intended use

Buildings

Machines

Integrated variable speed control solutions

Pumps and Fans Low voltage	Pumps and Fans Medium voltage	Complex machines/Special machines Low voltage	Complex machines/Special machines Medium voltage
<p>⇒ Applications:</p> <ul style="list-style-type: none"> • Fans • Pumps • Compressors • Screw feeders 	<p>⇒ Applications:</p> <ul style="list-style-type: none"> • Energy: fans, pumps, turbine starters • Oil and gas: pumps, compressors, air blowers, extruders • Mines and Minerals: conveyors, crushers, fans, pumps • Water treatment: pumps, air blowers. 	<p>⇒ Applications:</p> <ul style="list-style-type: none"> • Fans • Pumps • Compressors • Screw feeders 	<p>⇒ Applications:</p> <ul style="list-style-type: none"> • Energy: fans, pumps, turbine starters • Oil and gas: pumps, compressors, air blowers, extruders • Mines and Minerals: conveyors, crushers, fans, pumps • Water treatment: pumps, air blowers.
<p>Altivar 61 Plus</p>  <p>High power low voltage variable speed drives for buildings and infrastructures. Variable torque</p>	<p>Altivar 1100</p>  <p>Medium voltage variable speed drives for asynchronous motors (quotation on request)</p>	<p>Altivar 71 Plus</p>  <p>High power low voltage variable speed drives for industry. Constant torque</p>	<p>Altivar 1000</p>  <p>Medium voltage variable speed drives for asynchronous motors (quotation on request)</p>
<p>A simple, open range:</p> <ul style="list-style-type: none"> • Greater flexibility: numerous possible options and communication on most industrial networks • Easy configuration • Ready to use <p>Maximum safety: the Altivar Plus range has a cooling system and components that have been tested in extreme conditions.</p> <p>Time savings on:</p> <ul style="list-style-type: none"> • Creating quotes • Placing orders • Installation and start-up 	<p>Environmentally-friendly and Cost-effective:</p> <ul style="list-style-type: none"> • Perfect integration in the line supply • No disturbance of the motor and the driven load • High efficiency <p>Easy to install and set up</p> <p>Compact</p>	<p>A simple, open range:</p> <ul style="list-style-type: none"> • Greater flexibility: numerous possible options and communication on most industrial networks • Easy configuration • Ready to use <p>Maximum safety: the Altivar Plus range has a cooling system and components that have been tested in extreme conditions.</p> <p>Time savings on:</p> <ul style="list-style-type: none"> • Creating quotes • Placing orders • Installation and start-up 	<p>High efficiency</p> <p>For use in harsh environments</p> <p>Open to all communication networks</p>
90...2400 kW	0.3...10.5 MW	90...2000 kW	0.5...10 MW
Three-phase 380...690 V	3,3 kV 6,6 kV 10 kV	Three-phase 380...690 V	2.4 kV 3.3 kV
0.1...500 Hz	Standard : 0,2...60 Hz Option : 0,2...120 Hz	0...500 Hz	Standard: 5...70 Hz Option: 5...140 Hz
2 and 4	2	2 and 4	2 and 4
Air or water cooled	Air cooled	Air or water cooled	Air or water cooled
IP23/IP54 IP55 (water cooled)	IP31 IP41 (option)	IP23/IP54 IP55 (water cooled)	IP41 (air cooled) IP54 (water cooled)
Yes	Yes	Yes	Yes
Yes	No	Yes	No
Modbus and CANopen	PROFIBUS, Modbus	Modbus and CANopen	Ethernet, PROFIBUS, Modbus
Modbus TCP, Fipio, Modbus/Uni-Telway, Modbus Plus, EtherNet/IP, DeviceNet, PROFIBUS DP, PROFIBUS DP V1, INTERBUS S, CC-Link, Lonworks, METASYS N2, APOGEE FLN P1, BACnet	Ethernet, Devicenet, EtherNet/IP, etc.	Modbus TCP, Fipio, Modbus/Uni-Telway, Modbus Plus, EtherNet/IP, DeviceNet, PROFIBUS DP, PROFIBUS DP V1, INTERBUS S, CC-Link	Devicenet, CANopen
IEC/EN 61800-5-1, IEC/EN 61800-3 (environments 1 and 2), IEC/EN 61000-4-2, -4-3, -4-5, -4-6 (level 3), IEC/EN 61000-4-4 (level 4), IEC/EN 60529, IEC 60721-3-3 class 3C2 and 3S2, CE, DNV, GOST	IEC/EN 61800-5-1, IEC/EN 61800-4, IEC/EN 61800-3 (environnements 1 and 2, catégories C1 to C3), IEEE 519, IEC/EN 60204-11 and IEC/EN 60529	IEC/EN 61800-5-1, IEC/EN 61800-3 (environments 1 and 2), IEC/EN 61000-4-2, -4-3, -4-5, -4-6 (level 3), IEC/EN 61000-4-4 (level 4), IEC/EN 60529, IEC 60721-3-3 class 3C2 and 3S2, CE, DNV and GOST	IEC/EN 61800-5-1, IEC/EN 61800-4, IEC/EN 61800-3 (environments 1 and 2, categories C1 to C3), CE
Buildings and infrastructures	Infrastructures	Machines, industrial processes and infrastructures	Machines, industrial processes and infrastructures



Dimensions (in mm)		width x height x depth
ATS01	N103FT/N106 FT	22.5 x 100 x 100.4
	N109FT/N112 FT/N125 FT	45 x 124 x 130.7
	N206●●/N209●●/N212●●	45 x 154 x 130.7
	N222●●/N232●●	

Type		Soft start units		Soft start/soft stop units							
Motor power		0.37 to 11 kW		0.75 to 15 kW							
Degree of protection		IP20									
Reduction of current peaks		2 controlled phases		2 controlled phases							
Adjustable starting time		1...5 s		1...10 s							
Adjustable deceleration time		No: freewheel stop		Yes: 1... 10 s							
Adjustable breakaway torque		30...80% of DOL motor starting torque									
Logic inputs		–		3 logic inputs (start, stop and startup boost)							
Logic outputs		–		1 logic output							
Relay outputs		–		1 relay output							
Control supply voltage		110...220 VAC ± 10%, 24 VDC ± 10%		Built into the starter							
Supply voltage		Single-phase 110...230 V									
Motor power											
230 V		Nominal current									
kW		(IcL)									
0.37		3 A		ATS01N103FT							
0.75		6 A		ATS01N106FT							
1.1		9 A		ATS01N109FT							
1.5		12 A		ATS01N112FT							
2.2		25 A		ATS01N125FT							
Supply voltage		Three-phase 110...480 V		Three-phase 200...240 V		Three-phase 380...415 V		Three-phase 440...480 V			
Motor power											
210 V		230 V		Nominal current							
HP		kW		(IcL)							
		HP									
–		0.37-0.55		0.5/–		1.1		0.5-1.5		3 A	
0.5		0.75-1.1		1-1.5		2.2-3		2-3		6 A	
1		1.5		2		4		5		9 A	
1.5		2.2		3		5.5		7.5		12 A	
–		4-5.5		5-7.5		7.5-11		10-15		22 A	
2-3		3-4-5.5		5-7.5		7.5-9-11		10-15		25A	
–		7.5		10		15		20		32 A	

Starters with TeSys model U



Dimensions (in mm)		width x height x depth
ATSU01	N206LT/N209LT/N212LT	45 x 124 x 130.7
	N222LT/N232LT	45 x 154 x 130.7

Type		Soft start/soft stop units						
Motor power		0.75 to 15 kW						
Degree of protection		IP20						
Reduction of current peaks		Yes						
Adjustable starting and stopping times		1...10 s						
Adjustable breakaway torque		30... 80% of DOL motor starting torque						
Logic inputs		3 logic inputs (start, stop and startup boost)						
Logic outputs		1 logic output						
Relay outputs		1 relay output						
Control supply voltage		24 VDC, 100 mA, ± 10%						
References		Soft start/soft stop units	TeSys starter-controller model U Power base	Control unit (1)	Power connector between ATSU and TeSys model U			
Supply voltage		Three-phase 200...480 V						
Motor power								
230 V		400 V	460 V	Nominal current (IcL)				
kW	HP	kW	HP					
0.75	1	1.5	2	6 A	ATSU01N206LT	LUB12	LUC●05BL	VW3G4104
1.1	1.5	2.2/3	3	6 A	ATSU01N206LT	LUB12	LUC●12BL	
1.5	2	–	5	9 A	ATSU01N209LT	LUB12	LUC●12BL	VW3G4104
–	–	4	–	9 A	ATSU01N209LT	LUB12	LUC●12BL	
2.2	3	5.5	7.5	12 A	ATSU01N212LT	LUB12	LUC●12BL	VW3G4104
3	–	–	–	12 A	ATSU01N212LT	LUB32	LUC●18BL	
4	5	7.5	10	22 A	ATSU01N222LT	LUB32	LUC●18BL	VW3G4104
5.5	7.5	11	15	22 A	ATSU01N222LT	LUB32	LUC●32BL	
7.5	10	15	20	32 A	ATSU01N232LT	LUB32	LUC●32BL	VW3G4104

(1) To compose your reference, replace ● in the reference with: «A» for a standard control unit, «M» for a multifunction unit and «B» for an advanced unit.

Altistart 22

4...400 kW

Simple machines Soft start/soft stop units



Dimensions (en mm)	width x height x depth
Size A:	130 x 265 x 169
Size B:	145 x 295 x 207
Size C:	150 x 356 x 229
Size D:	206 x 425 x 299
Size E:	304 x 455 x 340

Supply voltage		Three-phase 208...600 V	Three-phase 230...440 V
Protection	Degree of protection	IP20: for ATS 22D17●●●D88 starters IP00: for ATS 22C11●●●C59 starters (protection of terminals available as an option)	
	Motor thermal protection	Class 10, 20 or 30	
Drive	Number of controlled phases	3	
	Types of control	Configurable voltage ramp, torque ramp	
	Operating cycle	Standard	
Functions		Integrated Bypass contactor	
Number of I/O	Analog inputs	1 PTC probe	
	Logic inputs	3	
	Logic outputs	–	
	Analog outputs	–	
	Relay outputs	2	
Dialogue		Integrated display terminal, SoMove Lite setup software	
Communication	Integrated	Modbus	
Standards and certifications		IEC/EN 60947-4-2, class A EMC, CE, UL, CSA, C-Tick, GOST, CCC	
Motor connection			Possible to connect the starter in the motor delta connection

4

Connection in the motor power supply line					Soft start/soft stop unit 230...440 V - 50/60 Hz	
Motor						
Power indicated on rating plate						
230 V kW	400 V kW	440 V kW	Nominal current starter (IcL)		Reference	Size
4	7.5	7.5	17		ATS22D17Q	Size A
7.5	15	15	32		ATS22D32Q	Size A
11	22	22	47		ATS22D47Q	Size A
15	30	30	62		ATS22D62Q	Size B
18.5	37	37	75		ATS22D75Q	Size B
22	45	45	88		ATS22D88Q	Size B
30	55	55	110		ATS22C11Q	Size C
37	75	75	140		ATS22C14Q	Size C
45	90	90	170		ATS22C17Q	Size C
55	110	110	210		ATS22C21Q	Size D
75	132	132	250		ATS22C25Q	Size D
90	160	160	320		ATS22C32Q	Size D
110	220	220	410		ATS22C41Q	Size D
132	250	250	480		ATS22C48Q	Size E
160	315	355	590		ATS22C59Q	Size E

Connection in the motor power supply line					Soft start/soft stop unit 230...600 V - 50/60 Hz	
Motor						
Power indicated on rating plate						
230 V kW	400 V kW	440 V kW	500 V kW	Nominal current starter (IcL)	Reference	Size
4	7.5	7.5	9	17	ATS22D17S6	Size A
7.5	15	15	18.5	32	ATS22D32S6	Size A
11	22	22	30	47	ATS22D47S6	Size A
15	30	30	37	62	ATS22D62S6	Size B
18.5	37	37	45	75	ATS22D75S6	Size B
22	45	45	55	88	ATS22D88S6	Size B
30	55	55	75	110	ATS22C11S6	Size C
37	75	75	90	140	ATS22C14S6	Size C
45	90	90	110	170	ATS22C17S6	Size C
55	110	110	132	210	ATS22C21S6	Size D
75	132	132	160	250	ATS22C25S6	Size D
90	160	160	220	320	ATS22C32S6	Size D
110	220	220	250	410	ATS22C41S6	Size D
132	250	250	315	480	ATS22C48S6	Size E
160	315	355	400	590	ATS22C59S6	Size E

The Altistart 22 soft start/soft stop unit is also available with a 110 VDC control power supply, reference ATS22...S6U

Dimensions (in mm)	width x height x depth
ATS48 D17Q to D47Q	Size A: 160 x 275 x 190
D62Q to C11Q	Size B: 190 x 290 x 235
C14Q to C17Q	Size C: 200 x 340 x 265
C21Q to C32Q	Size D: 320 x 380 x 265
C41Q to C66Q	Size E: 400 x 670 x 300
C79Q to M12Q	Size F: 770 x 890 x 315



Supply voltage			Three-phase 230...415 V (1)			
Type of application			Standard		Severe (2)	
Starter control supply voltage			220...415 V			
Protection	Degree of protection		IP20: ATS48D17● to ATS48C11● starters IP00: ATS48C14● to ATS48M12● starters			
	Motor thermal protection		Class 10		Class 20 and 30	
EMC	Class A		On all starters			
	Class B		On all starters up to 170 A			
Starting mode			Torque control (patented TCS: Torque Control System)			
I/O	Analog inputs		1 PTC probe			
	Logic inputs		4 logic inputs, 2 of which are configurable			
	Logic outputs		2 configurable logic outputs			
	Relay outputs		3 relay outputs, 2 of which are configurable			
Dialogue			Integrated or remote display terminal (in option), PowerSuite software workshop			
Communication	Integrated		Modbus			
	As an option		DeviceNet, Ethernet, Fipio, PROFIBUS DP			
Motor power						
230 V	400 V	Nominal current				
kW	kW	(IcL)				
3	5.5	12 A	–		ATS48D17Q	Size A
4	7.5	17 A	ATS48D17Q	Size A	ATS48D22Q	Size A
5.5	11	22 A	ATS48D22Q	Size A	ATS48D32Q	Size A
7.5	15	32 A	ATS48D32Q	Size A	ATS48D38Q	Size A
9	18.5	38 A	ATS48D38Q	Size A	ATS48D47Q	Size A
11	22	47 A	ATS48D47Q	Size A	ATS48D62Q	Size B
15	30	62 A	ATS48D62Q	Size B	ATS48D75Q	Size B
18.5	37	75 A	ATS48D75Q	Size B	ATS48D88Q	Size B
22	45	88 A	ATS48D88Q	Size B	ATS48C11Q	Size B
30	55	110 A	ATS48C11Q	Size B	ATS48C14Q	Size C
37	75	140 A	ATS48C14Q	Size C	ATS48C17Q	Size C
45	90	170 A	ATS48C17Q	Size C	ATS48C21Q	Size D
55	110	210 A	ATS48C21Q	Size D	ATS48C25Q	Size D
75	132	250 A	ATS48C25Q	Size D	ATS48C32Q	Size D
90	160	320 A	ATS48C32Q	Size D	ATS48C41Q	Size E
110	220	410 A	ATS48C41Q	Size E	ATS48C48Q	Size E
132	250	480 A	ATS48C48Q	Size E	ATS48C59Q	Size E
160	315	590 A	ATS48C59Q	Size E	ATS48C66Q	Size E
–	355	660 A	ATS48C66Q	Size E	ATS48C79Q	Size F
220	400	790 A	ATS48C79Q	Size F	ATS48M10Q	Size F
250	500	1000 A	ATS48M10Q	Size F	ATS48M12Q	Size F
355	630	1200 A	ATS48M12Q	Size F	–	

(1) Possible to connect the starter in the motor delta connection

(2) Starting time greater than 30 seconds (fans, high inertia machines and compressors)

Soft start/soft stop units

Dimensions (in mm)		width x height x depth	
ATS48	D17Y to D47Y	Size A:	160 x 275 x 190
	D62Y to C11Y	Size B:	190 x 290 x 235
	C14Y to C17Y	Size C:	200 x 340 x 265
	C21Y to C32Y	Size D:	320 x 380 x 265
	C41Y to C66Y	Size E:	400 x 670 x 300
	C79Y to M12Y	Size F:	770 x 890 x 315



Supply voltage												Three-phase 208...690 V (1)				
Type of application												Standard		Severe (2)		
Starter control supply voltage												110...230 V				
Characteristics												Identical to 230...415 V starters				
Motor power												Nominal current (IcL)				
208 V	230 V	460 V	575 V	230 V	400 V	440 V	500 V	525 V	660 V	690 V						
											HP	kW				
2	3	7.5	10	3	5.5	5.5	7.5	7.5	9	11	12 A	–		ATS48D17Y	Size A	
3	5	10	15	4	7.5	7.5	9	9	11	15	17 A	ATS48D17Y	Size A	ATS48D22Y	Size A	
5	7.5	15	20	5.5	11	11	11	11	15	18.5	22 A	ATS48D22Y	Size A	ATS48D32Y	Size A	
7.5	10	20	25	7.5	15	15	18.5	18.5	22	22	32 A	ATS48D32Y	Size A	ATS48D38Y	Size A	
10	–	25	30	9	18.5	18.5	22	22	30	30	38 A	ATS48D38Y	Size A	ATS48D47Y	Size A	
–	15	30	40	11	22	22	30	30	37	37	47 A	ATS48D47Y	Size A	ATS48D62Y	Size B	
15	20	40	50	15	30	30	37	37	45	45	62 A	ATS48D62Y	Size B	ATS48D75Y	Size B	
20	25	50	60	18.5	37	37	45	45	55	55	75 A	ATS48D75Y	Size B	ATS48D88Y	Size B	
25	30	60	75	22	45	45	55	55	75	75	88 A	ATS48D88Y	Size B	ATS48C11Y	Size B	
30	40	75	100	30	55	55	75	75	90	90	110 A	ATS48C11Y	Size B	ATS48C14Y	Size C	
40	50	100	125	37	75	75	90	90	110	110	140 A	ATS48C14Y	Size C	ATS48C17Y	Size C	
50	60	125	150	45	90	90	110	110	132	160	170 A	ATS48C17Y	Size C	ATS48C21Y	Size D	
60	75	150	200	55	110	110	132	132	160	200	210 A	ATS48C21Y	Size D	ATS48C25Y	Size D	
75	100	200	250	75	132	132	160	160	220	250	250 A	ATS48C25Y	Size D	ATS48C32Y	Size D	
100	125	250	300	90	160	160	220	220	250	315	320 A	ATS48C32Y	Size D	ATS48C41Y	Size E	
125	150	300	350	110	220	220	250	250	355	400	410 A	ATS48C41Y	Size E	ATS48C48Y	Size E	
150	–	350	400	132	250	250	315	315	400	500	480 A	ATS48C48Y	Size E	ATS48C59Y	Size E	
–	200	400	500	160	315	355	400	400	560	560	590 A	ATS48C59Y	Size E	ATS48C66Y	Size E	
200	250	500	600	–	355	400	–	–	630	630	660 A	ATS48C66Y	Size E	ATS48C79Y	Size F	
250	300	600	800	220	400	500	500	500	710	710	790 A	ATS48C79Y	Size F	ATS48M10Y	Size F	
350	350	800	1000	250	500	630	630	630	900	900	1000 A	ATS48M10Y	Size F	ATS48M12Y	Size F	
400	455	1000	1200	355	630	710	800	800	–	–	1200 A	ATS48M12Y	Size F	–		

(1) Starter connection in the motor delta connection: up to 500 V only, add "S316" at the end of the reference

(2) Starting time greater than 30 seconds (fans, high inertia machines and compressors)

Altivar 12

0.18...4 kW

Simple machines Ultra-compact drives



Dimensions (in mm)	width x height x depth
1C1: 72 x 143 x 102.2	2F3: 105 x 143 x 131.2
1C2: 72 x 143 x 102.2	3F3: 140 x 184 x 141.2
1C3: 72 x 143 x 121.2	
2C1: 105 x 142 x 156.2	
2C2: 105 x 142 x 156.2	

Type of drive		Single-phase	Single-phase	Three-phase				
Supply voltage		120 V	240 V	240 V				
Degree of protection		IP20						
Drive	Output frequency	0.5... 400 Hz						
	Type of control	Asynchronous motor						
	Transient overtorque	U/F, sensorless flux vector control, quadratic U/F						
Speed range		150...170						
Functions		1 to 20						
Dialogue	Number of functions	40						
	Number of preset speeds	8						
	Number of I/O	Analog inputs	1 configurable analog input					
		Logic inputs	4 assignable logic inputs					
		Analog outputs	1 configurable analog output					
Relay outputs		1 protected relay logic output						
Communication		Integrated or remote display terminal, SoMove software workshop, or mobile phone via Bluetooth®						
Cards (available as an option)		Modbus						
Reduction of current harmonics								
EMC filter	Integrated							
	As an option	C1 EMC						
Motor power	kW/HP	0.18/0.25	ATV12H018F1 (1)	1C1	ATV12H018M2 (1) (2)	1C2	ATV12H018M3 (1)	1C3
		0.37/0.5	ATV12H037F1	1C1	ATV12H037M2 (2)	1C1	ATV12H037M3	1C3
		0.55/0.75	–	–	ATV12H055M2 (2)	1C2	–	–
		0.75/1	ATV12H075F1	2C1	ATV12H075M2 (2)	1C2	ATV12H075M3	1C3
		1.5/2	–	–	ATV12HU15M2 (2)	2C2	ATV12H015M3	2F3
		2.2/3	–	–	ATV12HU22M2 (2)	2C2	ATV12H022M3	2F3
		3/3	–	–	–	–	ATV12H030M3	3F3
		4/5	–	–	–	–	ATV12H040M3	3F3

(1) Because of the low heat dissipation, the ATV12H018.. is only supplied on a base plate

(2) Also exists as a multipack

Dimensions (in mm)		width x height x depth	
IP21		IP55	
T1A: 107 x 143 x 150	T1: 215 x 297 x 192		
T2A: 142 x 184 x 150	T2: 230 x 340 x 208		
T3A: 180 x 232 x 170	T3: 290 x 560 x 315		
T4A: 245 x 329.5 x 190	T4: 310 x 665 x 315		
T5A: 240 x 420 x 214	T5: 284 x 720 x 315		
T6A: 320 x 630 x 290	T5: 284 x 880 x 343		
T7A: 240 x 550 x 266	T5: 362 x 1000 x 364		
T8A: 320 x 630 x 290			



Type of drive		IP21		IP55		
Supply voltage		200...240 V		380...480 V		
Degree of protection		IP21 and IP41 on the upper part		IP55 drive available in two manufacturing variants, ATV212W...N4 C1 EMC or ATV212W...N4C C2 EMC		
Output frequency		0.5...200 Hz				
Type of control		Kn ² quadratic ratio, sensorless flux vector control, voltage/frequency ratio (2 points), energy saving ratio				
Speed range		1 to 10				
I/O	Analog inputs	1 switch-configurable current or voltage analog input and 1 voltage analog input, configurable as a PTC probe input				
	Logic inputs	3 programmable logic inputs				
	Analog outputs	1 switch-configurable current or voltage analog output				
	Relay outputs	2 relay logic outputs				
Dialogue		Integrated display terminal with local controls (1) or remote display terminal or PC software (3)				
Communication (see page 4/11)	Integrated	Modbus, APOGEE FLN P1, Metasys N2, BACnet				
	As an option	LonWorks				
EMC filter	Integrated	–	C2 EMC	C2 EMC	C1 EMC	
	Available as an option	C2 EMC	C1 EMC	–	–	
Motor power	kW/HP	0.75/1	ATV212H075M3X T1A	ATV212H075N4 T1A	ATV212W075N4 T1	ATV212W075N4C T1
		1.5/2	ATV212HU15M3X T1A	ATV212HU15N4 T1A	ATV212WU15N4 T1	ATV212WU15N4C T1
		2.2/3	ATV212HU22M3X T1A	ATV212HU22N4 T1A	ATV212WU22N4 T1	ATV212WU22N4C T1
		3/–	ATV212HU30M3X T2A	ATV212HU30N4 T2A	ATV212WU30N4 T2	ATV212WU30N4C T2
		4/5	ATV212HU40M3X T2A	ATV212HU40N4 T2A	ATV212WU40N4 T2	ATV212WU40N4C T2
		5.5/7.5	ATV212HU55M3X T3A	ATV212HU55N4 T2A	ATV212WU55N4 T2	ATV212WU55N4C T2
		7.5/10	ATV212HU75M3X T3A	ATV212HU75N4 T3A	ATV212WU75N4 T2	ATV212WU75N4C T2
		11/15	ATV212HD11M3X T4A	ATV212HD11N4 T3A	ATV212WD11N4 T3	ATV212WD11N4C T3
		15/20	ATV212HD15M3X T4A	ATV212HD15N4 T4A	ATV212WD15N4 T3	ATV212WD15N4C T3
		18.5/25	ATV212HD18M3X T4A	ATV212HD18N4 T4A	ATV212WD18N4 T4	ATV212WD18N4C T4
		22/30	–	ATV212HD22N4S T4A	–	–
		22/30	ATV212HD22M3X T5A	ATV212HD22N4(2) T5A	ATV212WD22N4 T5	ATV212WD22N4C T5
		30/40	ATV212HD30M3X T6A	ATV212HD30N4(2) T5A	ATV212WD30N4 T5	ATV212WD30N4C T5
		37/50	–	ATV212HD37N4 T7A	ATV212WD37N4 T6	ATV212WD37N4C T6
		45/60	–	ATV212HD45N4 T7A	ATV212WD45N4 T6	ATV212WD45N4C T6
		55/75	–	ATV212HD55N4 T8A	ATV212WD55N4 T7	ATV212WD55N4C T7
75/100	–	ATV212HD75N4 T8A	ATV212WD75N4 T7	ATV212WD75N4C T7		

(1) Drive with local controls, Run/Stop, Loc/Rem. keys

(2) For references ATV212HD22N4 and ATV212HD30N4, please refer to the Schneider Electric catalogue.

(3) PC Software is available as a free download from www.schneider-electric.com

Altivar 312

0.18...15 kW

Simple industrial machines High performance drives



Dimensions (in mm)		width x height x depth	
T 1:	72 x 145 x 122	T 6:	107 x 143 x 152
T 2:	72 x 145 x 132	T 7:	142 x 184 x 152
T 3:	72 x 145 x 132	T 8:	180 x 232 x 172
T 4:	72 x 145 x 142	T 9:	245 x 330 x 192
T 5:	105 x 143 x 132		

Type of drive		Single-phase 240 V	Three-phase 240 V	Three-phase 500V	Three-phase 600V	
Supply voltage		with integrated EMC filters	without EMC filter	with integrated EMC filters	without EMC filter	
Degree of protection		IP20				
Drive	Output frequency	0.5...500 Hz				
	Type of control	Asynchronous motor				
	Transient overtorque	Standard (voltage / frequency) - Performance (sensorless flux vector control) Energy saving ratio 170 ... 200% of the nominal motor torque				
Speed range		1 to 50				
Functions	Number of functions	50				
	Number of preset speeds	16				
	Number of I/O	Analog inputs	3			
		Logic inputs	6			
	Logic outputs	1				
	Relay outputs	-				
Dialogue		Integrated 4-digit display, remote terminals (IP54 or IP65), Altivar 61/71 remote graphic display terminal				
Communication	Integrated	Modbus and CANopen				
	As an option	CANopen Daisy chain, Modbus TCP, DeviceNet, PROFIBUS DP, Fipio				
Reduction of current harmonics						
EMC filter	Integrated	C2 EMC	External as an option	Integrated C2(1) or C3 EMC	External as an option	
	As an option	C1 EMC	-	-	-	
Motor power	kW/HP	0.18/0.25	ATV312H018M2 T3	ATV312H018M3 T1	-	-
		0.37/0.5	ATV312H037M2 T3	ATV312H037M3 T1	ATV312H037N4 T5	-
		0.55/0.75	ATV312H055M2 T4	ATV312H055M3 T2	ATV312H055N4 T5	-
		0.75/1	ATV312H075M2 T4	ATV312H075M3 T2	ATV312H075N4 T6	ATV312H075S6 T6
		1.1/1.5	ATV312HU11M2 T6	ATV312HU11M3 T5	ATV312HU11N4 T6	-
		1.5/2	ATV312HU15M2 T6	ATV312HU15M3 T5	ATV312HU15N4 T6	ATV312HU15S6 T6
		2.2/3	ATV312HU22M2 (2) T7	ATV312HU22M3 T6	ATV312HU22N4 T7	ATV312HU22S6 T7
		3/-	-	ATV312HU30M3 T7	ATV312HU30N4 T7	-
		4/5	-	ATV312HU40M3 T7	ATV312HU40N4 T7	ATV312HU40S6 T7
		5.5/7.5	-	ATV312HU55M3 T8	ATV312HU55N4 T8	ATV312HU55S6 T8
		7.5/10	-	ATV312HU75M3 T8	ATV312HU75N4 T8	ATV312HU75S6 T8
		11/15	-	ATV312HD11M3 T9	ATV312HD11N4 T9	ATV312HD11S6 T9
		15/20	-	ATV312HD15M3 T9	ATV312HD15N4 T9	ATV312HD15S6 T9

(1) C2 up to 4 kW

(2) Supplied with integrated C3 EMC filter

Altivar 31C

0.18...15 kW

Simple machines Enclosed IP55 drives



Dimensions (in mm)	width x height x depth
Size 1: 210 x 240 x 163 / Size 2: 215 x 297 x 192	
Size 3: 230 x 340 x 208 / Size 4: 320 x 512 x 282	
Size 5: 440 x 625 x 282	

Supply voltage			Single-phase 200...240 V		Three-phase 380...500 V	
Degree of protection			IP55			
Description			Enclosure equipped with an Altivar 31 drive with external heatsink. Removable covers for adding 1 switch-disconnector or 1 circuit-breaker, 3 buttons and/or LEDs, 1 potentiometer			
Motor power	kW/HP	0.18/0.25	ATV31C018M2	Size 1	-	
		0.37/0.5	ATV31C037M2	Size 1	ATV31C037N4	Size 2
		0.55/0.75	ATV31C055M2	Size 1	ATV31C055N4	Size 2
		0.75/1	ATV31C075M2	Size 1	ATV31C075N4	Size 2
		1.1/1.5	ATV31CU11M2	Size 2	ATV31CU11N4	Size 2
		1.5/2	ATV31CU15M2	Size 2	ATV31CU15N4	Size 2
		2.2/3	ATV31CU22M2	Size 3	ATV31CU22N4	Size 3
		3/-	-	-	ATV31CU30N4	Size 3
		4/5	-	-	ATV31CU40N4	Size 3
		5.5/7.5	-	-	ATV31CU55N4 (1)	Size 4
		7.5/10	-	-	ATV31CU75N4 (1)	Size 4
		11/15	-	-	ATV31CD11N4 (1)	Size 5
		15/20	-	-	ATV31CD15N4 (1)	Size 5

(1) Drive in metal enclosure without cover.



Dimensions (in mm)	width x height x depth
T1:	45 x 317 x 245
T2:	60 x 317 x 245
T4:	150 x 308 x 232 (EMC plate installed)
T4:	150 x 232 x 232 (EMC plate not installed)
T5:	180 x 404 x 232 (EMC plate installed)
T5:	180 x 330 x 232 (EMC plate not installed)

Type of drive		Single-phase 240 V with integrated EMC filter	Three-phase 500 V with integrated EMC filter	
Degree of protection		IP20		
Drive	Output frequency	0.1...599 Hz		
	Type of control	Asynchronous motor		
		Synchronous motor		
	Transient overtorque	170...200% of the nominal motor torque		
Speed range		1 to 50		
Functions	Number of functions		150	
	Number of I/O	Analog inputs	3 - Response time : 3ms, resolution 10 bits	
		Logic inputs	6 - Response time : 8 ms, configurable in PTC and IN pwm	
	Logic outputs	1 - Updating time : 2 ms		
	Relay outputs	2		
Dialogue		4-digit display, remote display terminal (IP54 or IP55), remote graphic display terminal, SoMove setup software and SoMove Mobile application for mobile phone.		
Communication	Integrated	Modbus and CANopen - Bluetooth® link		
	As an option	DeviceNet, PROFIBUS DP V1, EtherNet/IP, Modbus TCP, EtherCat		
Reduction of current harmonics				
EMC filter	Integrated	C2 EMC		
	As an option	C1 EMC		
Motor power	kW	HP		
	0.18	1/4	ATV32H018M2 T1	–
	0.37	1/2	ATV32H037M2 T1	ATV32H037N4 T1
	0.55	3/4	ATV32H055M2 T1	ATV32H055N4 T1
	0.75	1	ATV32H075M2 T1	ATV32H075N4 T1
	1.1	1 1/2	ATV32HU11M2 T2	ATV32HU11N4 T1
	1.5	2	ATV32HU15M2 T2	ATV32HU15N4 T1
	2.2	3	ATV32HU22M2 T2	ATV32HU22N4 T2
	3	–	–	ATV32HU30N4 T2
	4	5	–	ATV32HU40N4 T2
	5.5	7 1/2	–	ATV32HU55N4 T4
	7.5	10	–	ATV32HU75N4 T4
	11	15	–	ATV32HD11N4 T5
15	20	–	ATV32HD15N4 T5	



Dimensions (in mm)		width x height x depth	
T2	: 130 x 230 x 175	T3	: 155 x 260 x 187
T4	: 175 x 295 x 187	T5A	: 210 x 295 x 213
T5B	: 230 x 400 x 213	T6	: 240 x 420 x 236
T7A	: 240 x 550 x 266	T7B	: 320 x 550 x 266
T8	: 320 x 630 x 290	T9	: 320 x 920 x 377
T10	: 360 x 1022 x 377	T11	: 340 x 1190 x 377
T12	: 440 x 1190 x 377	T13	: 595 x 1190 x 377
T14	: 890 x 1390 x 377	T15	: 1120 x 1390 x 377

Type of drive			Single-phase	Three-phase	Three-phase			
Supply voltage			200...240 V	200...240 V	380...480 V			
Degree of protection			IP20 for unprotected drives and IP41 on the upper part					
Drive	Output frequency		0.1...599 Hz up to 37 kW; 0.1...500 Hz from 45 to 800 kW					
	Type of control	Asynchronous motor	Kn ² quadratic ratio, flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), energy saving ratio					
		Synchronous motor	Vector control without speed feedback					
	Transient overtorque		120...130% of the nominal drive current for 60 seconds					
Speed range			1...100 in open loop mode					
Functions	Number of functions		> 150					
	Number of preset speeds		16					
	Number of I/O		Analog inputs 2...4/Logic inputs 6...20					
			Analog outputs 1...3/Logic outputs 0...8					
			Relay outputs 2...4					
			Safety input 1					
Dialogue			Remote graphic display terminal, SoMove setup software (3)					
Communication	Integrated		Modbus and CANopen					
	As an option		HVAC protocols: LonWorks, BACnet, METASYS N2, APOGEE FLN P1 Industrial protocols: Modbus TCP Daisy Chain, Modbus/Uni-Telway, EtherNet/IP, EtherCAT, DeviceNet, PROFIBUS DP V0 and V1, INTERBUS, CC-Link					
Cards (available as an option)			Multi-pump cards, I/O extension cards, "Controller Inside" programmable card					
Reduction of current harmonics			DC choke integrated or supplied with the drive or AFE Altivar (Active Front End)					
EMC filter	Integrated		C2 EMC	C2 EMC up to 7.5 kW	C2 EMC up to 4 kW			
	As an option		C1 EMC	C1 EMC	C3 EMC from 5.5 to 630 kW C1 EMC from 0.75 to 630 kW			
Motor power	kW/HP	0.37/0.5	ATV61H075M3	T2	–	–		
		0.75/1	ATV61HU15M3	T2	ATV61H075M3	T2	ATV61H075N4	T2
		1.5/2	ATV61HU22M3	T3	ATV61HU15M3	T2	ATV61HU15N4	T2
		2.2/3	ATV61HU30M3	T3	ATV61HU22M3	T3	ATV61HU22N4	T2
		3/–	ATV61HU40M3 (1)	T3	ATV61HU30M3	T3	ATV61HU30N4	T3
		4/5	ATV61HU55M3 (1)	T4	ATV61HU40M3	T3	ATV61HU40N4	T3
		5.5/7.5	ATV61HU75M3 (1)	T5A	ATV61HU55M3	T4	ATV61HU55N4	T4
		7.5/10	–	–	ATV61HU75M3	T5A	ATV61HU75N4	T4
		11/15	–	–	ATV61HD11M3X(2)	T5B	ATV61HD11N4	T5A
		15/20	–	–	ATV61HD15M3X(2)	T5B	ATV61HD15N4	T5B
		18.5/25	–	–	ATV61HD18M3X(2)	T6	ATV61HD18N4	T5A
		22/30	–	–	ATV61HD22M3X(2)	T6	ATV61HD22N4	T6
		30/40	–	–	ATV61HD30M3X(2)	T7B	ATV61HD30N4	T7A
		37/50	–	–	ATV61HD37M3X(2)	T7B	ATV61HD37N4	T7A
		45/60	–	–	ATV61HD45M3X(2)	T7B	ATV61HD45N4	T8
		55/75	–	–	ATV61HD55M3X(2)	T9	ATV61HD55N4	T8
		75/100	–	–	ATV61HD75M3X(2)	T9	ATV61HD75N4	T8
		90/125	–	–	ATV61HD90M3X(2)	T10	ATV61HD90N4	T9
		110/150	–	–	–	–	ATV61HC11N4	T9
		132/200	–	–	–	–	ATV61HC13N4	T10
		160/250	–	–	–	–	ATV61HC16N4	T11
		220/350	–	–	–	–	ATV61HC22N4	T12
250/400	–	–	–	–	ATV61HC25N4	T13		
315/500	–	–	–	–	ATV61HC31N4	T13		
400/600	–	–	–	–	ATV61HC40N4	T14		
500/700	–	–	–	–	ATV61HC50N4	T14		
630/900	–	–	–	–	ATV61HC63N4	T15		

(1) Must be used with a line choke, refer to the Schneider Electric catalogue.

(2) Drive supplied without EMC filter

(3) SoMove setup software : available from 2011. Altivar 61 is also supported by Powersuite software workshop.

For all other variants, please refer to the Schneider Electric catalogue.



Dimensions (in mm)	width x height x depth
T6	: 240 x 420 x 236
T8	: 320 x 630 x 290
T11	: 340 x 1190 x 377
T13	: 595 x 1190 x 377
T15	: 1120 x 1390 x 377

Type of drive		Three-phase			
Supply voltage		500...690 V			
Degree of protection		IP20 and IP41 on the upper part			
Drive	Output frequency	0.1...599 Hz up to 37 kW; 0.1...500 Hz from 45 to 800 kW			
	Type of control	Asynchronous motor	Kn ² quadratic ratio, flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), energy saving ratio		
		Synchronous motor	Vector control without speed feedback		
	Transient overtorque	120...130% of the nominal drive current for 60 seconds			
Speed range		1...100 in open loop mode			
Functions	Number of functions	> 150			
	Number of preset speeds	16			
	Number of I/O	Analog inputs 2...4/Logic inputs 6...20			
		Analog outputs 1...3/Logic outputs 0...8			
		Relay outputs 2...4			
		Safety input 1			
Dialogue		Remote graphic display terminal, SoMove setup software (1)			
Communication	Integrated	Modbus and CANopen			
	As an option	HVAC protocols: LonWorks, BACnet, METASYS N2, APOGEE FLN P1 Industrial protocols: Modbus TCP Daisy Chain, Modbus/Uni-Telway, EtherNet/IP, EtherCAT, DeviceNet, PROFIBUS DP V0 et V1, INTERBUS, CC-Link			
Cards (available as an option)		Multi-pump cards, I/O extension cards, "Controller Inside" programmable card			
Reduction of current harmonics		DC choke integrated or supplied with the product or AFE Altivar (Active Front End)			
EMC filter		Integrated			
Motor power	kW/HP	500 V	575 V	690 V	
		kW	HP	kW	
		2.2	3	3	
		3	—	4	
		4	5	5.5	
		5.5	7.5	7.5	
		7.5	10	11	
		11	15	15	
		15	20	18.5	
		18.5	25	22	
		22	30	30	
		30	40	37	
		37	50	45	
		45	60	55	
		55	75	75	
		75	100	90	
		90	125	110	
		110	150	132	
		132	—	160	
		160	200	200	
		200	250	250	
		250	350	315	
		315	450	400	
		400	550	500	
		500	700	630	
		630	800	800	
				ATV61HU30Y	T6
				ATV61HU40Y	T6
				ATV61HU55Y	T6
				ATV61HU75Y	T6
				ATV61HD11Y	T6
				ATV61HD15Y	T6
				ATV61HD18Y	T6
				ATV61HD22Y	T6
				ATV61HD30Y	T6
				ATV61HD37Y	T8
				ATV61HD45Y	T8
				ATV61HD55Y	T8
				ATV61HD75Y	T8
				ATV61HD90Y	T8
				ATV61HC11Y	T11
				ATV61HC13Y	T11
				ATV61HC16Y	T11
				ATV61HC20Y	T11
				ATV61HC25Y	T13
				ATV61HC31Y	T13
				ATV61HC40Y	T13
				ATV61HC50Y	T15
				ATV61HC63Y	T15
				ATV61HC80Y	T15

(1) SoMove setup software : available from 2011. Altivar 61 is also supported by Powersuite software workshop.

For all other variants, please refer to the Schneider Electric catalogue.



Dimensions (in mm)		width x height x depth	
ATV61W...			
TA2 : 235 x 490 x 272	TD : 310 x 665 x 315		
TA3 : 235 x 490 x 286	TE : 284 x 720 x 315		
TB : 255 x 525 x 286	TF : 284 x 880 x 343		
TC : 290 x 560 x 315	TG : 362 x 1000 x 364		

Type of drive		Three-phase 380...480 V				
Degree of protection		Type 12 (1) / IP54				
Drive	Output frequency	0.1...599 Hz up to 37 kW; 0.1...500 Hz from 45 to 800 kW				
	Type of control	Asynchronous motor	Kn ² quadratic ratio, flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), energy saving ratio			
	Synchronous motor	Vector control without speed feedback				
	Transient overtorque	120...130% of the nominal drive current for 60 seconds				
Speed range		1...100 in open loop mode				
Functions	Number of functions	> 150				
	Number of preset speeds	16				
	Number of I/O	Analog inputs 2...4/Logic inputs 6...20 Analog outputs 1...3/Logic outputs 0...8 Relay outputs 2...4 Safety input 1				
Dialogue		Remote graphic display terminal, SoMove setup software (2)				
Communication	Integrated	Modbus and CANopen				
	As an option	HVAC protocols: LonWorks, BACnet, METASYS N2, APOGEE FLN P1 Industrial protocols: Modbus TCP Daisy Chain, Modbus/Uni-Telway, EtherNet/IP, EtherCAT, DeviceNet, PROFIBUS DP V0 and V1, INTERBUS, CC-Link				
Cards (available as an option)		Multi-pump cards, I/O extension cards, "Controller Inside" programmable card				
Reduction of current harmonics		Integrated DC choke				
EMC filter	Integrated	C2 EMC				
	As an option	-				
Motor power	kW/HP	0.75/1	ATV61W075N4	TA2	ATV61E5075N4	TA2
		1.5/2	ATV61WU15N4	TA2	ATV61E5U15N4	TA2
		2.2/3	ATV61WU22N4	TA2	ATV61E5U22N4	TA2
		3/-	ATV61WU30N4	TA3	ATV61E5U30N4	TA3
		4/5	ATV61WU40N4	TA3	ATV61E5U40N4	TA3
		5.5/7.5	ATV61WU55N4	TB	ATV61E5U55N4	TB
		7.5/10	ATV61WU75N4	TB	ATV61E5U75N4	TB
		11/15	ATV61WD11N4	TC	ATV61E5D11N4	TC
		15/20	ATV61WD15N4	TD	ATV61E5D15N4	TD
		18.5/25	ATV61WD18N4	TD	ATV61E5D18N4	TD
		22/30	ATV61WD22N4	TE	ATV61E5D22N4	TE
		30/40	ATV61WD30N4	TF	ATV61E5D30N4	TF
		37/50	ATV61WD37N4	TF	ATV61E5D37N4	TF
		45/60	ATV61WD45N4	TG	ATV61E5D45N4	TG
		55/75	ATV61WD55N4	TG	ATV61E5D55N4	TG
75/100	ATV61WD75N4	TG	ATV61E5D75N4	TG		
90/125	ATV61WD90N4	TG	ATV61E5D90N4	TG		

Drive with integrated C1 filter: add the letter **C** at the end of the reference. For example, ATV61W075N4 becomes ATV61W075N4C

For other variants, please refer to the Schneider Electric catalogue.

(1) For ATV61W... range only.

(2) SoMove setup software : available from 2011. Altivar 61 is also supported by Powersuite software workshop.

Altivar 61

0.37...800 kW

Pumping and ventilation machines

IP54 Altivar 61 kit with preassembled enclosure



Drive	Kit
ATV61HC11N4	VW3A9541
ATV61HC13N4	VW3A9542
ATV61HC16N4	VW3A9543
ATV61HC22N4	VW3A9544
ATV61HC25N4	VW3A9545
ATV61HC31N4	
ATV61HC25N4	VW3A9546
ATV61HC31N4	
ATV61HC40N4	VW3A9547
ATV61HC50N4	
ATV61HC63N4	VW3A9548
	VW3A7102 braking unit
	VW3A9549
	Additional empty enclosure (600 mm)
	VW3A9550
	Additional empty enclosure (800 mm)
	VW3A9551

4



Dimensions (in mm)	width x height x depth
T11	: 330 x 950 x 377
T13	: 585 x 950 x 377
T15	: 1110 x 1150 x 377

Type of drive		Three-phase	Three-phase		
Supply voltage		380...480 V	500...690 V		
Degree of protection		Sideways and front IP31 - Top IP20 - Bottom IP00			
Drive	Output frequency	0.1...500Hz			
	Type of control	Asynchronous motor	Kn ² quadratic ratio, flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), energy saving ratio		
		Synchronous motor	Vector control without speed feedback		
	Transient overtorque	120...130% of the nominal drive current for 60 seconds			
Speed range		1...100 in open loop mode			
Functions	Number of functions	> 150			
	Number of preset speeds	16			
	Number of I/O	Analog inputs 2...4/Logic inputs 6...20 Analog outputs 1...3/Logic outputs 0...8 Relay outputs 2...4 Safety input 1			
Dialogue		Remote graphic display terminal, SoMove setup software (2)			
Communication	Integrated	Modbus and CANopen			
	As an option	HVAC protocols: LonWorks, BACnet, METASYS N2, APOGEE FLN P1 Industrial protocols: Modbus TCP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profbus DP, Profbus DP V1, DeviceNet, EthernetIP, CC-Link, INTERBUS			
Cards (available as an option)		Multi-pump cards, I/O extension cards, "Controller Inside" programmable card			
Reduction of current harmonics		Optional AC choke, Altivar AFE (Active Front End)			
EMC filter	Integrated	C3 EMC			
	As an option	C1 EMC			
Motor power	kW/HP	110/150	ATV61QC11N4	T11	-
		132/200	ATV61QC13N4	T11	-
		160/250	ATV61QC16N4	T11	-
		200/300	ATV61QC20N4	T13	-
		250/400	ATV61QC25N4	T13	-
		315/500	ATV61QC31N4	T13	-
		400/600	ATV61QC40N4	T15	-
		500/700	ATV61QC50N4	T15	-
630/900	ATV61QC63N4	T15	-		

500 V	575 V	690 V		
kW	HP	kW		
110	150	132	-	ATV61QC13Y T11
132	-	160	-	ATV61QC16Y T11
160	200	200	-	ATV61QC20Y T11
200	250	250	-	ATV61QC25Y T13
250	350	315	-	ATV61QC31Y T13
315	450	400	-	ATV61QC40Y T13
400	550	500	-	ATV61QC50Y T15
500	700	630	-	ATV61QC63Y T15
630	800	800	-	ATV61QC80Y T15

(1) SoMove setup software : available during 2011. Altivar 61 also works with the PowerSuite software workshop.

Altivar 61 Plus

90...2400 kW

Pumping and ventilation machines Solutions in IP23 and IP54 ready-assembled enclosures



Dimensions (in mm)	width x height x depth
ATV61EXC2C...	
E1	: 616 x 2159 x 659
E2	: 816 x 2159 x 659
E3	: 1016 x 2159 x 659
E4	: 1220 x 2159 x 659

Enclosure types		Three-phase 380...480 V - 500 V - 690 V (1)
Degree of protection		IP23, IP54
Drive	Output frequency	0.1...599 Hz up to 37 kW; 0.1...500 Hz from 45...2400 kW
	Type of control	Asynchronous motor Synchronous motor
	Transient overtorque	120...130% of the nominal drive current for 60 seconds
	Speed range	1...100 in open loop mode
Functions	Number of functions	> 150
	Number of preset speeds	16
	Number of I/O	Analog inputs 2...4/Logic inputs 6...20 Analog outputs 1...3/Logic outputs 0...8 Relay outputs 2...4
		Safety input 1
		Remote graphic display terminal, SoMove setup software (2)
Dialogue		
Communication	Integrated	Modbus and CANopen
	As an option	HVAC protocols: LonWorks, BACnet, METASYS N2, APOGEE FLN P1 Industrial protocols: Modbus TCP, Modbus/Uni-Telway, EtherNet/IP, EtherCAT, DeviceNet, PROFIBUS DP V0 and V1, INTERBUS, CC-Link.
Cards (available as an option)		Multi-pump cards, I/O extension cards, "Controller Inside" programmable card
Reduction of current harmonics		DC choke or Integrated AC choke, variant 12 pulse, AFE Altivar (Active Front End)
EMC filter	Integrated	C3 EMC
Equipment		A wide range of options listed in the catalogue provides add-ons for the standard offer as required. As well as the options listed in the catalogue, it is possible to customise the equipment. Just contact our teams of experts directly. - Water cooling solution - Integration of specific options



IP23	Three-phase 380...415 V			Three-phase 500 V			Three-phase 690 V		
	kW/HP	Dimensions		kW	Dimensions		kW	Dimensions	
	–	–		90	ATV61 EXC2D90N	E1	–	–	
	110/150	ATV61EXC2C11N4	E1	110	ATV61 EXC2C11N	E1	110	ATV61 EXC2C11Y	E1
	132/200	ATV61EXC2C13N4	E1	132	ATV61 EXC2C13N	E1	132	ATV61 EXC2C13Y	E1
	160/250	ATV61EXC2C16N4	E1	160	ATV61 EXC2C16N	E1	160	ATV61 EXC2C16Y	E1
	220/350	ATV61EXC2C22N4	E1	200	ATV61 EXC2C20N	E2	200	ATV61 EXC2C20Y	E1
	250/400	ATV61EXC2C25N4	E2	250	ATV61 EXC2C25N	E2	250	ATV61 EXC2C25Y	E2
	315/500	ATV61EXC2C31N4	E2	315	ATV61 EXC2C31N	E2	315	ATV61 EXC2C31Y	E2
	400/600	ATV61EXC2C40N4	E3	400	ATV61 EXC2C40N	E4	400	ATV61 EXC2C40Y	E2
	500/700	ATV61EXC2C50N4	E3	500	ATV61 EXC2C50N	E4	500	ATV61 EXC2C50Y	E4
	630/900	ATV61EXC2C63N4	E4	630	ATV61 EXC2C63N	E4	630	ATV61 EXC2C63Y	E4
				800	ATV61 EXC2C80Y	E4			

(1) The Altivar 61 range in ready-assembled enclosure consists of: an ATV61H... drive, a switch and fast-acting fuses, an IP65 remote mounting kit for graphic display terminal
(2) SoMove setup software : available from 2011. Altivar 61 is also supported by Powersuite software workshop.

IP23 offer available up to 2400 kW. For ratings above 800 kW, please consult your Regional Sales Office.

Dimensions (in mm)		width x height x depth	
ATV61EX...			
E5	: 616 x 2264 x 659	E9	: 616 x 2359 x 659
E6	: 816 x 2264 x 659	E10	: 816 x 2359 x 659
E7	: 1016 x 2264 x 659	E11	: 608 x 2359 x 659
E8	: 1216 x 2264 x 659	E12	: 808 x 2359 x 6590
		E13	: 1008 x 2359 x 659
		E14	: 1208 x 2359 x 659

IP54 (1)	Three-phase 380...415 V			Three-phase 500 V			Three-phase 690 V					
	Compact floor-standing enclosure			kW/HP	Dimensions		kW	Dimensions		kW	Dimensions	
				–			90	ATV61EXC5D90N	E5	–		
	110/150	ATV61EXC5C11N4	E5	110	ATV61EXC5C11N	E5	110	ATV61EXC5C11Y	E5			
	132/200	ATV61EXC5C13N4	E5	132	ATV61EXC5C13N	E5	132	ATV61EXC5C13Y	E5			
	160/250	ATV61EXC5C16N4	E5	160	ATV61EXC5C16N	E5	160	ATV61EXC5C16Y	E5			
	220/350	ATV61EXC5C22N4	E5	200	ATV61EXC5C20N	E6	200	ATV61EXC5C20Y	E5			
	250/400	ATV61EXC5C25N4	E6	250	ATV61EXC5C25N	E6	250	ATV61EXC5C25Y	E6			
	315/500	ATV61EXC5C31N4	E6	315	ATV61EXC5C31N	E6	315	ATV61EXC5C31Y	E6			
	400/600	ATV61EXC5C40N4	E7	400	ATV61EXC5C40N	E8	400	ATV61EXC5C40Y	E6			
	500/700	ATV61EXC5C50N4	E7	500	ATV61EXC5C50N	E8	500	ATV61EXC5C50Y	E8			
	630/900	ATV61EXC5C63N4	E8	630	ATV61EXC5C63N	E8	630	ATV61EXC5C63Y	E8			
							800	ATV61EXC5C80Y	E8			

(1) The IP54 offer is available for power ratings up to 800 kW. For higher power ratings up to 2400 kW, consult your customer care centre.

IP54 (2)	Three-phase 380...415 V			Three-phase 500 V			Three-phase 690 V					
	Separate air flow			kW/HP	Dimensions		kW	Dimensions		kW	Dimensions	
				–			90	ATV61EXS5D90N	E11	–		
	110/150	ATV61EXS5C11N4	E9	110	ATV61EXS5C11N	E11	110	ATV61EXS5C11Y	E11			
	132/200	ATV61EXS5C13N4	E9	132	ATV61EXS5C13N	E11	132	ATV61EXS5C13Y	E11			
	160/250	ATV61EXS5C16N4	E9	160	ATV61EXS5C16N	E11	160	ATV61EXS5C16Y	E11			
	220/350	ATV61EXS5C22N4	E9	200	ATV61EXS5C20N	E12	200	ATV61EXS5C20Y	E11			
	250/400	ATV61EXS5C25N4	E10	250	ATV61EXS5C25N	E12	250	ATV61EXS5C25Y	E12			
	315/500	ATV61EXS5C31N4	E10	315	ATV61EXS5C31N	E12	315	ATV61EXS5C31Y	E12			
	400/600	ATV61EXS5C40N4	E13	400	ATV61EXS5C40N	E14	400	ATV61EXS5C40Y	E12			
	500/700	ATV61EXS5C50N4	E13	500	ATV61EXS5C50N	E14	500	ATV61EXS5C50Y	E14			
	630/900	ATV61EXS5C63N4	E14	630	ATV61EXS5C63N	E14	630	ATV61EXS5C63Y	E14			
							800	ATV61EXS5C80Y	E14			

(2) The IP54 offer with separate air flow is available for power ratings up to 800 kW. For higher power ratings up to 2400 kW, consult your customer care centre.



Type of card	I/O extension Logic	Extended
Description	1 relay logic output ("C/O" contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs 1 input for PTC probes	1 x 0...20 mA differential current analog input 1 software-configurable voltage (0...10 VDC) or current (0...20 mA) analog input 2 software-configurable voltage ($\pm 10V$, 0...10 VDC) or current (0...20 mA) analog inputs 1 relay logic output ("C/O" contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs 1 input for PTC probes 1 frequency control input
Reference	VW3A3201	VW3A3202

4

"Controller Inside" programmable card



Type of card	Programmable "Controller Inside"
Description	10 logic inputs, 2 of which can be used for 2 counters or 4 of which can be used for 2 incremental encoders 2 analog inputs, 6 logic outputs, 2 analog outputs, a master port for the CANopen bus, a PC port for programming with the PS 1131 software workshop.
Reference	VW3A3501

Multi-pump cards



Type of card	Multi-pump
Description	The pump switching card ensures compatibility of applications developed on the Altivar 38. This card is specific to pump switching. It ensures optimum flow for an impeccable quality of service. Its algorithm both saves energy and prolongs equipment service life.
Reference	VW3A3502
Description	The VWA3503 "Water Solution" card can be used to support all multi-pump applications. This card offers all the functions needed to manage a pumping, booster, irrigation station, etc with the operational safety of a control and monitoring system.
Reference	VW3A3503

Accessories and options

Braking resistors



The network braking unit can be used to restore the following to the line supply:

- The energy from the motor
- The energy from the motors controlled by several drives connected on the same DC bus

Type of drive Supply voltage	Three-phase	
	200...240 V 50/60 Hz	380...480 V 50/60 Hz
ATV61H075M3	VW3A7701	–
ATV61HU15M3, HU22M3	VW3A7702	–
ATV61HU30M3, HU40M3	VW3A7703	–
ATV61HU55M3, HU75M3	VW3A7704	–
ATV61HD11M3X	VW3A7705	–
ATV61HD15M3X	VW3A7706	–
ATV61HD18M3X, HD22M3X	VW3A7707	–
ATV61HD30M3X	VW3A7708	–
ATV61HD37M3X, HD45M3X	VW3A7709	–
ATV61HD55M3X, HD75M3X	VW3A7713	–
ATV61HD90M3X	VW3A7714	–
ATV61H075N4...HU40N4, ATV61W075N4...WU55N4, ATV61W075N4C...WU55N4C	–	VW3A7701
ATV61HU55N4, HU75N4, ATV61WU75N4, WD11N4, ATV61WU75N4C, WD11N4C	–	VW3A7702
ATV61HD11N4, HD15N4, ATV61WD15N4, WD18N4, ATV61WD15N4C, WD18N4C	–	VW3A7703
ATV61HD18N4...HD30N4, ATV61WD22N4...WD37N4, ATV61WD22N4C...WD37N4C	–	VW3A7704
ATV61HD37N4, ATV61WD45N4, WD45N4C	–	VW3A7705
ATV61WD55N4...WD90N4, ATV61WD55N4C...WD90N4C	–	VW3A7706
ATV61HD45N4...HD75N4	–	VW3A7707
ATV61HD90N4, HC11N4	–	VW3A7710
ATV61HC13N4, HC16N4, E5C16N4	–	VW3A7711
ATV61HC22N4	–	VW3A7712
ATV61HC25N4	–	VW3A7715
ATV61HC31N4	–	VW3A7716
ATV61HC40N4, HC50N4, E5C50N4	–	VW3A7717
ATV61HC63N4	–	VW3A7718

Other accessories (see references in the Schneider Electric Catalogue)

- > Resistance braking units (integrated in ATV61 drives up to 220 kW)
- > Additional EMC input filters
- > AC line chokes
- > Optional DC chokes
- > Passive filters
- > Sinus filters
- > Motor chokes
- > Altivar AFE (Active Front End)
- > Regenerative network braking unit

Dimensions (in mm)		width x height x depth
T2	: 130 x 230 x 175	T3 : 155 x 260 x 187
T4	: 175 x 295 x 187	T5A : 210 x 295 x 213
T5B	: 230 x 400 x 213	T6 : 240 x 420 x 236
T7A	: 240 x 550 x 266	T7B : 320 x 550 x 266
T8	: 320 x 630 x 290	T9 : 320 x 920 x 377
T10	: 360 x 1022 x 377	T11 : 340 x 1190 x 377
T12	: 440 x 1190 x 377	T13 : 595 x 1190 x 377
T14	: 890 x 1390 x 377	T15 : 1120 x 1390 x 377



Type of drive		Single-phase	Three-phase	Three-phase				
Supply voltage		200...240 V (3)	200...240 V (3)	380...480 V (3)				
Degree of protection		IP20 for unprotected drives and IP41 on the upper part						
Drive	Output frequency	0...599 Hz up to 37 kW - 0...500 Hz from 45...630 kW						
	Type of control	Asynchronous motor	Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System					
		Synchronous motor	Vector control with and without speed feedback (4)					
	Transient overtorque	220% of nominal motor torque for 2 seconds, and 170% for 60 seconds						
Speed range		1...1000 in closed loop mode with encoder feedback, 1...100 in open loop mode						
Functions	Number of functions		> 150					
	Number of preset speeds		16					
	Number of I/O	Analog inputs	2...4					
		Logic inputs	6...20					
	Analog outputs	1...3						
	Logic outputs	0...8						
	Relay outputs	2...4						
Safety input	1							
Dialogue		Remote graphic display terminal, SoMove setup software (5)						
Communication	Integrated	Modbus and CANopen						
	As an option	Modbus TCP, Modbus/Uni-Telway, EtherNet/IP, EtherCAT, DeviceNet, PROFIBUS DP V0 and V1, INTERBUS, CC-Link.						
Cards (available as an option)		Encoder interface cards, I/O extension cards, "Controller Inside" programmable card						
Reduction of current harmonics		DC choke integrated or supplied with the product or Altivar AFE (Active Front End).						
EMC filter	Integrated	C2 EMC up to 4 kW, C3 EMC from 5,5 to 500 kW						
	As an option	C1 EMC from 0.75 to 500 kW						
Motor power	kW/HP	0.37/0.5	ATV71H075M3	T2	ATV71H037M3	T2	–	
		0.75/1	ATV71HU15M3	T2	ATV71H075M3	T2	ATV71H075N4	T2
		1.5/2	ATV71HU22M3	T3	ATV71HU15M3	T2	ATV71HU15N4	T2
		2.2/3	ATV71HU30M3	T3	ATV71HU22M3	T3	ATV71HU22N4	T2
		3/–	ATV71HU40M3 (1)	T3	ATV71HU30M3	T3	ATV71HU30N4	T3
		4/5	ATV71HU55M3 (1)	T4	ATV71HU40M3	T3	ATV71HU40N4	T3
		5.5/7.5	ATV71HU75M3 (1)	T5A	ATV71HU55M3	T4	ATV71HU55N4	T4
		7.5/10	–	–	ATV71HU75M3	T5A	ATV71HU75N4	T4
		11/15	–	–	ATV71HD11M3X (2)	T5B	ATV71HD11N4	T5A
		15/20	–	–	ATV71HD15M3X (2)	T5B	ATV71HD15N4	T5B
		18.5/25	–	–	ATV71HD18M3X (2)	T6	ATV71HD18N4	T5B
		22/30	–	–	ATV71HD22M3X (2)	T6	ATV71HD22N4	T6
		30/40	–	–	ATV71HD30M3X (2)	T7B	ATV71HD30N4	T7A
		37/50	–	–	ATV71HD37M3X (2)	T7B	ATV71HD37N4	T7A
		45/60	–	–	ATV71HD45M3X (2)	T7B	ATV71HD45N4	T8
		55/75	–	–	ATV71HD55M3X (2)	T9	ATV71HD55N4	T8
		75/100	–	–	ATV71HD75M3X (2)	T10	ATV71HD75N4	T8
		90/125	–	–	–	–	ATV71HD90N4	T9
		110/150	–	–	–	–	ATV71HC11N4	T10
		132/200	–	–	–	–	ATV71HC13N4	T11
		160/250	–	–	–	–	ATV71HC16N4	T12
		200/300	–	–	–	–	ATV71HC20N4	T13
		220/350	–	–	–	–	ATV71HC25N4	T13
		280/450	–	–	–	–	ATV71HC28N4	T13
		315/500	–	–	–	–	ATV71HC31N4	T14
		355/–	–	–	–	–	ATV71HC40N4	T14
		500/700	–	–	–	–	ATV71HC50N4	T15

(1) Must be used with a line choke, Refer to the Schneider Electric catalogue.

(2) Drive supplied without EMC filter.

(3) A three-phase 380...480 V range on base plate is available from 0.75 to 11 kW. Please refer to the Schneider Electric catalogue.

(4) Vector control with speed feedback for synchronous motors is supported by the S383 variant of the Altivar 71.

(5) SoMove setup software : available from 2011. Altivar 71 is also supported by Powersuite software workshop.

Altivar 71

0.37...630 kW

Complex, high-power machines High performance drives



Dimensions (in mm)		width x height x depth
T2	: 130 x 230 x 175	T3 : 155 x 260 x 187
T4	: 175 x 295 x 187	T5A : 210 x 295 x 213
T5B	: 230 x 400 x 213	T6 : 240 x 420 x 236
T7A	: 240 x 550 x 266	T7B : 320 x 550 x 266
T8	: 320 x 630 x 290	T9 : 320 x 920 x 377
T10	: 360 x 1022 x 377	T11 : 340 x 1190 x 377
T12	: 440 x 1190 x 377	T13 : 595 x 1190 x 377
T14	: 890 x 1390 x 377	T15 : 1120 x 1390 x 377

Type of drive		Three-phase		
Supply voltage		500... 690 V		
Degree of protection		IP20 for unprotected drives and IP41 on the upper part		
Drive	Output frequency	0...599 Hz up to 37 kW - 0...500 Hz from 45...630 kW		
	Type of control	Asynchronous motor	Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System	
		Synchronous motor	Vector control with and without speed feedback (1)	
	Transient overtorque	220% of nominal motor torque for 2 seconds, and 170% for 60 seconds		
Speed range		1...1000 in closed loop mode with encoder feedback, 1...100 in open loop mode		
Functions	Number of functions		> 150	
	Number of preset speeds		16	
	Number of I/O	Analog inputs	2...4	
		Logic inputs	6...20	
		Analog outputs	1...3	
		Logic outputs	0...8	
		Relay outputs	2...4	
	Safety input	1		
Dialogue		Remote graphic display terminal, SoMove setup software (2)		
Communication	Integrated	Modbus and CANopen		
	As an option	Modbus TCP, Modbus/Uni-Telway, EtherNet/IP, EtherCAT, DeviceNet, PROFIBUS DP V0 and V1, INTERBUS, CC-Link.		
Cards (available as an option)		Encoder interface cards, I/O extension cards, "Controller Inside" programmable card		
Reduction of current harmonics		DC choke integrated or DC choke optional or AFE Altivar (Active Front End)		
EMC filter		Integrated C3 EMC		
Motor power	kW/HP	500 V kW	575 V HP	690 V kW
		1.5 2.2 3 4 5.5 7.5 11 15 18.5 22 30 37 45 55 75 90 110 132 160 200 250 315 400 500	2 3 - 5 7.5 10 15 20 25 30 40 50 60 75 100 125 150 - 200 250 350 450 550 700	2.2 3 4 5.5 7.5 11 15 18.5 22 30 37 45 55 75 90 110 132 200 250 315 400 500 630

(1) Vector control with speed feedback for synchronous motors is supported by the S383 variant of the Altivar 71.

(2) SoMove setup software : available from 2011. Altivar 71 is also supported by Powersuite software workshop..

For all other variants, please refer to the Schneider Electric catalogue.

Altivar 71

0.75...75 kW

Complex, high-power machines IP54 drives



Dimensions (in mm)		width x height x depth
ATV71W..., ATV71E5... up to 75 kW		
TA2 : 235 x 490 x 272	TD : 310 x 665 x 315	
TA3 : 235 x 490 x 286	TE : 284 x 720 x 315	
TB : 255 x 525 x 286	TF : 284 x 880 x 343	
TC : 290 x 560 x 315	TG : 362 x 1000 x 364	

Type of drive		Three-phase 380...480 V				
					With switch	
Degree of protection		UL Type 12 (1) / IP54				
Drive	Output frequency	0...599 Hz up to 37 kW - 0...500 Hz from 45...75 kW				
	Type of control	Asynchronous motor	Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System			
		Synchronous motor	Vector control without speed feedback			
	Transient overtorque	220% of nominal motor torque for 2 seconds, and 170% for 60 seconds				
Speed range		1...1000 in closed loop mode with encoder feedback, 1...100 in open loop mode				
Functions	Number of functions	> 150				
	Number of preset speeds	16				
	Number of I/O	Analog inputs	2...4			
		Logic inputs	6...20			
		Analog outputs	1...3			
	Logic outputs	0...8				
	Relay outputs	2...4				
Safety input	1					
Dialogue		Remote graphic display terminal, SoMove setup software (2)				
Communication	Integrated	Modbus and CANopen				
	As an option	Modbus TCP, Modbus/Uni-Telway, EtherNet/IP, EtherCAT, DeviceNet, PROFIBUS DP V0 et V1, INTERBUS, CC-Link.				
Cards (available as an option)		Encoder interface cards, I/O extension cards, "Controller Inside" programmable card				
Reduction of current harmonics		Optional chokes and passive filters				
EMC filter	Integrated	C2 EMC				
	As an option	External C1 EMC				
Motor power	kW/HP	0.75/1	ATV71W075N4	TA2	ATV71E5075N4	TA2
		1.5/2	ATV71WU15N4	TA2	ATV71E5U15N4	TA2
		2.2/3	ATV71WU22N4	TA2	ATV71E5U22N4	TA2
		3/-	ATV71WU30N4	TA3	ATV71E5U30N4	TA3
		4/5	ATV71WU40N4	TA3	ATV71E5U40N4	TA3
		5.5/7.5	ATV71WU55N4	TB	ATV71E5U55N4	TB
		7.5/10	ATV71WU75N4	TB	ATV71E5U75N4	TB
		11/15	ATV71WD11N4	TC	ATV71E5D11N4	TC
		15/20	ATV71WD15N4	TD	ATV71E5D15N4	TD
		18.5/25	ATV71WD18N4	TD	ATV71E5D18N4	TD
		22/30	ATV71WD22N4	TD	ATV71E5D22N4	TD
		30/40	ATV71WD30N4	TF	ATV71E5D30N4	TF
		37/50	ATV71WD37N4	TF	ATV71E5D37N4	TF
		45/60	ATV71WD45N4	TG	ATV71E5D45N4	TG
		55/75	ATV71WD55N4	TG	ATV71E5D55N4	TG
75/100	ATV71WD75N4	TG	ATV71E5D75N4	TG		

(1) For ATV71W... range only.

(2) SoMove setup software : available from 2011. Altivar 71 is also supported by Powersuite software workshop.

Altivar 71

90...500 kW

Complex, high-power machines

IP54 Altivar 71 kit with preassembled enclosure



Drive		Kit
ATV71HD90N4		VW3A9541
ATV71HC11N4		VW3A9542
ATV71HC13N4		VW3A9543
ATV71HC16N4		VW3A9544
ATV71HC20N4		VW3A9545
ATV71HC25N4		
ATV71HC28N4		
ATV71HC20N4	With VW3A7101 braking unit	VW3A9546
ATV71HC25N4	With VW3A7101 braking unit	
ATV71HC28N4	With VW3A7101 braking unit	
ATV71HC31N4	Without braking unit	VW3A9547
ATV71HC40N4		
ATV71HC50N4		VW3A9548
	VW3A7102 braking unit	VW3A9549
	Additional empty enclosure (600 mm)	VW3A9550
	Additional empty enclosure (800 mm)	VW3A9551

4



Dimensions (in mm)	width x height x depth
T11	: 330 x 950 x 377
T13	: 585 x 950 x 377
T15	: 1110 x 1150 x 377

Type of drive		Three-phase	Three-phase		
Supply voltage		380...480 V	500...690 V		
Degree of protection		Sideways and front IP31 - Top IP20 - Bottom IP00			
Drive	Output frequency	0.1...500Hz			
	Type of control	Asynchronous motor	Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System		
		Synchronous motor	Vector control without speed feedback		
	Transient overtorque	220% of nominal motor torque for 2 seconds, and 170% for 60 seconds			
Speed range		1...1000 in closed loop mode with encoder feedback, 1...100 in open loop mode			
Functions	Number of functions		> 150		
	Number of preset speeds		16		
	Number of I/O	Analog inputs	2...4		
		Logic inputs	6...20		
		Analog outputs	1...3		
		Logic outputs	0...8		
		Relay outputs	2...4		
	Safety input	1			
Dialogue		Remote graphic display terminal, SoMove setup software (1)			
Communication	Integrated	Modbus and CANopen			
	As an option	Modbus TCP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profbus DP, Profbus DP V1, DeviceNet, EthernetIP, CC-Link, INTERBUS			
Cards (available as an option)		Multi-pump cards, I/O extension cards, "Controller Inside" programmable card			
Reduction of current harmonics		Optional AC choke, Altivar AFE (Active Front End)			
EMC filter	Integrated	C3 EMC			
	As an option	C1 EMC			
Motor power	kW/HP	90/125	ATV71QD90N4	T11	–
		110/150	ATV71QC11N4	T11	–
		132/200	ATV71QC13N4	T11	–
		160/250	ATV71QC16N4	T13	–
		200/300	ATV71QC20N4	T13	–
		250/400	ATV71QC25N4	T13	–
		315/500	ATV71QC31N4	T15	–
		400/600	ATV71QC40N4	T15	–
		500/700	ATV71QC50N4	T15	–

	500 V	575 V	690 V		
	kW	HP	kW		
	90	125	110	–	ATV71QC11Y T11
	110	150	132	–	ATV71QC13Y T11
	132	-	160	–	ATV71QC16Y T11
	160	200	200	–	ATV71QC20Y T13
	200	250	250	–	ATV71QC25Y T13
	250	350	315	–	ATV71QC31Y T13
	315	450	400	–	ATV71QC40Y T15
	400	550	500	–	ATV71QC50Y T15
	500	700	630	–	ATV71QC63Y T15

(1) SoMove setup software : available during 2011. Altivar 71 also works with the PowerSuite software workshop.

Altivar 71 Plus

90...2000 kW

Complex, high-power machines
Solutions in IP23 and IP54 ready-assembled enclosures



Dimensions (in mm)		width x height x depth	
ATV71EXC2C...			
E1 : 616 x 2159 x 659	E3 : 1016 x 2159 x 659		
E2 : 816 x 2159 x 659	E4 : 1216 x 2159 x 659		

Type of drive		Three-phase 380...480 V (1)	
Degree of protection		IP23 et IP54	
Drive	Output frequency	0...500 Hz	
	Type of control	Asynchronous motor	Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System
		Synchronous motor	Vector control without speed feedback
	Transient overtorque	220% of nominal motor torque for 2 seconds, and 170% for 60 seconds	
Speed range		1...1000 in closed loop mode with encoder feedback, 1...100 in open loop mode	
Functions	Number of functions		> 150
	Number of preset speeds		16
	Number of I/O	Analog inputs	2...4
		Logic inputs	6...20
	Analog outputs	1...3	
	Logic outputs	0...8	
	Relay outputs	2...4	
	Safety input	1	
Dialogue		Remote graphic display terminal, SoMove setup software (2)	
Communication	Integrated	Modbus and CANopen	
	As an option	Modbus TCP, Modbus/Uni-Telway, EtherNet/IP, EtherCAT, DeviceNet, PROFIBUS DP V0 et V1, INTERBUS, CC-Link.	
Cards (available as an option)		Encoder interface cards, I/O extension cards, "Controller Inside" programmable card,	
Reduction of current harmonics		DC choke or Integrated AC choke, variant 12 pulse, AFE Altivar (Active Front End)	
EMC filter	Integrated	C3 EMC	
	As an option	External C1 EMC	
Equipment		A wide range of options listed in the catalogue provides add-ons for the standard offer as required. As well as the options listed in the catalogue, it is possible to customise the equipment. Just contact our teams of experts direct. - Water cooling solution - Integration of specific options	

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IP23	Three-phase 380...415 V			Three-phase 500 V			Three-phase 690 V		
	kW/HP	Dimensions		kW	Dimensions		kW	Dimensions	
	90/125	ATV71EXC2D90N4	E1	90	ATV71 EXC2D90N	E1	-		
	110/150	ATV71EXC2C11N4	E1	110	ATV71 EXC2C11N	E1	110	ATV71 EXC2C11Y	E1
	132/200	ATV71EXC2C13N4	E1	132	ATV71 EXC2C13N	E1	132	ATV71 EXC2C13Y	E1
	160/250	ATV71EXC2C16N4	E1	160	ATV71 EXC2C16N	E2	160	ATV71 EXC2C16Y	E1
	200/300	ATV71EXC2C20N4	E2	200	ATV71 EXC2C20N	E2	200	ATV71 EXC2C20Y	E2
	250/400	ATV71EXC2C25N4	E2	250	ATV71 EXC2C25N	E2	250	ATV71 EXC2C25Y	E2
	280/450	ATV71EXC2C28N4	E2	-	-	-	-		
	315/500	ATV71EXC2C31N4	E3	315	ATV71 EXC2C31N	E4	315	ATV71 EXC2C31Y	E2
	400/600	ATV71EXC2C40N4	E3	400	ATV71 EXC2C40N	E4	400	ATV71 EXC2C40Y	E4
	500/700	ATV71EXC2C50N4	E4	500	ATV71 EXC2C50N	E4	500	ATV71 EXC2C50Y	E4

(1) The Altivar 71 range in ready-assembled enclosure consists of:

- An ATV71H... drive
- A switch and fast-acting fuses
- An IP65 remote mounting kit for graphic display terminal

(2) SoMove setup software : available from 2011. Altivar 71 is also supported by Powersuite software workshop.

IP23 offer available up to 2000 kW. For ratings above 630 kW, please consult your Customer Care Centre.

Altivar 71 Plus

90...2000 kW

Complex, high-power machines

Solutions in IP23 and IP54 ready-assembled enclosures



Dimensions (in mm)		width x height x depth	
ATV71EX...			
E5	: 616 x 2264 x 659	E9	: 616 x 2359 x 659
E6	: 816 x 2264 x 659	E10	: 816 x 2359 x 659
E7	: 1016 x 2264 x 659	E11	: 608 x 2359 x 659
E8	: 1216 x 2264 x 659	E12	: 808 x 2359 x 6590
		E13	: 1008 x 2359 x 659
		E14	: 1208 x 2359 x 659

IP54 (1)	Three-phase 380...415 V			Three-phase 500 V			Three-phase 690 V		
	kW/HP	Dimensions		kW	Dimensions		kW	Dimensions	
Compact floor-standing enclosure	90/125	ATV71EXC5D90N4	E5	90	ATV71EXC5D90N	E5	–		
	110/150	ATV71EXC5C11N4	E5	110	ATV71EXC5C11N	E5	110	ATV71EXC5C11Y	E5
	132/200	ATV71EXC5C13N4	E5	132	ATV71EXC5C13N	E5	132	ATV71EXC5C13Y	E5
	160/250	ATV71EXC5C16N4	E5	160	ATV71EXC5C16N	E6	160	ATV71EXC5C16Y	E5
	220/350	ATV71EXC5C20N4	E6	200	ATV71EXC5C20N	E6	200	ATV71EXC5C20Y	E6
	250/400	ATV71EXC5C25N4	E6	250	ATV71EXC5C25N	E6	250	ATV71EXC5C25Y	E6
	280/450	ATV71EXC5C28N4	E6	–	–	–	–		
	315/500	ATV71EXC5C31N4	E7	315	ATV71EXC5C31N	E8	315	ATV71EXC5C31Y	E6
	400/600	ATV71EXC5C40N4	E7	400	ATV71EXC5C40N	E8	400	ATV71EXC5C40Y	E8
	500/700	ATV71EXC5C50N4	E8	500	ATV71EXC5C50N	E8	500	ATV71EXC5C50Y	E8
							630	ATV71EXC5C63Y	E8

(1) The IP54 offer is available for power ratings up to 630 kW. For higher power ratings up to 2000 kW, consult your customer care centre.

IP54 (2)	Three-phase 380...415 V			Three-phase 500 V			Three-phase 690 V		
	kW/HP	Dimensions		kW	Dimensions		kW	Dimensions	
Separate air flow	90/125	ATV71EXS5D90N4	E9	90	ATV71EXS5D90N	E11	–		
	110/150	ATV71EXS5C11N4	E9	110	ATV71EXS5C11N	E11	110	ATV71EXS5C11Y	E11
	132/200	ATV71EXS5C13N4	E9	132	ATV71EXS5C13N	E11	132	ATV71EXS5C13Y	E11
	160/250	ATV71EXS5C16N4	E9	160	ATV71EXS5C16N	E12	160	ATV71EXS5C16Y	E11
	220/350	ATV71EXS5C20N4	E10	200	ATV71EXS5C20N	E12	200	ATV71EXS5C20Y	E12
	250/400	ATV71EXS5C25N4	E10	250	ATV71EXS5C25N	E12	250	ATV71EXS5C25Y	E12
	280/450	ATV71EXS5C28N4	E10	–	–	–	–		
	315/500	ATV71EXS5C31N4	E13	315	ATV71EXS5C31N	E14	315	ATV71EXS5C31Y	E12
	400/600	ATV71EXS5C40N4	E13	400	ATV71EXS5C40N	E14	400	ATV71EXS5C40Y	E14
	500/700	ATV71EXS5C50N4	E14	500	ATV71EXS5C50N	E14	500	ATV71EXS5C50Y	E14
							630	ATV71EXS5C63Y	E14

(2) The IP54 offer with separate air flow is available for power ratings up to 630 kW. For higher power ratings up to 2000 kW, consult your customer care centre.



Dimensions (in mm) width x height x depth without remote graphic terminal	
T4 : 175 x 295 x 161	T6 : 240 x 420 x 210
T5A : 210 x 295 x 187	T7 : 240 x 550 x 230
T5B : 230 x 400 x 187	

Type of drive		Three-phase	Three-phase			
Supply voltage		200...240 V	380...480 V			
Degree of protection		IP20 for unprotected drives and IP41 on the upper part				
Drive	Output frequency	0...599 Hz				
	Type of control	Asynchronous motor	Flux vector control with or without sensor, voltage/frequency ratio			
		Synchronous motor	Vector control with and without speed feedback			
	Transient overtorque		220% of nominal motor torque for 2 seconds, and 170% for 60 seconds			
Speed range		1...1000 in closed loop mode with encoder feedback, 1...100 in open loop mode				
Functions	Number of functions		> 150			
	Number of preset speeds		16			
	Number of I/O	Analog inputs	2...4			
		Logic inputs	6...20			
		Analog outputs	1...3			
		Logic outputs	0...8			
		Relay outputs	2...4			
Safety input		1				
Dialogue		Remote graphic display terminal, SoMove setup software (1)				
Communication	Integrated	Modbus and CANopen				
	As an option	Fipio, Ethernet, Modbus Plus, PROFIBUS DP, DeviceNet, Uni-Telway, INTERBUS				
Cards (available as an option)		Encoder interface cards, I/O extension cards, "Controller Inside" programmable card, Encoder emulation card				
Reduction of current harmonics		Integrated DC choke or supplied with the product				
EMC filter	Integrated	C2 EMC up to 5.5 kW				
	As an option	External C2 EMC from 7.5 kW				
Motor power	kW / HP / A	4 / 5 / 10	–	ATV71LD10N4Z	T4	
		5,5 / 7,5 / 14	–	ATV71LD14N4Z	T4	
		5,5 / 7,5 / 27	ATV71LD27M3Z	T5B	–	
		7,5 / 10 / 17	–	–	ATV71LD17N4Z	T5A
		7,5 / 10 / 33	ATV71LD33M3Z	T5B	–	
		11 / 15 / 27	–	–	ATV71LD27N4Z	T5B
		11 / 15 / 54	ATV71LD54M3Z	T6	–	
		15 / 20 / 33	–	–	ATV71LD33N4Z	T5B
		15 / 20 / 66	ATV71LD66M3Z	T6	–	
		22 / 30 / 48	–	–	ATV71LD48N4Z	T7

(1) SoMove setup software : available from 2011. Altivar LIFT is also supported by Powersuite software workshop.



Type of card	I/O extension	Extended
	Logic	
Description	1 relay logic output ("C/O" contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs 1 input for PTC probes	1 x 0...20 mA differential current analog input 1 software-configurable voltage (0...10 VDC) or current (0...20 mA) analog input 2 software-configurable voltage ($\pm 10V$, 0...10 VDC) or current (0...20 mA) analog inputs 1 relay logic output ("C/O" contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs, 1 input for PTC probes, 1 frequency control input
Reference	VW3A3201	VW3A3202

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"Controller Inside" programmable card



Type of card	Programmable "Controller Inside"
Description	10 logic inputs, 2 of which can be used for 2 counters or 4 of which can be used for 2 incremental encoders 2 analog inputs, 6 logic outputs, 2 analog outputs, a master port for the CANopen bus, a PC port for programming with the PS 1131 software workshop
Reference	VW3A3501

Encoder interface cards



Type of card	Encoder interface with		
	Differential outputs (RS422)	Open collector outputs (NPN)	Push-pull outputs
Operating frequency	300 kHz		
Reference	5 V	VW3A3401	–
	12 V	–	VW3A3403
	15 V	VW3A3402	VW3A3404
	24 V	–	VW3A3407

Type of card (1)	Resolver	Universal	Sincos Absolute	Incremental with emulation
Speed feedback resolution	12 bits	16 bits	16 bits	10,000
Encoder type supported	Resolver with 2, 4, 6 or 8 poles	"SinCos, SinCosHiperface EnDat, SSI"	Sincos Absolute	"Incremental RS 422 - 5 V or 15 V"
References	VW3A3408	VW3A3409	VW3A3410	VW3A3411

Supported by Altivar LIFT and Altivar71 with S383 firmware version



Communication tools	Remote display terminal (IP54 & IP65)	Remote graphic display terminal	Multi-loader	Simple Loader	Dongle Bluetooth® (TM)
Altistart 01					
Altistart 22	x				x
Altistart 48	x				
Altivar 12	x		x	x	x
Altivar 212		x	x	x	x
Altivar 312	x	x	x	x	x
Altivar 31C	x			x	x
Altivar 32	x	x	x	x	
Altivar LIFT		x	x	x	x
Altivar 61		x	x	x	x
Altivar 71		x	x	x	x
Altivar 61 Plus		x	x	x	x
Altivar 71 Plus		x	x	x	x
Altivar 61Q (Water Cooled)		x	x	x	x
Altivar 71Q (Water Cooled)		x	x	x	x

Accessories & Options	ALTISTART			ALTIVAR												
	01	22	48	12	21	212	312	31C	32	61	71	LIFT	61 Plus	71 Plus	61Q	71Q
Panel cut-out adaptor for mounting control unit at 90°									x							
Ferrite suppressors for downstream contactor opening				x			x	x								
Additional EMC filter				x	x		x	x	x	x	x		x	x	x	x
Passive filters										x	x		x	x	x	x
Sinus filters										x	x		x	x	x	x
Line choke			x	x			x	x	x	x	x		x	x	x	x
Motor chokes				x				x	x	x	x		x	x	x	x
EMC conformity kit				x												
UL Type 1 conformity kit							x				x					
DNV kit			x								x					
Mechanical base kit for mounting GV2 circuit-breaker									x							
Mounting plates				x			x		x	x			x		x	
Braking resistors for vertical movements											x					
Braking resistors and braking units				x			x		x	x	x		x	x	x	x
References	If options or accessories not listed, please refer to the Schneider Electric catalogue.															

For Altivar 1000 or 1100, please consult our Customer Care Centre.



Industrial protocols	ALTISTART			ALTIVAR													
	01	22	48	12	212	312	31C	32	61	71	LIFT	61 Plus	71 Plus	61Q	71Q	1000	1100
Canopen						●	●	●	●	●	●	●	●	●	●	○	
CANopen Daisy chain						○											
CC-Link									○	○	○	○	○	○	○		
DeviceNet			Δ			○	○	○	○	○	○	○	○	○	○	○	
EtherCAT			Δ						●	●							
Ethernet			Δ														●
Ethernet IP								○	○	○	○	○	○	○	○		
Ethernet TCP/IP							○			○							
Fipio			○			○	○		○	○	○	○	○	○	○		
INTERBUS S									○	○	○	○	○	○	○		
Modbus		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Modbus Plus									○	○	○	○	○	○	○		
Modbus TCP						○		○	○	○	○	○	○	○	○		
Modbus/ Unitelway									○	○	○	○	○	○	○		
PROFIBUS DP			Δ			○	○	○	○	○	○	○	○	○	○	●	●
PROFIBUS DP V0								○	○	○	○	○	○	○	○		
PROFIBUS DP V1								○	○	○	○	○	○	○	○		
References	Please refer to the Schneider Electric catalogue or consult our Customer Care Centre.																

HVAC protocols	ALTISTART			ALTIVAR													
	01	22	48	12	212	312	31C	32	61	71	LIFT	61 Plus	71 Plus	61Q	71Q	1000	1100
Lonworks					○				○			○		○			
Metasys N2					●				○			○		○			
Apogee FLN					●				○			○		○			
BACnet					●				○			○		○			
References	Please refer to the Schneider Electric catalogue or consult our Customer Care Centre.																

● Embedded ○ Option Δ Gateway

Communication modules



Altistart 48/Altivar 31 starters/drives		Ethernet/Modbus	DeviceNet/Modbus	Fipio/Modbus	PROFIBUS DP/Modbus	
Parameter setting		–	–	–	Standard configurator	ABC configurator program
References	Bridge	TSXETG100	–	–	–	–
	Gateway	–	LUFP9	LUFP1	LA9P307	LUFP7
Cable references	L = 0.3 m	–	VW3A8306R03	VW3A8306R03	–	VW3A8306R03
	L = 1 m	–	VW3A8306R10	VW3A8306R10	VW3P07306R10	VW3A8306R10
	L = 3 m	VW3A8306D30	VW3A8306R30	VW3A8306R30	–	VW3A8306R30

Selection guide

4

	⇒ <i>Applications :</i> Lexium 32 is the perfect drive system for applications involving high-precision, dynamic positioning.	⇒ <i>Applications :</i> Lexium SDx stepper drives and motors are used for short-distance positioning applications requiring maximum accuracy and high torque.		
	Servo Drives	Servo Motors	Stepper Drives	Stepper Motors
	Lexium 32	Lexium BMH	Lexium SD2	Lexium BRS2
				
		Lexium BSH	Lexium SD3	Lexium BRS3
				
Machines	Packaging machines Material handling machines Material working machines Assembling machines		Printing machines Labelling machines Screen printing machines	
Description	The Lexium 32 servo range consists of three high-performance book-size servo drive models – Lexium 32 Compact, Lexium 32 Advanced and Lexium 32 Modular – and two motor families – the versatile medium-inertia Lexium BMH and the dynamic low-inertia Lexium BSH.		The Lexium SDx stepper motor drive range consists of two high-precision stepper drive lines – the three-phase stepper drives Lexium SD3 and the two-phase stepper drives Lexium SD2. These drive lines are complemented by two perfectly matched stepper motor families – Lexium BRS3 three-phase stepper motors and Lexium BRS2 two-phase stepper motors.	
Power range	0.15...7 kW		up to 750 W	
Voltage range	115...240 VAC, 400...480 VAC		24...48 VDC, 115...240 VAC	
Speed	up to 8000 rpm		up to 1000 rpm	
Torque	up to 84 Nm		up to 16.5 Nm	
Communication interfaces	CANopen, CANmotion, PROFIBUS DP, DeviceNet, EtherNet/IP		CANopen, CANmotion, PROFIBUS DP or Pulse/Direction	
	Safety function (STO) on board Enhanced Safety Module (SS1, SS2, SLS, SOS) Encoder module for digital and analog encoders and resolvers		Safety function (STO) on board (Lexium SD3 28)	

⇒ Applications :

Lexium Integrated Drives allow for extremely space-saving decentralised motion solutions.

⇒ Applications :

The Lexium Linear Motion products are designed for maximum flexibility, performance and cost-effectiveness. This range offers products for all linear movements in the automation industry from single-axis to multi-axis systems.

Integrated Drives

Lexium ILA



Lexium ILE



Lexium ILS



Lexium ILP / ILT



Linear Motion

Lexium PAS



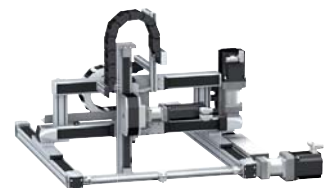
Lexium CAS



Lexium TAS



Lexium MAX



Format adjustment
Printing machines
Material handling machines

Material handling machines
Material working machines
On-the-fly working machines
Assembling machines

The Lexium ILx Integrated Drives comprise motor, positioning controller, power electronics, fieldbus and "Safe Torque Off" safety function in an extremely compact single device. Lexium ILx Integrated Drives are available with all important motor technologies (servo, brushless DC, stepper).

Lexium Linear Motion is a comprehensive linear motion range comprising Lexium PAS portal axes, Lexium TAS linear tables, Lexium CAS cantilever and telescopic axes and Lexium MAX multi-axis systems.

100...370 W
24...48 VDC, 115 to 240 VAC
up to 9000 rpm
up to 12 Nm

RS485, CANopen, PROFIBUS DP, DeviceNet, EtherNet/IP, EtherCAT, Ethernet POWERLINK, Modbus TCP, Pulse/Direction

Safety function (STO) on board
(Lexium ILA, Lexium ILE, Lexium ILS)

Stand-alone device with controller inside (Lexium ILP)

Single axes:

Stroke up to 5.5 m
Load up to 150 kg
Speed up to 8 m/s

Multi axes:

Stroke up to 5.5 m
Load up to 130 kg
Speed up to 4 m/s
Available as individual components or completely pre-assembled, customised systems with drives and motors

Selection guide

⇒ Applications :

Lexium Motion Controllers can be used as a stand-alone motion and automation controllers for machines without a PLC or as pure motion controllers for machines in which a PLC takes care of automation control.

Axis controller

Lexium Motion Controllers



4

Machines

Packaging machines
Material handling machines
Material working machines
Assembling machines

Description

The compact LMC Lexium Motion Controllers are used to control multiple synchronised axes via a motion bus and feature high performance coupled with economy.

Technical information

Synchronisation of up to 4 axes in 2 ms
Synchronisation of up to 8 axes in 4 ms

PLCopen function blocks single / multi axis control
Application function blocks (Rotary knife, Flying shear, Clamping, Grouping/Ungrouping)

Communication interfaces

Modbus, CANmotion, Profibus DP, DeviceNet, Ethernet TCP/IP (for programming)

Lexium Controller Motion control Motion controller



Controller type		Optimised	Standard	Extended	
Drive synchronisation	Up to 4 axes	2 ms			
CAN Motion bus	Up to 8 axes	4 ms			
Interpolation of drive position loops		250 µs			
Internal memory	RAM	1 MB			
	Flash Eeprom	1 MB			
	Protected RAM	60 Kb			
Expert application	Application function blocks	yes			
	Single-axis PLCopen control	yes			
	Multi-axis PLCopen control	yes			
	2D interpolation	yes			
Number of logic inputs		8 + 4 Fast inputs			
Number of logic outputs		8	8		
Communication	Modbus	yes	yes	yes	yes
	CANopen automation	–	yes	yes	yes
	Ethernet TCP/IP	–	yes	yes	yes
	Profibus DP V1	–	–	yes	–
	Device Net	–	–	–	yes
Reference		LMC10	LMC20	LMC20A1307	LMC20A1309

4

Software solutions



Easy Motion... for configuring motion control functions

- Axis parameter setting
- Drive and controller adjustment and diagnostics
- Creation of position registers via the Teach function
- Management of axis operating modes and manual control
- Configuration of positioning tasks
- Editing cam profiles
- Application back up and restore



Motion Pro... for configuring and programming motion control functions

- Retains the same benefits as Easy Motion mode for motion control
- Creates the whole application, control system function and motion control function, using the programming editor conforming to standard IEC 61131
- Saves the machine signature
- Protection of application programs



Main functions		Lexium 32 Compact	Lexium 32 Advanced	Lexium 32 Modular
Communication	Integrated	Modbus serial link Pulse train	Modbus serial link CANopen, CANmotion machine bus	Modbus serial link Pulse train
	As an option	–	–	CANopen, CANmotion machine bus, DeviceNet, EtherNet/IP, PROFIBUS DP
	Operating modes	Manual mode (JOG) Electronic gearbox Speed control Current control	Homing Manual mode (JOG) Speed control Current control Position control	Homing Manual mode (JOG) Motion sequence Electronic gearbox Speed control Current control Position control
	Functions	Auto-tuning, monitoring, stopping, conversion		
		–	Stop window Rapid entry of position values	Stop window Rapid entry of position values Rotary axes Position register
24 V $\overline{\text{---}}$ logic inputs		6, reassignable	3, reassignable	4, reassignable
24 V $\overline{\text{---}}$ capture inputs (1) (2)		–	1	2
24 V $\overline{\text{---}}$ logic outputs (1)		5, reassignable	2, reassignable	3, reassignable
Analog inputs		2	–	
Pulse control input		1, configurable as: RS 422 link 5 V or 24 V push-pull 5 V or 24 V open collector		
ESIM PTO output		RS 422 link		
Safety functions	Integrated	"Safe Torque Off" STO		
	As an option	–		Safe Stop 1 (SS1) and Safe Stop 2 (SS2) Safe Operating Stop (SOS) Safe Limited Speed (SLS)
Sensor	Integrated	SinCos Hiperface® sensor		
	As an option	–		Resolver encoder Analog encoder Digital encoder
Architecture		Control via: Logic or analog I/O	Control via: Motion controller via CANopen and CANmotion machine bus	Control via: Schneider Electric or third-party PLCs via communication buses and networks
Type of servo drive		LXM 32C	LXM 32A	LXM 32M



Main functions

Application type		High load, With robust adjustment of the movement	High dynamic range, Power density
Flange size		70, 100, 140 and 205 mm	55, 70, 100 and 140 mm
Continuous stall torque		1.2 to 84 Nm	0.5 to 33.4 Nm
Encoder type		Single turn SinCos: 32,768 points/turn and 131,072 points/turn Multiturn SinCos: 32,768 points/turn x 4096 turns and 131,072 points/turn x 4096 turns	Single turn SinCos: 131,072 points/turn Multiturn SinCos: 131,072 points/turn x 4096 turns
Degree of protection	Casing	IP 65 (IP 67 conformity kit as an option)	
	Shaft end	IP 50 or IP 65 (IP 67 conformity kit as an option)	
Type of servo motor		Lexium BMH	Lexium BSH



Lexium 32 servo drive/BMH or BSH servo motor combinations

Servo motors				Lexium 32C, 32A and 32M servo drives			
BMH (IP50, IP65 or IP67)		BSH (IP50, IP65 or IP67)		100...120 V single-phase supply voltage with integrated EMC filter			
				LXM 32●U90M2			
				Continuous output current: 3 A rms			
				Nominal operating point			Stall torques
Type of servo motor	Rotor inertia	Type of servo motor	Rotor inertia	Nominal torque	Nominal speed	Nominal power	M_0/M_{max}
	kgcm ²		kgcm ²	Nm	rpm	W	Nm/Nm
		BSH 0551T	0.06	0.49	3000	150	0.5/1.5
		BSH 0552T	0.10	0.77	3000	250	0.8/1.9
		BSH 0553T	0.13				
BMH 0701T	0.59						
		BSH 0701T	0.25				
		BSH 0702T	0.41				
BMH 0702T	1.13						
BMH 0703T	1.67						
		BSH 1001T	1.40				
BMH1001T	3.2						
BMH1002T	6.3						



Lexium 32 servo drive/BMH or BSH servo motor combinations

Servo motors				Lexium 32C, 32A and 32M servo drives			
BMH (IP50, IP65 or IP67)		BSH (IP 50, IP65 or IP67)		200...240 V single-phase supply voltage with integrated EMC filter			
				LXM 32●U45M2			
				Continuous output current: 1.5 A rms			
				Nominal operating point			Stall torques
Type of servo motor	Rotor inertia	Type of servo motor	Rotor inertia	Nominal torque	Nominal speed	Nominal power	M_0/M_{max}
	kgcm ²		kgcm ²	Nm	rpm	W	Nm/Nm
		BSH 0551T	0.06	0.45	6000	300	0.5/1.4
		BSH 0552T	0.10				
		BSH 0553T	0.13				
		BSH 0701T	0.25				
BMH 0701T	0.59						
		BSH 0702T	0.41				
		BSH 0703T	0.58				
BMH 0702T	1.13						
		BSH 1001T	1.40				
BMH 0703T	1.67						
BMH 1001T	3.2						
		BSH 1002T	2.31				
BMH 1002T	6.3						
BMH 1003T	9.4						
BMH 1401P	16.5						

LXM 32●U18M2 Continuous output current: 6 A rms				LXM 32●D30M2 Continuous output current: 10 A rms			
Nominal operating point			Stall torques	Nominal operating point			Stall torques
Nominal torque	Nominal speed	Nominal power	M_0/M_{max}	Nominal torque	Nominal speed	Nominal power	M_0/M_{max}
Nm	rpm	W	Nm/Nm	Nm	rpm	W	Nm/Nm
1.14	3000	350	1.2/3.3				
1.35	2500	350	1.4/4.2				
1.36	2500	350	1.4/3.5				
				2.07	2500	550	2.2/6.1
				2.3	2500	600	2.5/6.4
				3.1	2000	650	3.4/8.7
				2.75	2500	700	3.3/6.3
				3.3	2000	700	3.4/8.9
				3.5	2000	750	6/10.3

LXM 32●U90 M2 Continuous output current: 3 A rms				LXM 32●D18M2 Continuous output current: 6 A rms				LXM 32●D30M2 Continuous output current: 10 A rms			
Nominal operating point			Stall torques	Nominal operating point			Stall torques	Nominal operating point			Stall torques
Nominal torque	Nominal speed	Nominal power	M_0/M_{max}	Nominal torque	Nominal speed	Nominal power	M_0/M_{max}	Nominal torque	Nominal speed	Nominal power	M_0/M_{max}
Nm	rpm	W	Nm/Nm	Nm	rpm	W	Nm/Nm	Nm	rpm	W	Nm/Nm
0.74	6000	450	0.8/2.5								
0.84	6000	550	1.2/3								
0.94	5000	500	1.3/3.5								
1.1	4000	450	1.4/4								
				1.8	5000	950	2.2/7.2				
				2.1	4000	900	2.6/7.4				
				2.1	4000	900	2.5/7.4				
				2.2	4000	900	2.7/7.5				
				2.9	3000	900	3.4/10.2				
				2.8	3000	900	3.4/10.2				
								3.7	4000	1500	5.8/16.4
								4.6	3000	1450	6/18.4
								5.6	2500	1450	8.2/22.8
								6.9	2000	1450	10.3/30.8



Lexium 32 servo drive/BMH or BSH servo motor combinations

Servo motors				Lexium 32C, 32A and 32M servo drives								
				380...480 V three-phase supply voltage with integrated EMC filter								
BMH (IP50, IP65 or IP67)		BSH (IP50, IP 65 or IP67)		LXM 32●U60N4 Continuous output current: 1.5 A rms				LXM 32●D12N4 Continuous output current: 3 A rms				
Type of servo motor	Rotor inertia kgcm ²	Type of servo motor	Rotor inertia kgcm ²	Nominal operating point			Stall torques M ₀ /M _{max}	Nominal operating point			Stall torques M ₀ /M _{max}	
				Nominal torque Nm	Nominal speed rpm	Nominal power W		Nominal torque Nm	Nominal speed rpm	Nominal power W		
		BSH 0551P	0.06	0.48	6000	300	0.5/1.5					
		BSH 0552P	0.10	0.65	6000	400	0.8/2.5					
		BSH 0553P	0.13	0.65	6000	400	1.05/3.5					
BMH 0701P	0.59			1.1	3000	350	1.2/4.2					
BMH 0701P	0.59							1.3	5000	700	1.4/4.2	
		BSH 0701P	0.25					1.32	5000	700	1.4/3.5	
		BSH 0702P	0.41					1.64	5000	850	2.2/7.6	
BMH 1001P	3.2							1.9	4000	800	3.3/10.8	
BMH 0702P	1.13							2.2	3000	700	2.5/7.4	
BMH 0703P	1.67											
		BSH 0703P	0.58									
		BSH 1001P	1.40									
BMH 1001P	3.2											
BMH 1002P	6.3											
		BSH 1002P	2.31									
BMH 1003P	9.4											
		BSH 1003P	3.2									
BMH 1401P	16.5											
		BSH 1004P	4.2									
		BSH 1401P	7.4									
BMH 1402P	32.0											
		BSH 1402T	12.7									
		BSH 1403T	17.9									
BMH 1403P	47.5											
		BSH 1404P	23.7									
BMH 2051P	71.4											
BMH 2052P	129											
BMH 2053P	190											

LXM 32●D18N4 Continuous output current: 6 A rms				LXM 32●D30N4 Continuous output current: 10 A rms				LXM 32●D72N4 Continuous output current: 24 A rms			
Nominal operating point			Stall torques	Nominal operating point			Stall torques	Nominal operating point			Stall torques
Nominal torque	Nominal speed	Nominal power	M_0/M_{max}	Nominal torque	Nominal speed	Nominal power	M_0/M_{max}	Nominal torque	Nominal speed	Nominal power	M_0/M_{max}
Nm	rpm	W	Nm/Nm	Nm	rpm	W	Nm/Nm	Nm	rpm	W	Nm/Nm
2.4	5000	1300	3.4/10.2								
2.44	5000	1300	3.1/11.3								
2.7	4000	1100	3.3/9.6								
3.1	4000	1300	3.4/10.2								
3.9	4000	1600	6.2/18.4								
4	4000	1700	5.8/18.3								
				6.2	4000	2600	8.4/25.1				
				6.3	3000	2000	8/28.3				
				7.6	3000	2400	10.3/30.8				
				8.3	2500	2100	10/37.9				
				9.5	2500	2500	11.1/27				
								12.1	3000	3800	16.8/50.3
								12.3	3000	3900	19.5/59.3
								12.9	3000	4100	27.8/90.2
								14.2	3000	4500	24/71.8
								19	2500	5000	33.4/103.6
								25.8	2000	5400	34.4/103.4
								41.6	1500	6500	62.5/170
								52.2	1200	6500	84/232



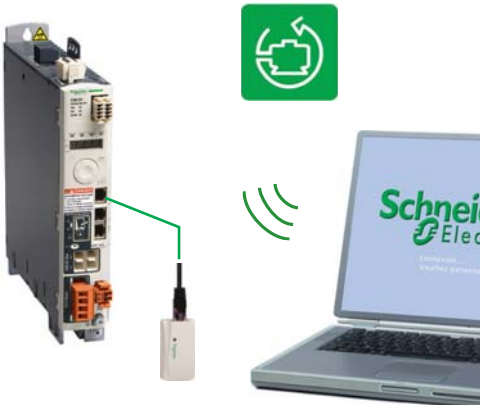
Multi-Loader configuration tool	
Use	For downloading configurations from a PC or drive and duplicating them on another drive. The drives do not need to be powered-up. Supplied with: 1 cordset equipped with 2 RJ45 connectors 1 cordset equipped with one type A USB connector and one mini B USB connector 1 x 2 GB SD memory card 1 x female/female RJ 45 adaptor 4 AA 1.5 V LR6 round batteries
Reference	VW3 A8 121

4



	Single memory card	Pack of 25 memory cards
Use	Used to store parameters of the Lexium 32 servo drive. Another Lexium 32 servo drive can be commissioned immediately if the application is undergoing maintenance or duplication.	
Reference	VW3 M8 705	VW3 M8 704

Memory card recorder	
Use	Writes data from the Lexium 32 servo drive to the memory card. This recorder is not supplied by Schneider Electric.
Reference	See the User's manual



SoMove setup software

The SoMove setup software is used to configure, adjust, debug and maintain the Lexium 32 servo drive, as for all other Schneider Electric variable speed drives and starters. It communicates via Bluetooth® wireless link with the servo drive, which is equipped with the Modbus-Bluetooth® adaptor (VW3 A8 114).

SoMove Mobile application for mobile phone

The SoMove Mobile software converts any compatible mobile phone into a remote graphic display terminal, offering an identical Human-Machine Interface. Particularly suitable for on-site or remote maintenance operations, the SoMove Mobile software can be used to print out and save configurations, import them from a PC and export them to a PC, or to a servo drive equipped with the Modbus adaptor via the Bluetooth® wireless link.



Communication modules

Lexium 32M can be connected to the following communication buses and networks: CANopen and CANmotion, DeviceNet, Profibus DP V1, EtherNet/IP

Reference	Description	Part Number
	CANopen / CANmotion module with 2 * RJ 45 connectors	VW3 A3 608
	CANopen / CANmotion module with SUB-D 9 connector	VW3 A3 618
	DeviceNet module	VW3 M3 301
	Profibus DP V1 module	VW3 A3 607
	EtherNet/IP module	VW3 A3 616
	Module CANopen / CANmotion avec bornier 5 points de vis	VW3 A3 628
	Module EtherCAT with 5 points screw terminal	VW3 A3 601



Second encoder modules

Lexium 32M has an input for an additional encoder to connect third party motor (motor encoder) or to improve positioning accuracy (machine encoder)

Reference	Description	Part Number	Machine	Motor
	Module for resolver encoder	VW3 M3 401		x
	Module for digital encoder (A/B/I, BiSS, EndDat 2.2, SSI)	VW3 M3 402	x	
	Module for analog encoder (1 Vpp/Hall, 1 Vpp, Hiperface)	VW3 M3 403	x (Hiperface only)	x



Safety module

eSM safety module allows Lexium 32M servo drives to access additional IEC/EN 61800-5-2 safety functions: SS1, SS2, SLS, SOS

Reference	Description	Part Number
	eSM safety module allows	VW3 M3 501

Connection elements

Power cordsets

Description	Cables equipped with one M23 industrial connector (servo motor end)	Cables equipped with one M40 industrial connector (servo motor end)	
From servo motor	BMH 070●●, BMH 100●●, BMH 1401P, BSH 055●●, BSH 070●●, BSH 100●●, BSH 1401P	BMH 1402P, BMH 1403P	BMH 205●P, BSH 1402T, BSH 1403T, BSH 1404P
To servo drive	LXM 32●●●●●●	LXM 32●D72N4	LXM 32●D72N4
Composition	[(4 x 1.5 mm ²) + (2 x 1 mm ²)]	[(4 x 2.5 mm ²) + (2 x 1 mm ²)]	[(4 x 4 mm ²) + (2 x 1 mm ²)]
Length	3 m	3 m	3 m
Reference	VW3 M5 101 R30	VW3 M5 102 R30	VW3 M5 103 R30

Encoder cordsets

Description	SinCos Hiperface® encoder cables equipped with an M23 industrial connector (servo motor end) and an RJ45 connector with 8 + 2 contacts (servo drive end)
From servo motor	BMH ●●●●●, BSH ●●●●●
To servo drive	LXM 32●●●●●●
Composition	[3 x (2 x 0.14 mm ²) + (2 x 0.34 mm ²)]
Length	3 m
Reference	VW3 M8 102 R30



Assignment of BRS2 2-phase stepper motors and SD2 stepper motor drives

BRS2 2-phase stepper motors	SD21●●U20C	SD21●●U50C
	24...48 V; 3 A	24...48 V; 5 A
BRS236	0.07 Nm	–
BRS242	0.23...0.53 Nm	–
BRS257	0.64...1.69 Nm	0.64...1.69 Nm
BRS285	–	2.96...9.20 Nm

4



Assignment of BRS3 3-phase stepper motors and SD3 stepper motor drives

BRS3 3-phase stepper motors	SD326●U25	SD328●U25	SD326●U68	SD328●U68
	115 V / 230 V; 2.5 A; including mains filter		115 V / 230 V; 6.8 A; including mains filter and fan	
BRS368	1.7 Nm / 1.5 Nm		–	
BRS397	2.3 Nm / 2.0 Nm		–	
BRS39A	4.5 Nm / 4.0 Nm		–	
BRS39B	6.8 Nm / 6.0 Nm		–	
BRS3AC	–		13.5 Nm / 12.0 Nm	
BRS3AD	–		19.7 Nm / 16.5 Nm	



Assignment of stepper motors, stepper motor drives SD3 15

3-phase stepper motors	SD3 15
	24...48 VDC; max. 10 A
Motors with F winding	
BRS 364F	0.46 Nm / 0.40 Nm
BRS 366F	0.92 Nm / 0.80 Nm
BRS 368F	1.50 Nm / 1.30 Nm
BRS 397F	2.00 Nm / 1.85 Nm
BRS 39AF	4.20 Nm / 3.40 Nm
BRS 39BF	5.55 Nm / 4.80 Nm
Motors with H winding	
BRS 364H	0.51 Nm / 0.45 Nm
BRS 366H	1.02 Nm / 0.90 Nm
BRS 368H	1.70 Nm / 1.50 Nm
BRS 397H	2.26 Nm / 2.00 Nm
BRS 39AH	4.80 Nm / 4.00 Nm
BRS 39BH	6.50 Nm / 5.75 Nm



Integrated Drives		Lexium ILA	Lexium ILE	Lexium ILS	Lexium ILP / ILT
Type of process		Dynamic process and accurate positioning	Automatic format adjustment	Short distance movements with accurate positioning	
Type of technology		Integrated drive with servo motor	Integrated drive with dc brushless motor	Integrated drive with three-phase stepper motor	Integrated drive with two-phase stepper motor
Main characteristics		Highly dynamic Compact Integrated holding brake in option	High holding torque without power Integrated gearbox in option	High torque at low speed	
Dynamic		★★★★	★★	★★★	★★★
Precision and stability		★★★★	★★	★★★★	★★★★
Energy saving		★★★★★	★★★★	★★	★★
Motor inertia		Medium			
Control interface	Control signals	Input/output		Pulse/direction Input/output	Pulse/direction Input/output
	Bus and networks	CANopen, PROFIBUS DP, RS 485 serial link, DeviceNet, EtherCAT, Modbus TCP, Ethernet Powerlink, EtherNet/IP			CANopen, RS485
	Motion bus	-			
Association	Nominal power	150...305W	100...350W	100...350W	100...350W
Drive/motor combinations	Nominal speed	500...9000 min ⁻¹	1500...7000 min ⁻¹	0...1000 min ⁻¹	0...1000 min ⁻¹
Drive characteristics	Nominal torque	0.26...0.78 Nm	0.18...0.5 Nm	0.45...6 Nm	0.11...5.87 Nm
Motor characteristics	Safety function	"Safe Torque Off"			
Motor characteristics	Type of sensor (resolution) (1)	Single turn SinCos encoder (16.384 increments/turn) Multiturn SinCos encoder (16.384 increments/turn × 4096 turns)	Absolute value encoder (12...1380 increments/turn)	Index pulse monitoring	Index pulse monitoring
	Motor flange size	57	66	57, 85	36, 42, 57, 85
Accessories		Cable, Connector kits, Installation sets, Commissioning tools, Planetary gearboxes			Cable, Connector kits, Installation sets, Commissioning tools
References		ILA	ILE	ILS	ILP ILT

Lexium ILA/ILE/ILS Motion Control Lexium Integrated Drives



Lexium ILA with Servo Motor	Nominal Torque (Nm)	Maximum Torque (Nm)	Nominal Speed (Rpm)	Maximum Speed (Rpm)	Nominal Power (W)
ILS1 for CANopen, PROFIBUS DP, RS485, Pulse-Direction, Motion Sequence Mode					
ILA1●571P	0.26	0.6	5500	7500	150
ILA1●571T	0.26	0.43	7500	11500	200
ILA1●572P	0.45	0.72	4300	6200	200
ILA1●572T	0.41	0.61	5000	7500	215
ILA2 for DeviceNet, EtherCAT, EtherNet/IP, Modbus TCP, Ethernet Powerlink					
ILA2●571P	0.44	0.62	5100	7000	235
ILA2●571T	0.31	0.45	7000	9000	255
ILA2●572P	0.78	1.62	3400	4300	275
ILA2●572T	0.57	0.85	5100	6800	305



Lexium ILE with included spurwheel gearbox.
Ratios: 18:1, 38:1, 54:1, 115:1

Lexium ILE with included worm gearbox with hollow shaft.
Ratios: 24:1, 54:1, 92:1, 115:1

Lexium ILE with Brushless DC Motor	Nominal Torque (Nm)	Detent Torque (Nm)	Nominal Speed (Rpm)	Maximum Speed (Rpm)
ILE1 for CANopen, PROFIBUS DP, RS485				
ILE1●661	0.24	0.08	4800	5000
ILE1●661 spurwheel gearing	up to 11.0	up to 8.0	44	44
ILE1●661 worm gearing	up to 10.6	up to 16.7	44	44
ILA2 for DeviceNet, EtherCAT, EtherNet/IP, Modbus TCP, Ethernet Powerlink				
ILE2●661	0.26	0.08	6000	7000
ILE2●661 spurwheel gearing	up to 12	up to 9.19	44	44
ILE2●661 worm gearing	up to 10.6	up to 16.7	44	44
ILE2●662	0.5	0.106	5000	7000



Lexium ILS with three-phase Stepper Motor	Maximum Torque (Nm)	Holding Torque (Nm)	Speed (Rpm)
ILS1 for CANopen, PROFIBUS DP, RS485, Pulse-Direction, Motion Sequence Mode			
ILS1●571●	0.45	0.51	1000
ILS1●572●	0.9	1.02	600
ILS1●573●	1.5	1.7	450
ILS1●851●	2.0	2.0	450
ILS1●852●	4.0	4.0	200
ILS1●853P	6.0	6.0	120
ILS1●853T	4.5	4.5	300
ILS1 for CANopen, PROFIBUS DP, RS485, Pulse-Direction, Motion Sequence Mode			
ILS2●571●	0.45	0.51	1100
ILS2●572●	0.9	1.02	900
ILS2●573●	1.5	1.7	600
ILS2●851●	2.0	2.0	600
ILS2●852●	4.0	4.0	380
ILS2●853P	6.0	6.0	200
ILS2●853T	4.5	4.5	300

Lexium ILP/ILT Motion Control Lexium Integrated Drives



Lexium ILP, Lexium ILT with two-phase Stepper Motor	Nominal Torque (Nm)	Holding Torque (Nm)	Maximum Speed (Rpm)
ILP for RS485 with programmable interface			
ILP2R361	0.11	0.11	1800
ILP2R421	0.19	0.19	1500
ILP2R422	0.33	0.33	1500
ILP2R423	0.39	0.39	1500
ILP2R571	0.63	0.63	1500
ILP2R572	0.86	0.86	1500
ILP2R573	1.44	1.44	1500
ILP2R574	1.77	1.77	1500
ILP2R851	2.13	2.13	1000
ILP2R852	3.12	3.12	1000
ILP2R853	5.87	5.87	1000
ILT for Pulse/Direction, CANopen			
ILT2●361	0.11	0.11	1800
ILT2●421	0.19	0.19	1500
ILT2●422	0.33	0.33	1500
ILT2●423	0.39	0.39	1500
ILT2●571	0.63	0.63	1500
ILT2●572	0.86	0.86	1500
ILT2●573	1.44	1.44	1500
ILT2●574	1.77	1.77	1500
ILT2●851	2.13	2.13	1000
ILT2●852	3.12	3.12	1000
ILT2●853	5.87	5.87	1000

Lexium Linear Motion Motion Control Linear axes



Product		Lexium PAS B	Lexium PAS S
Axis type		Portal axes	
Movement	Number of directions	1	
	Movement type	Typically horizontal	
	Position of the load	On carriage	
Drive		Toothed belt	Ballscrew
Type of guide		Ball or roller	Ball
Main characteristics		High dynamic response, Long stroke length, High positioning speed	High precision movement (positioning, repeatability, guiding), High feed forces, High rigidity
Dynamic response		★★★★★	★★★
Precision		★★★	★★★★★
Maximum payload		100 kg	100 kg
Maximum driving force		2600 N	4520 N
Maximum speed of movement of the load		8 m/s	1.25 m/s
Maximum working stroke		5500 mm	3000 mm
Repeatability		± 0.05 mm	± 0.02 mm
Options		Choice of guide type: Ball (for applications requiring high forces and torques) or roller (simple, cost-effective solution), Wide range of sensors, Choice of carriage type for adapting to the load, Option to add carriages, Protective metal strip.	Choice of pitch, Protective metal strip, Wide range of sensors, Choice of carriage type for adapting to the load, Option to add carriages, Option to add ballscrew supports for longer axes
Reference		PAS 4●B	PAS 4●S

Multi-axis systems



Product		Lexium MAX H	Lexium MAX S
Axis type		Double portal axes	
Movement	Number of directions	1	
	Movement type	Combination of two parallel axes	
	Position of the load	On two parallel carriages	
Multi-axis system type		PAS 4●B axes + PAS 4●H support axis (driven by the load)	PAS 4●B + PAS 4●B axes (shaft-driven)
Drive		Toothed belt on one axis	Toothed belt on both axes
Type of guide		Ball or roller	Ball or roller
Main characteristics		Long stroke length, High dynamic response, High precision movement (positioning, guiding)	Long stroke length, High precision movement (positioning, guiding), High feed forces
Maximum payload		250 kg	300 kg
Maximum working stroke	On the X-axis	5500 mm	
	On the Y-axis	–	
	On the Z-axis	–	
Options		Choice of guide type: Ball (for applications requiring high forces and torques) or roller (simple, cost-effective solution), Protective metal strip, Anti-corrosion version, Anti-static belt, Wide range of sensors, Several different motor mounting options, Variable distance between the two axes	
Reference		MAX H	MAX S



Lexium TAS	Lexium CAS 4	Lexium CAS 3	Lexium CAS 2
Linear tables	Cantilever axes with mobile structure on profile	Cantilever axes with mobile structure on parallel rods	Telescopic axes
1			
Typically horizontal	Typically vertical		Typically horizontal
On carriage	On the side of the profile or on the 2 end blocks	On the 2 end blocks	On carriage
Ballscrew	Toothed belt	Toothed belt or rack	Toothed belt
Double, ball	Ball or roller	Ball	Ball or roller
High precision movement (positioning, repeatability, guiding), High feed forces, High rigidity, Feed movement without mechanical backlash	Long stroke length, High feed forces, Option to mount the load on the side of the profile or on the end blocks, High rigidity	Compact, Mobile structure with light travel weight	Long stroke length from a compact unit, High rigidity, High dynamic response
★★	★★★★	★★★★	★★★★
★★★★★	★★★	★★★	★★
150 kg	50 kg	18 kg	35 kg
2580 N	2150 N	705 N	1500 N
1 m/s	3 m/s	3 m/s	3 m/s
1500 mm	1200 mm	500 mm	2400 mm
± 0.02 mm	± 0.05 mm	± 0.05 mm	± 0.1 mm
Choice of pitch , Several different motor mounting options	Choice of guide type: Ball (for applications requiring high forces and torques) or roller (simple, cost-effective solution), Protective metal strip, Anti-corrosion version, Wide range of sensors	Anti-corrosion version, Anti-static belt	Choice of guide type: Ball (for applications requiring high forces and torques) or roller (simple, cost-effective solution), Choice of carriage type for adapting to the load
TAS 4	CAS 4	CAS 3	CAS 2

4



Lexium MAX P	Lexium MAX R2	Lexium MAX R3
Linear positioners	Portal robots	
2		3
Horizontal and vertical: Combination of one X-axis and one Z-axis	Horizontal: Combination of two perpendicular axes X and Y	Horizontal and vertical: Combination of two perpendicular axes X and Y and one Z-axis
On the side or on the end blocks of the Z-axis profile	On the Y-axis carriage	On the side or on the end blocks of the Z-axis profile
MAX S + CAS 4 axes	MAX S + MAX H axes	MAX S + MAX H + CAS 4 axes
MAX S + CAS 3 axes	MAX S + PAS 4●B axes	MAX S + MAX H + CAS 3 axes
Toothed belt on each axis		
Ball or roller		
Dynamic load positioning	Long stroke length on both axes	Long stroke length on three axes
50 kg	130 kg	50 kg
5500 mm		
–	1500 mm	1500 mm
1200 mm	–	1200 mm
Choice of guide type: Ball (for applications requiring high forces and torques) or roller (simple, cost-effective solution), Wide range of sensors Supplied as standard: Protective metal strip , Anti-corrosion version		
MAX P	MAX R●2	MAX R●3

5

Schneider Electric has been leading the way in the motor starter market for more than 80 years. Its TeSys products offer an extensive range of innovative motor protection and power control solutions.

TeSys

Protect your machines and installations with TeSys - a comprehensive range of contactors, circuit breakers, starters, motor starters and power control components.



5 | Motor control



Motor control components

TeSys contactors	5/2 to 5/11
Contactors, TeSys K, D, F, B	
Variable composition contactors, TeSys CV	
TeSys protection components	5/12 to 5/33
Thermal-magnetic circuit-breakers	
Magnetic circuit-breakers	
Fuse carriers, switch-disconnector-fuses	
Thermal overload relays	
Electronic thermal overload relays	
Electronic overload relays	
Starter-controller, TeSys T	
Multifunction protection relays	
Switch disconnectors Mini Vario and Vario	
TeSys starters	5/34 to 5/41
Combination motor starters	
Starter-controller, TeSys U	
Controller, TeSys U	
Enclosed motor starters	
TeSys installation system	5/42 to 5/43
For motor starter components with spring terminals,	
TeSys Quickfit technology	

Components for power control applications 5/44 to 5/50

Lighting, capacitor switching, heating and changeover contactor pairs



Connections

screw clamp terminals

Rated operational current	le max AC-3 (Ue ≤ 440 V)	6 A	9 A	12 A
	le AC-1 (θ ≤ 40° C)	-	20 A	-
Rated operational power	220/240 V	1.5 kW	2.2 kW	3 kW
in category AC3	380/400 V...415/440 V	2.2 kW	4 kW	5.5 kW
	660/690 V...500 V	3 kW	4 kW	4 kW
Contactor type (1)*	~	LC1K06**	LC1K09**	LC1K12**
	≡	LP1K06** or LP4K06**	LP1K09 or LP4K09**	LP1K12 or LP4K12**
Reversing contactor type *	~	LC2K06	LC2K09	LC2K12
with mechanical interlock	≡	LP2K06 or LP5K06	LP2K09 or LP5K09	LP2K12 or LP5K12

spring terminals

Add the figure 3 before the voltage code. Example: **LC1K0610**** becomes **LC1K06103****

Faston connectors, 1 x 6.35 or 2 x 2.8

Add the figure 7 before the voltage code. Example: **LC1K0610**** becomes **LC1K06107****

solder pins for printed circuit boards

Add the figure 5 before the voltage code. Example: **LC1K0610**** becomes **LC1K06105****

(1) Basic reference, to be completed by adding **01** for NC auxiliary contact, or **10** for NO auxiliary contact.

* Basic reference to be completed by adding the coil voltage code

Standard control circuit voltages

~ supply

Contactors LC1K (0.8...1.15 Uc) (0.85...1.1 Uc)

Volts	12	20	24	36	42	48	110	115	120	127	200/208	220/230	230	230/240
50/60 Hz	J7	Z7	B7	C7	D7	E7	F7	FE7	G7	FC7	L7	M7	P7	U7
Volts	256	277	380/400	400	400/415	440	480	500	575	600	660/690			
50/60 Hz	W7	UE7	Q7	V7	N7	R7	T7	S7	SC7	X7	Y7			

Example of complete reference: **LC1K0910P7**

≡ supply

Contactors LP1K (0.8...1.15 Uc)

Volts	12	20	24	36	48	60	72	100	110	125	155	174	200	220	230	240	250
Code	JD	ZD	BD	CD	ED	ND	SD	KD	FD	GD	PD	QD	LD	MD	MPD	MUD	UD

Coil with integral suppression device available, add **3** to the code required. Example: **JD3**

Low consumption

Contactors LP4K (0.7...1.30 Uc), coil suppression as standard

Volts	12	20	24	48	72	110	120
Code	JW3	ZW3	BW3	EW3	SW3	FW3	GW3

Example of complete reference: **LC1K0910BD**



Auxiliary contact blocks

instantaneous, screw clamp connections

	■ for LC1, LP1K, LP4			■ for LC1, LP1K				
Composition	2NO	- 2NC	1NO 1NC	4NO	3NO 1NC	2NC 2NC	1NO 3NC	- 4NC
Reference	LA1KN20	LA1KN02	LA1KN11	LA1KN40	LA1KN31	LA1KN22	LA1KN13	LA1KN04

electronic time delay

Relay outputs, with common point changeover contact, \sim or \equiv 24...48, 2 A maximum

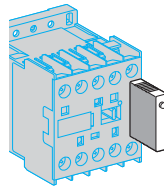
Control voltage 0.85...1.1 U_c

Maximum switching capacity 250 VA or 150 W

Operating temperature -10...+60°C

Reset time: 1.5 s during the time delay period, 0.5 s after time delay period

Type	On-delay	
Timing range	1...30 s	
Composition	1	
Voltage	\sim or \equiv 24...48 V	\sim 110...240
Reference	LA2KT2E	LA2KT2U



Suppressor modules

For LC1, LP1-K

Type	Varistor (\sim and \equiv)				Diode (\equiv) + Zener		RC (\sim)
Voltage	12...24 V	32...48 V	50...129 V	130...250 V	12...24 V	32...48 V	220...250 V
Reference	LA4KE1B	LA4KE1E	LA4KE1FC	LA4KE1UG	LA4KC1B	LA4KC1E	LA4KA1U



Connections

screw clamp terminals or connectors

Rated operational voltage		690 V					
Rated operational current	le max AC-3 (Ue ≤ 440 V)	9 A	12 A	18 A	25 A	32 A	38 A
	le AC-1 (θ ≤ 60° C)	25 A		32 A	40 A	50 A	
Rated operational power in category AC3	220/240 V	2.2 kW	3 kW	4 kW	5.5 kW	7.5 kW	9 kW
	380/400 V	4 kW	5.5 kW	7.5 kW	11 kW	15 kW	18.5 kW
	415/440 V	4 kW	5.5 kW	9 kW	11 kW	15 kW	18.5 kW
	500 V	5.5 kW	7.5 kW	10 kW	15 kW	18.5 kW	18.5 kW
	660/690 V	5.5 kW	7.5 kW	10 kW	15 kW	18.5 kW	18.5 kW
	1000 V	–	–	–	–	–	–
Contactor type *		LC1D09	LC1D12	LC1D18	LC1D25	LC1D32	LC1D38
Reversing contactor type * with mechanical interlock		LC2D09	LC2D12	LC2D18	LC2D25	LC2D32	LC2D38

spring terminals (1)

Add the figure 3 before the voltage code. Example: LC1D09P7 becomes LC1-093P7

lug-clamps (2)

Add the figure 6 before the voltage code. Example: LC1D09P7 becomes LC1-096P7

Faston connectors (3) 2 x 6.35 (power) and 1 x 6.35 (control) up to D12 only

Add the figure 9 before the voltage code. Example: LC1D09P7 becomes LC1-099P7

* Basic reference to be completed by adding the coil voltage code



(1)



(2)



(3)

Standard control circuit voltages

~ supply

Volts	24	42	48	110	115	220	230	240	380	400	415	440	500
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Contactors LC1D09...D150 (coils D115 and D150 with integral suppression device fitted as standard)

50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7	S7
----------	-----------	-----------	-----------	-----------	------------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

Contactors LC1D80...D115

50 Hz	B5	D5	E5	F5	FE5	M5	P5	U5	Q5	V5	N5	R5	S5
-------	-----------	-----------	-----------	-----------	------------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

60 Hz	B6	-	E6	F6	-	M6	-	U6	Q6	-	-	R6	-
-------	-----------	---	-----------	-----------	---	-----------	---	-----------	-----------	---	---	-----------	---

⋮ supply

Volts	12	24	36	48	60	72	110	125	220	250	440
-------	----	----	----	----	----	----	-----	-----	-----	-----	-----

Contactors LC1D09...D65A (coils with integral suppression device fitted as standard)

U 0.75...1.25 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD
------------------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

Contactors LC1D80...D95

U 0.85...1.1 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD
-----------------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

U 0.75...1.2 Uc	JW	BW	CW	EW	-	SW	FW	-	MW	-	-
-----------------	-----------	-----------	-----------	-----------	---	-----------	-----------	---	-----------	---	---

Contactors LC1D115 and D150 (coils with integral suppression device fitted as standard)

U 0.75...1.2 Uc	-	BD	-	ED	ND	SD	FD	GD	MD	UD	RD
-----------------	---	-----------	---	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

Low consumption

Contactors LC1D09...D38 (coils with integral suppression device fitted as standard)

Volts ⋮	5	12	20	24	48	110	120	250
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U 0.7...1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL
-----------------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

Example of complete reference: **LC1D09P7**



690 V			1000 V on ~ supply, 690 V on ≡ supply			
40 A	50 A	65 A	80 A	95 A	115 A	150 A
60 A	80 A	80 A	125 A		200 A	
11 kW	15 kW	18.5 kW	22 kW	25 kW	30 kW	40 kW
18.5 kW	22 kW	30 kW	37 kW	45 kW	55 kW	75 kW
22 kW	25 kW	30 kW	45 kW	45 kW	59 kW	80 kW
22 kW	30 kW	37 kW	55 kW	55 kW	75 kW	90 kW
30 kW	33 kW	37 kW	45 kW	45 kW	80 kW	100 kW
–	–	–	45 kW	45 kW	75 kW	90 kW
LC1D40A	LC1D50A	LC1D65A	LC1D80	LC1D95	LC1D115	LC1D150
LC2D40A	LC2D50A	LC2D65A	LC2D80	LC2D95	LC2D115	LC2D150

Mounting accessories for 3-pole reversing contactors

2 identical contactors with screw clamp terminals or connectors, horizontally mounted

Mechanical interlock	Set of connections	Mechanical interlock
with an electrical interlocking kit for the contactors LC1-D09...D38	LAD-9R1V	included
with integral electrical interlocking LC1-D80 and D95 (~) LC1-D80 and D95 (≡) LC1-D115 and D150	LA9D8069 LA9D8069 LA9D11569	LA9D4002 LA9D8002 LA9D11502
without electrical interlocking LC1-D09...D38 LC1-D40A...D65A LC1-D80 and D95 (~) LC1-D80 and D95 (≡)	LA99R1 LAD9R3 LA9D8069 LA9D8069	included included LA9D50978 LA9D80978



Mechanical latch blocks

Clip-on front mounting, manual or electrical unlatching control

For use on contactor	Reference	Standard control circuit voltages
LC1D09...D65A ~ or ≡, LC1DT20...DT80 ~ or ≡	LAD6K10•	B E F M Q
LC1D80...D150 3P ~, LC1D80 and D115 3P ~, LC1D115 4P ≡	LA6DK20•	B E F M Q



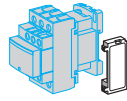
Contact type			instantaneous, connection by screw terminals	
Block mounting			Front mounting	Side mounting
References	Contact	1 NO	LADN10	–
		1 NC	LADN01	–
		1 NO + 1 NC	LADN11	LAD8N11
		2 NO	LADN20	LAD8N20
		2 NC	LADN02	LAD8N02
		2 NO + 2 NC	LADN22	–
		1 NO + 3 NC	LADN13	–
		3 NO + 1 NC	LADN31	–
		4 NO	LADN40	–
		4 NC	LADN04	–



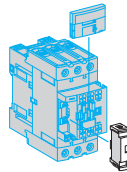
Contact type			Time delay, connection by screw terminals		
Block mounting			Front mounting		
Temporisation			0.1...3 s	0.1...30 s	10...180 s
References		On-delay	LADT0	LADT2	LADT4
		Off-delay	LADR0	LADR2	LADR4

Maximum number of auxiliary contacts that can be fitted

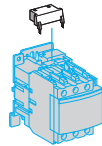
Type	Number of poles and size		Instantaneous						Time delay
			Side mounting			Front mounting			Front mounting
			on left side	on right side		1 contact	2 contacts	4 contacts	
AC	3P	LC1D09...D38	1	–	and	–	1	or 1	or 1
		LC1D40A...D65A	1	or 1	and	–	1	or 1	or 1
		LC1D80...95 (50/60 Hz)	1	1	or	2	and 1	or 1	or 1
		LC1D80...95 (50 or 60 Hz)	1	1	and	2	and 1	or 1	or 1
		LC1D115 and D150	1	–	and	–	1	or 1	or 1
	4P	LC1DT20...DT40	1	–	and	–	1	or 1	or 1
LC1DT60A...D80A		1	or 1	and	–	1	or 1	or 1	
LC1D115		1	1	and	1	or 1	or 1	or 1	
DC	3P	LC1D09...D38	–	–	and	–	1	or 1	or 1
		LC1D40A...D65A	1	or 1	and	–	1	or 1	or 1
		LC1D80 and 95	–	–	and	1	or 1	or 1	or 1
		LC1D115 and D150	1	–	and	–	1	or 1	or 1
	4P	LC1DT20...DT40	–	–	and	–	1	or 1	or 1
		LC1DT60A...D80A	–	–	and	–	1	or 1	or 1
LC1D115	1	1	and	–	and 1	or 1	or 1		
DC low consumption	3P	LC1D09...D38	–	–	and	–	1	–	–
	4P	LC1DT20...DT40	–	–	and	–	1	–	–



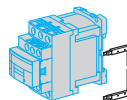
Type of module			RC circuits (Resistor-Capacitor)		
Mounting			Side clip-on	Front clip-on	Screw fixing
For use with contactor			D09...D38(3P) DT20...DT40(4P)	D40A...D65A(3P) DT60A...DT80A(4P)	D80...D150(3P) D40...D115(4P)
References	Voltage	24...48 VAC	LAD4RCE	LAD4RC3E	LA4DA2E
		50...127 VAC	LAD4RCG	LAD4RC3G	LA4DA2G
		110...240 VAC	LAD4RCU	LAD4RC3U	LA4DA2U
		380...415 VAC	–	LAD4RC3N	LA4DA2N



Type of module			Varistors (peak limiting)		
Mounting			Side clip-on	Front clip-on	Screw fixing
For use with contactor			D09...D38(3P) DT20...DT40(4P)	D40A...D65A(3P) DT60A...DT80A(4P)	D80...D150(3P) D40...D115(4P)
References	Voltage	24...48 VAC	LAD4VE	LAD4V3E	LA4DE2E
		50...127 VAC	LAD4VG	LAD4V3G	LA4DE2G
		110...240 VAC	LAD4VU	LAD4V3U	LA4DE2U
		24...48 VDC	–	–	LAD4DE3E (AC and DC)
		50...127 VDC	–	–	LAD4DE3G (AC and DC)
		110...240 VDC	–	–	LAD4DE3U (AC and DC)



Type of module			Flywheel diodes		
Mounting			Side clip-on	Front clip-on	Screw fixing
For use with contactor			D09...D38(3P) DT20...DT40(4P)	D40A...D65A(3P) DT60A...DT80A(4P)	D80...D150(3P) D40...D115(4P)
References	Voltage	24...250 VDC	LAD4DDL	LAD4D3U	LAD4DC3U



Type of module			Bidirectional peak limiting diode		
Mounting			Side clip-on	Front clip-on	Screw fixing
For use with contactor			D09...D38(3P) DT20...DT40(4P)	D40A...D65A(3P) DT60A...DT80A(4P)	D80...D150(3P) D40...D115(4P)
References	Voltage	24 VAC	LAD4TB	LAD4T3B	LA4DB2B
		24 VDC	LAD4TBDL	LAD4T3B	LA4DB2S
		72 VAC	LAD4TS	LAD4T3S	LA4DB3B
		72 VDC	LAD4TSDL	LAD4T3S	LA4DB3S
		125 VDC	LAD4TGDL	LAD4T3G (AC and DC)	–
		250 VDC	LAD4TUDL	LAD4T3U (AC and DC)	–
		600 VDC	LAD4TXDL	LAD4T3R (AC and DC)	–



Rated operational current	le max AC-3 (Ue ≤ 440 V)	185 A	225 A	265 A	330 A
	le AC-1 (θ ≤ 40° C)	275 A	315 V	350 A	400 A
Rated operational voltage		1 000 V	1 000 V	1 000 V	1 000 V
Number of poles		3 or 4	3 or 4	3 or 4	3 or 4
Rated operational power	220/240 V	55 kW	63 kW	75 kW	100 kW
in category AC3	380/400 V	90 kW	110 kW	132 kW	160 kW
	415 V	100 kW	110 kW	140 kW	180 kW
	440 V	100 kW	110 kW	140 kW	200 kW
	500 V	110 kW	129 kW	160 kW	200 kW
	660/690 V	110 kW	129 kW	160 kW	220 kW
	1000 V	100 kW	100 kW	147 kW	160 kW
Contactor type*		LC1F185	LC1F225	LC1F265	LC1F330
Reversing contactor type*		LC2F185	LC2F225	LC2F265	

* Basic reference to be completed by adding the coil voltage code

Standard control circuit voltages

~ supply

Volts 24 48 110 115 120 208 220 230 240 380 400 415 440

Contactors LC1F115...F225 (0.85...1.1 Uc)

50 Hz (coil LX1)	B5	E5	F5	FE5	-	-	M5	P5	U5	Q5	V5	N5	-
60 Hz (coil LX1)	-	E6	F6	-	G6	L6	M6	-	U6	Q6	-	-	R6U7
40...400 Hz (coil LX9)	-	E7	F7	FE7	G7	L7	M7	P7	U7	Q7	V7	N7	R7

Contactors LC1F265...F330U7

40...400 Hz (coil LX1) B7 E7 F7 FE7 G7 L7 M7 P7 U7 Q7 V7 N7 R7

Contactors LC1F400...F630U7

40...400 Hz (coil LX1) - E7 F7 FE7 G7 (1) L7 M7 P7 U7 Q7 V7 N7 R7

Contactors LC1F780U7

40...400 Hz (coil LX1) - - F7 FE7 F7 L7 M7 P7 U7 Q7 V7 N7 R7

Contactors LC1F800U7

40...400 Hz (coil LX1) - - FE7 FE7 FE7 - P7 P7 P7 V7 V7 V7 V7Y7

--- supply

Volts 24 48 110 125 220 230 250 400 440

Contactors LC1F115...F330 (0.85...1.1 Uc)

(coil LX4-F) BD ED FD GD MD MD UD - RD

Contactors LC1F400...F630 (0.85...1.1 Uc)

(coil LX4-F) - ED FD GD MD - UD - RD

Contactors LC1F780 (0.85...1.1 Uc)

(coil LX4-F) - - FD GD MD - UD - RD

Contactors LC1F800 (0.85...1.1 Uc)

(coil LX4-F) - - FW FW MW MW - QW -

Contactors LC1F1250

(coil LX4F) - ED FD - MD - UD - - - - -

Contactors LC1F1400

(coil LX4F) - - FD GD MD - UD - RD - - - -

Example: For a 630 A contactor with a 110 V ~ coil, order **LC1F630F7**

(1) F7 for LC1-F630



400 A	500 A	630 A	780 A	800 A	-	-
500 A	700 A	1 000 A	1 600 A	1 000 A	1260	1400
1 000 V	1 000 V	1 000 V	1 000 V	1 000 V	1000	1000
2, 3 or 4	2, 3 or 4	2, 3 or 4	3 or 4	3	3	3
110 kW	147 kW	200 kW	220 kW	250 kW	Sans objets	Sans objets
200 kW	250 kW	335 kW	400 kW	450 kW	en AC1	en AC1
220 kW	280 kW	375 kW	425 kW	450 kW	-	-
250 kW	295 kW	400 kW	425 kW	450 kW	-	-
257 kW	355 kW	400 kW	450 kW	450 kW	-	-
280 kW	335 kW	450 kW	475 kW	475 kW	-	-
185 kW	335 kW	450 kW	450 kW	450 kW	-	-
LC1F400	LC1F500	LC1F630	LC1F780	LC1F800	LC1F1250	LC1F1400
For customer assembly					-	-



Auxiliary contact blocks

instantaneous				dust & damp protected contacts				time delay 1 NO + 1 NC		
Composition	Reference	Composition	Reference	Composition	Reference	Composition	Reference	Type	Range	Reference
NO NC		NO NC		NO NC		NO NC				
1 -	LADN10	1 1	LADN11	2 2	LADN22	2 - - -	LA1DX20	On-delay	0.1...3 s	LADT0
- 1	LADN01	2 -	LADN20	1 3	LADN13	2 2 - -	LA1DY20		0.1...30 s	LADT2
		- 2	LADN02	4 -	LADN40	2 - 2 -	LA1DZ40		10...180 s	LADT4
				- 4	LADN04	2 - 1 1	LA1DZ31		1...30 s	LADS2
				3 1	LADN31			Off-delay	0.1...3 s	LADR0
				2 2	LADC22				0.1...30 s	LADR2
									10...180 s	LADR4

Mounting accessories for 3-pole reversing contactors for motor control

2 identical contactors, horizontally mounted

Mechanical interlock with an electrical interlocking kit for the contactors

Contactor type	Set of connections	Mechanical interlock
LC1F115	LA9FF976	LA9FF970
LC1F150	LA9F15076	LA9FF970
LC1F185	LA9FG976	LA9FG970
LC1F225	LA9F22576	LA9FG970
LC1F265	LA9FH976	LA9FJ970
LC1F330	LA9FJ976	LA9FJ970
LC1F400	LA9FJ976	LA9FJ970
LC1F500	LA9FK976	LA9FJ970
LC1F630 or LC1F800	LA9FL976	LA9FL970
LCIF1250	-	-
LCIF1400	-	-

TeSys B

Contactors 400...900 kW



Rated operational current	le max AC-3 (Ue ≤ 440 V)	750 A	1000 A	1500 A	1800 A
	le AC-1 (θ ≤ 40° C)	800 A	1250 V	2000 A	2750 A
Rated operational voltage		1 000 V	1 000 V	1 000 V	1 000 V
Number of poles		1 to 4	1 to 4	1 to 4	1 to 4
Rated operational power	220/240 V	220 kW	280 kW	425 kW	500 kW
in category AC3	380/400 V	400 kW	500 kW	750 kW	900 kW
	415 V	425 kW	530 kW	800 kW	900 kW
	440 V	450 kW	560 kW	800 kW	900 kW
	500 V	500 kW	600 kW	700 kW	900 kW
	660/690 V	560 kW	670 kW	750 kW	900 kW
	1000 V	530 kW	530 kW	670 kW	750 kW
4 instantaneous contact configurations					
2 NC + 2 NO, 3 NO + 1 NC, 1 NO + 3 NC or 4 NO					
Contactor type*		LC1BL	LC1BM	LC1BP	LC1BR

* Basic reference to be completed by adding the coil voltage code, followed by the instantaneous contact configuration.

5

Standard control circuit voltages (for other voltages, please consult your Regional Sales Office)

Volts	48	110	125	127	220	230	240	380	400	415	440	500
~ 50...400 Hz	-	F	-	G	M	P	U	Q	V	N	R	S
---	ED	FD	GD	-	MD	-	-	-	-	-	RD	-

Example: To order a 1500 A contactor with 127 V --- coil with 3 NO + 1 NC, select **LC1BP33G31**

Mounting accessories

Description	For contactor	Reference
Bar support bracket	LC1BL to BR	LA9B103
for mounting on 120 or 150 mm centres		
Mechanical interlock and locking device components	LC1B	EZ2LB0601

Reference to compiled by the customer										
Contact type, according to required use										
~ supply 690 V, ≡ supply 220 V/pole										CV1B
~ supply 1000 V, ≡ supply 440 V/pole										CV3B
Contact rating	CV1: 80 A	CV3: 80 A								F
	CV1: 200 A	CV3: 170 A								G
	CV1: 300 A	CV3: 250 A								H
	CV1: 470 A	CV3: 320 A								J
	CV1: 630 A	CV3: 500 A								K
	CV1: 1000 A									L
Number of poles (PN1 main poles for CV1 and PA3 main poles for CV3)										
Normally Open main poles	1 NO			1						
	2 NO			2						
	3 NO			3						
	4 NO			4						
	5 NO			5						
Normally Closed main poles	1 NC				1					
	2 NC				2					
	3 NC				3					
No main poles			0	Z	0	Z				
Operational current	10 A				E		E			
	20 A				N		N			
	40 A				P		P			
	80 A				F		F			
	125 A				R		R			
	170 A				W		W			
	200 A				G		G			
	250 A				S		S			
	300 A				H		H			
	320 A				T		T			
	470 A				J		J			
500 A				V		V				
630 A				K		K				
1000 A				L		L				
Control circuit voltage	48 V							E		
	110 V							F		
	120 V							K		
	208 V							L		
	220 V							M		
	230 V							P		
	240 V							U		
	380 V							Q		
	400 V							V		
440 V							R			
Operating frequency	50 Hz							5		
	60 Hz							6		
	50/60 Hz							7		
	≡							D		
≡ + economy resistor							R			
Instantaneous auxiliary contacts										
Normally Open	1 NO								1	
	2 NO								2	
	3 NO								3	
	4 NO								4	
Normally Closed	1 NC									1
	2 NC									2
	3 NC									3
	4 NC									4
Without instantaneous contact								0	0	
On-delay	1 CO									J
Off-delay	1 CO									N

Example 1/ for single-phase capacitor switching: 400 V - 80 A - 1 NO pole - Control circuit 220 V / 50 Hz, 1 NO and 1 NC auxiliary contacts: CV1BF1F0ZM511.

2/ for heating circuits, d.c. supply 800 V - 150 A - 2 NO poles - Control circuit 48 V ≡, 1 NO + 1 NO On-delay auxiliary contacts: CV3BG2W0ZED10J



Thermal-magnetic circuit-breakers GV2-ME and GV2-P for connection by screw clamp terminals

GV2-ME with pushbutton control, GV2-P control by rotary knob

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3

400/415 V									500 V		690 V		Setting range of thermal trips A	Magnetic tripping current A (d ± 20%)	Reference
P	I _{cu}	I _{cs} (1)	P	I _{cu}	I _{cs} (1)	P	I _{cu}	I _{cs} (1)							
kW	kA		kW	kA		kW	kA								
-	-	-	-	-	-	-	-	-	0.1...0.16	1.5	GV2ME01	GV2P01			
0.06	★	★	-	-	-	-	-	-	0.16...0.25	2.4	GV2ME02	GV2P02			
0.09	★	★	-	-	-	-	-	-	0.25...0.40	5	GV2ME03	GV2P03			
0.12	★	★	-	-	-	0.37	★	★	0.40...0.63	8	GV2ME04	GV2P04			
0.18	★	★	-	-	-	-	-	-	0.40...0.63	8	GV2ME04	GV2P04			
0.25	★	★	-	-	-	0.55	★	★-	0.63...1	13	GV2ME05	GV2P05			
0.37	★	★	0.37	★	★	-	-	-	1...1.6	22.5	GV2ME06	GV2P06			
0.55	★	★	0.55	★	★	0.75	★	★	1...1.6	22.5	GV2ME06	GV2P06			
-	-	-	0.75	★	★	1.1	★	★	1...1.6	22.5	GV2ME06	GV2P06			
0.75	★	★	1.1	★	★	1.5	3	75	1.6...2.5	33.5	GV2ME07				
0.75	★	★	1.1	★	★	1.5	8	100	1.6...2.5	33.5		GV2P07			
1.1	★	★	1.5	★	★	2.2	3	75	2.5...4	51	GV2ME08				
1.1	★	★	1.5	★	★	2.2	8	100	2.5...4	51		GV2P08			
1.5	★	★	2.2	★	★	3	3	75	2.5...4	51	GV2ME08				
1.5	★	★	2.2	★	★	3	3	100	2.5...4	51		GV2P08			
2.2	★	★	3	50	100	4	3	75	4...6.3	78	GV2ME10				
2.2	★	★	3	★	★	4	6	100	4...6.3	78		GV2P10			
3	★	★	4	10	100	5.5	3	75	6...10	138	GV2ME14				
3	★	★	4	50	100	5.5	6	100	6...10	138		GV2P14			
4	★	★	5.5	10	100	7.5	3	75	6...10	138	GV2ME14				
4	★	★	5.5	50	100	7.5	6	100	6...10	138		GV2P14			
5.5	15	50	7.5	6	75	9	3	75	9...14	170	GV2ME16				
5.5	★	★	7.5	42	75	9	6	100	9...14	170		GV2P16			
-	-	-	-	-	-	11	3	75	9...14	170	GV2ME16				
-	-	-	-	-	-	11	6	100	9...14	170		GV2P16			
7.5	15	50	9	6	75	15	3	75	13...18	223	GV2ME20				
7.5	50	50	9	10	75	15	4	100	13...18	223		GV2P20			
9	15	40	11	4	75	18.5	3	75	17...23	327	GV2ME21				
9	50	50	11	10	75	18.5	4	100	17...23	327		GV2P21			
11	15	40	15	4	75	-	-	-	20...25	327	GV2ME22 (2)				
11	50	50	15	10	75	-	-	-	20...25	327		GV2P22			
15	10	50	18.5	4	75	22	3	75	24...32	416	GV2ME32				
15	50	50	18.5	10	75	22	4	100	24...32	416		GV2P32			

H > 100 kA

(1) as % of I_{cu}

(2) combined with a recommended contactor

Thermal-magnetic circuit-breakers GV2-ME for connection by spring terminals

Add the figure 3 to the end of the reference. Example: GV2ME22 becomes GV2ME223

Thermal-magnetic circuit-breakers GV2-ME for connection by ring terminals

Add the figure 6 to the end of the reference. Example: GV2ME32 becomes GV2ME326

TeSys extended rotary handles

These handles are suitable for the following products	GV2 -P et GV2 - L	GV3-P et GV3 - L	TeSys U
Kit IP54 black handle	GV2APN01	GV3APN01	LU9APN21
IP54 kit red handle and yellow front	GV2APN02	GV3APN02	LU9APN22
IP65 kit red handle and yellow front	GV2APN04	GV3APN04	LU9APN24

Common accessories GV2 / GV3, see page 5/15



Magnetic circuit-breakers GV2-LE and GV2-L for connection by screw clamp terminals

GV2-LE control by rocker lever, GV2-L control by rotary knob

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3

400/415 V									Magnetic protection rating	Tripping current d ± 20%	Use in association with thermal overload relay	Reference
P	I _{cu}	I _{cs} (1)	500 V			690 V						
kW	kA		P	I _{cu}	I _{cs} (1)	P	I _{cu}	I _{cs} (1)	A	A		
0.06	★	★	-	-	-	-	-	-	0.4	5	LR2K0302	GV2LE03
0.09	★	★	-	-	-	-	-	-	0.4	5	LR2K0304 or LRD03	GV2LE03 GV2L03
0.12	★	★	-	-	-	0.37	★	★	0.63	8	LR2K0304 or LRD04	GV2LE04 GV2L04
0.18	★	★	-	-	-	-	-	-	0.63	8	LR2K0305 or LRD04	GV2LE04 GV2L04
-	-	-	-	-	-	0.55	★	★	1	13	LR2K0305 or LRD05	GV2LE05 GV2L05
0.25	★	★	-	-	-	-	-	-	1	13	LR2K0306 or LRD05	GV2LE05 GV2L05
-	-	-	-	-	-	0.75	★	★	1	13	LR2K0306 or LRD06	GV2LE05 GV2L05
0.37	★	★	0.37	★	★	-	-	-	1	13	LR2K0306 or LRD05	GV2LE05 GV2L05
0.55	★	★	0.55	★	★	1.1	★	★	1.6	22.5	LR2K0307 or LRD06	GV2LE06 GV2L06
-	-	-	0.75	★	★	-	-	-	1.6	22.5	LR2K0307 or LRD06	GV2LE06 GV2L06
0.75	★	★	1.1	★	★	1.5	3	75	2.5	33.5	LR2K0308	GV2LE07
0.75	★	★	1.1	★	★	1.5	4	100	2.5	33.5	LRD07	GV2L07
1.1	★	★	-	-	-	-	-	-	2.5	33.5	LR2K0308 or LRD08	GV2LE08 GV2L08
1.5	★	★	1.5	★	★	3	3	75	4	51	LR2K0310	GV2LE08
1.5	★	★	1.5	★	★	3	4	100	4	51	LRD08	GV2L08
-	-	-	2.2	★	★	-	-	-	4	51	LR2K0312 or LRD08	GV2LE08 GV2L08
2.2	★	★	3	50	100	4	3	75	6.3	78	LR2K0312	GV2LE10
2.2	★	★	3	★	★	4	4	100	6.3	78	LRD10	GV2L10
3	★	★	4	10	100	5.5	3	75	10	138	LR2K0314	GV2LE14
3	★	★	4	10	100	5.5	4	100	10	138	LRD12	GV2L14
4	★	★	5.5	10	100	-	-	-	10	138	LR2K0316 or LRD14	GV2LE14 GV2L14
-	-	-	-	-	-	7.5	3	75	10	138	LRD14	GV2LE14
-	-	-	-	-	-	7.5	4	100	10	138	LRD14	GV2L14
-	-	-	-	-	-	9	3	75	14	170	LRD16	GV2LE16
-	-	-	-	-	-	9	4	100	14	170	LRD16	GV2L16
5.5	15	50	7.5	6	75	11	3	75	14	170	LR2K0321	GV2LE16
5.5	50	50	7.5	10	75	11	4	100	14	170	LRD16	GV2L16
7.5	15	50	9	6	75	15	3	75	18	223	LRD21	GV2LE20
7.5	50	50	9	10	75	15	4	100	18	223	LRD21	GV2L20
9	15	40	11	4	75	18.5	3	75	25	327	LRD22	GV2LE22
9	50	50	11	10	75	18.5	4	100	25	327	LRD22	GV2L22
11	15	40	15	4	75	-	-	-	25	327	LRD22	GV2LE22
11	50	50	15	10	75	-	-	-	25	327	LRD22	GV2L22
15	10	50	18.5	4	75	22	3	75	32	416	LRD32	GV2LE32
15	50	50	18.5	10	75	22	4	100	32	416	LRD32	GV2L32

H > 100 kA

(1) as % of I_{cu}

Common accessories GV2 / GV3, see page 5/15



Thermal-magnetic circuit-breakers GV3-P for connection by EverLink terminal blocks (2)

Control by rotary knob

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Setting range	Reference
400/415 V			500 V			660/690 V			of thermal	
P	Icu	Ics (1)	P	Icu	Ics (1)	P	Icu	Ics (1)	trips	
kW	kA		kW	kA		kW	kA		A	
5.5	100	50	7.5	12	50	11	6	50	9...13	GV3P13
7.5	100	50	11	12	50	15	6	50	12...18	GV3P18
11	100	50	15	12	50	18.5	6	50	17...25	GV3P25
15	100	50	18.5	12	50	22	6	50	23...32	GV3P32
18.5	50	50	22	10	50	30	5	60	30...40	GV3P40
22	50	50	30	10	50	37	5	60	37...50	GV3P50
30	50	50	37	10	50	45	5	60	48...65	GV3P65

(1) as % of Icu

Thermal-magnetic circuit-breakers GV3-P for connection by ring terminals

Add the figure 6 to the end of the reference. Example: GV3-P13 becomes GV3-P136

Thermal-magnetic circuit-breakers GV3-P for connection by only 1 EverLink terminal block

Add the figure 1 to the end of the reference. Example: GV3P65 becomes GV3P651



Magnetic 11...30 kW with EverLink terminal blocks

Magnetic circuit-breakers GV3-L for connection by EverLink terminal blocks (2)

Control by rotary knob

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Associated equipment	Circuit-breaker	
400/415 V			500 V			690 V			Thermal	Short-circuit	
P	Icu	Ics	P	Icu	Ics	P	Icu	Ics	overload	protection	Reference
kW	kA		kW	kA		kW	kA		relay	Rating A	
11	100	50	15	12	50	18.5	6	50	LRD325	25	GV3L25
15	100	50	18.5	12	50	22	6	50	LRD332	32	GV3L32
18.5	50	50	22	10	50	30	5	60	LRD340	40	GV3L40
22	50	50	30	10	50	45	5	60	LRD350	50	GV3L50
30	50	50	37	10	50	45	5	60	LRD365	65	GV3L65

Magnetic circuit-breakers GV3-L for connection by ring terminals

Add the figure 6 to the end of the reference. Example: GV3-L25 becomes GV3-L256

Magnetic circuit-breakers GV3-L for connection by only 1 EverLink terminal block

Add the figure 1 to the end of the reference. Example: GV3L65 becomes GV3L651

(2) 4 mm BTR screw

Add-on blocks and accessories (3)

Add-on blocks (front)	Fault signalling contact + instantaneous auxiliary contact	
Contact type	NO (fault) + NC	NO (fault) + NO
References (4)	GV-AED011	GV-AED101

Accessories	Cover			Busbars		
Type	IP20 for lug type terminals	IP20 for lug type terminals when used with contactor	"Wide spacing" UL 508 type E	Set of 3-pole 115 A busbars for 2 circuit-breakers	Set of 3-pole 115 A busbars for 3 circuit-breakers	"S" form for side by side mounted circuit-breaker/contactor
References	LAD96570	LAD96575	GV3G66	GV3G264	GV3G364	GV3S

(3) Common add-on blocks and accessories GV2 / GV3, see page 5/15

(4) For spring terminal version add 3 to the end of the reference. Example: GV-AED011 becomes GV-AED0113



(TeSys rotating handles)

Combination block GV2

For mounting on	LC1-K or LP1-K	LC1-D09...D38	LAD-31 and LC1-D09...D38
	GV2AF01	GV2AF3	GV2AF4

Sets of 3-pole busbars GV2

63 A	Pitch	45 mm	54 mm	72 mm
Number of tap-offs	2	GV2G245	GV2G254	GV2G272
	3	GV2G345	GV2G354	
	4	GV2G445	GV2G454	GV2G472
	5		GV2G554	

Protective end cover GV2

For unused busbar outlets	GV1G10
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Terminal blocks GV2

For supply to one or more GV2-G busbar sets	connection from the top	can be fitted with current limiter GV1-L3 (GV2-ME and GV2-P)
	GV1G09	GV1G05

Padlockable external operator for GV2 and GV3 (150 to 290 mm)

Padlocking	In "On" and "Off" position	In "Off" position	
Handle	black	red	
Legend plate	blue	yellow	
IP 54	For GV2-ME/P/L	GV2AP01	GV2AP02
	For GV2-LE	GV2AP03	–
	For GV3-P/L	GV3AP01	GV3AP02

TeSys rotating handles for

	GV2-P	GV3-P
Kit IP54 black handle	GV2APN01	GV3APN01
IP54 kit red/yellow handle	GV2APN02	GV3APN02
IP65 kit red/yellow handle	GV2APN04	GV3APN04

Contact blocks common to GV2 / GV3

	NO + NC	NO + NC	NO + NO	(fault) + NC	(fault) + NO	CO common
Instantaneous auxiliary contacts						point
Mounting front	GVAE1	GVAE11	GVAE20			
LH side		GVAN11	GVAN20			
Fault signalling contact + instantaneous auxiliary contact						
LH side NO (fault)				GVAD1001	GVAD1010	
NC (fault)				GVAD0101	GVAD0110	
Short-circuit signalling contact						
LH side						GVAM11

Electric trips for GV2 and GV3 : undervoltage or shunt (1)

Side mounting (1 block on RH side of circuit-breaker)	50 Hz	60 Hz
Voltage	24 V	GVA*026
	48 V	GVA*056
	100 V	GVA*107
	100...110 V	GVA*107
	110...115 V	GVA*116
	120...127 V	GVA*125
	127 V	GVA*115
	200 V	GVA*207
	200...220 V	GVA*207
	220...240 V	GVA*226
	380...400 V	GVA*386
	415...440 V	GVA*415
	415 V	GVA*416

Padlocking device

For use with up to 4 padlocks (padlocks not supplied) Ø 6 mm shank max	GV2V03
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(1) Undervoltage trips: replace the • with U, shunt trips: replace the • with S



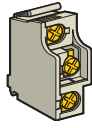
Thermal-magnetic circuit-breakers GV7-R for connection by screw clamp terminals

Control by rocker lever

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Setting range	Reference
400/415 V			500 V			660/690 V			of thermal	
P	I _{cu}	I _{cs} (1)	P	I _{cu}	I _{cs} (1)	P	I _{cu}	I _{cs} (1)	trips	
kW	kA		kW	kA		kW	kA		A	
7.5	25	100	9	18	100	11	8	100	12...20	GV7RE20
9	25	100	11	18	100	15	8	100		
7.5	70	100	9	50	100	11	10	100	12...20	GV7RS20
9	70	100	11	50	100	15	10	100		
9	25	100	11	18	100	15	8	100	15...25	GV7RE25
11	25	100	15	18	100	18.5	8	100		
9	70	100	11	50	100	15	10	100	15...25	GV7RS25
11	70	50	15	50	100	18.5	10	100		
18.5	25	100	18.5	18	100	22	8	100	25...40	GV7RE40
			22	18	100					
18.5	70	100	18.5	50	100	22	10	100	25...40	GV7RS40
22	25	100	30	18	100	30	8	100	30...50	GV7RE50
37	25	100	45	18	100	55	8	100	48...80	GV7RE80
			55	18	100					
37	70	100	45	50	100	55	10	100	48...80	GV7RS80
			55	50	100					
45	25	100	-	18	100	75	8	100	60...100	GV7RE100
45	70	100	-	50	100	75	10	100	60...100	GV7RS100
55	35	100	75	30	100	90	8	100	90...150	GV7RE150
75	70	100	90	30	100	110	8	100		
55	70	100	75	50	100	90	10	100	90...150	GV7RS150
75	70	100	90	50	100	110	10	100		
90	35	100	110	30	100	160	8	100	132...220	GV7RE220
110	35	100	132	30	100	200	8	100		
			160	30	100					
90	70	100	110	50	100	160	10	100	132...220	GV7RS220

(1) as % of I_{cu}

5



Add-on blocks

Contact blocks

Auxiliary contacts

Contact type	CO
	GV7AE11

Thermal or magnetic fault discrimination

	\approx 24...48 V or \approx 24...72 V	\approx 110...240 V
	GV7AD111	GV7AD112

Electric trips

Voltage	50/60 Hz	48 V	110... 130 V	200... 240 V	380...440 V	
	50 Hz					525 V
Undervoltage trip (1)		GV7AU055	GV7AU107	GV7AU207	GV7AU387	GV7AU525
Shunt trip (1)		GV7AS055	GV7AS107	GV7AS207	GV7AS387	GV7AS525

(1) For mounting of a GV7-AD or a GV7-AU or AS

Accessories

Terminal shields IP 405

Supplied with sealing accessory	GV7AC01
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Phase barriers

Safety accessories	GV7AC04
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used when fitting of shields is impossible

Insulating screens

Ensure insulation between the connections and the backplate	GV7AC05
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Kit for combination with contactor

Allowing link between the circuit-breaker and the contactor	LC1-F115 to F185	LC1-F225 and F26	LC1-D115 and D150
	GV7AC06	GV7AC07	GV7AC08

Rotary handles

Handle	black	red
Legend plate	black	yellow
■ direct IP 40	GV7AP03	GV7AP04
■ extended IP 55	GV7AP01	GV7AP02

Conversion accessory

for mounting on enclosure door IP 43	GV7AP05
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Locking device

For circuit-breaker not fitted with a rotary handle	GV7V01
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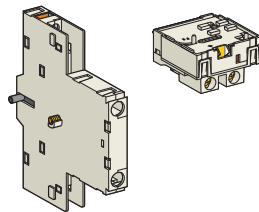


Thermal-magnetic circuit-breakers GV3-ME for connection by screw clamp terminals

Pushbutton control

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Setting range	Reference
400/415 V			500 V			660/690 V			of thermal	
P	I _{cu}	I _{cs} (1)	P	I _{cu}	I _{cs} (1)	P	I _{cu}	I _{cs} (1)	trips	
kW	kA		kW	kA		kW	kA		A	
37	15	50	45	4	100	55	2	100	56...80	GV3ME80

(1) as % of I_{cu}



Add-on blocks for GV3-ME

Contact blocks

Instantaneous auxiliary contacts (1 per breaker)

Normal early break type contacts	NC + NO	NO + NO	NC + NO + NO	NO + NO + NO	NO + NO (1)	NC + NO (1)
	GV3A01	GV3A02	GV3A03	GV3A05	GV3A06	GV3A07

Fault signalling contact

Normal early break type contacts	NC	NO
	GV3A08	GV3A09

Electric trips

Voltage	50 Hz	110, 120, 127 V	220, 240 V	380, 415 V
	60 Hz	120, 127 V	277 V	440, 480 V
Undervoltage trip		GV3B11	GV3B22	GV3B38
Shunt trip		GV3D11	GV3D22	GV3D38

Padlocking device

Start button (for bare device)	GV1V02
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(1) + 2 volt free terminals

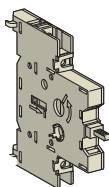
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Magnetic circuit-breakers GK3-EF for connection by screw clamp terminals

Control by rotary knob

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3									Associated equipment	Circuit-breaker	
400/415 V			500 V			690 V			Thermal	Short-circuit	
P	I _{cu}	I _{cs}	P	I _{cu}	I _{cs}	P	I _{cu}	I _{cs}	overload relay	protection	
kW	kA		kW	kA		kW	kA		min. size	Rating A	Reference
37	35	25	45	15	30	-	-	-	LRD-3363	80	GK3EF80



Add-on blocks for GK3

Contact blocks

Contact type	NO	NO + NO	NC + NO	NC	NO
On-Off signalling contacts and "Control circuit test" function (1 or 2 blocks per device) mounted on RH side of GK3-EF	GK2AX10	GK2AX20	GK2AX50		
Instantaneous fault signalling contacts (1 or 2 blocks per device) mounted on LH side of GK3-EF	GK2AX12	GK2AX22	GK2AX52		
Fault signalling contact (1)				GV3A08	GV3A09

(1) 1 trip OR 1 fault signalling contact to be fitted inside the circuit-breaker.

5

Accessories for GK3

Padlocking device

for padlocking the operator with up to 3 padlocks (padlocks not supplied)	GK3AV01
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External operator

for mounting on enclosure door. Red Ø 40 pushbutton on yellow plate, can be locked in position O by means of up to 3 padlocks with door locked in position I, and door locked in position O when padlocked	GK3AP03
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TeSys DF Fuse carriers

0...125 A



Type			Fuse carriers without "blown fuse" indicator			
Rated insulation voltage (Ui)			500 V	690 V		
Fuse size			8.5 x 31.5 mm	10 x 38 mm	14 x 51 mm	22 x 58 mm
Conventional thermal current (Ith)			25 A	32 A	50 A	125 A
References	Number of poles	1P	DF81	DF101	DF141	DF221
		N	DF10N	DF10N	DF14N	DF22N
		1P+N	DF81N	DF101N	DF141N	DF221N
		2P	DF82	DF102	DF142	DF222
		3P	DF83	DF103	DF143C	DF223C
		3P+N	DF83N	DF103N	DF143NC	DF223NC



Type			Fuse carriers with "blown fuse" indicator			
Rated insulation voltage (Ui)			500 V	690 V		
Fuse size			8.5 x 31.5 mm	10 x 38 mm	14 x 51 mm	22 x 58 mm
Conventional thermal current (Ith)			25 A	32 A	50 A	125 A
References	Number of poles	1P	DF81V	DF101V	DF141V	DF221V
		1P + N	DF81NV	DF10NV	DF14NV	DF22NV
		2P	DF82V	DF102V	DF142V	DF222V
		3P	DF83V	DF103V	DF143VC	DF223VC
		3P + N	DF83NV	DF103NV	DF143NVC	DF223NVC

Accessories

Type	Auxiliary early break and blown fuse signalling contacts			
Fuse carrier to be equipped	DF14		DF22	
Fuse size	14 x 51 mm		22 x 58 mm	
Number of poles	3P or 3P + N		3P or 3P + N	
Number of contacts	1	2	1	2
References	DF14AM1	DF14AM2	DF22AM1	DF22AM2

Type	Fuse carrier assembly kits			
Fuse carrier to be assembled	DF8	DF10	DF14	DF22
Fuse size	8.5 x 31.5 mm	10 x 38 mm	14 x 51 mm	22 x 58 mm
Kit contents	1 pin, 2 clips		1 pin, 3 clips	
References	DF10AP		DF14AP	DF22AP



Type	3-pole fuse carriers					
Rated insulation voltage (Ui)	690 V					
Rating	25 A	32 A	50 A		125 A	
Fuse size	10 x 38	10 x 38	14 x 51		22 x 58	
Connection	Spring terminals		Screw clamp terminals or connectors			
Single-phase protection device	Without		Without	With	Without	With
Number of early break contacts	-		-	1	1	1
Reference	LS1D323	LS1D32	GK1K	GK1EV	GK1FK	GK1FV
Number of early break contacts			2		2	
Reference			GK1ES	GK1EW	GK1FS	GK1FW



Type	4-pole fuse carriers				
Rated insulation voltage (Ui)	690 V				
Rating	32 A	50 A		125 A	
Fuse size	10 x 38	14 x 51		22 x 58	
Connection	Screw clamp terminals or connectors				
Single-phase protection device	Without	Without	With	Without	With
Number of early break contacts	-	1		1	
Reference	LS1D32 + LA8D324	GK1EM	GK1EY	GK1FM	GK1FY
Number of early break contacts		2		2	
Reference		GK1ET	GK1EX	GK1FT	GK1FX



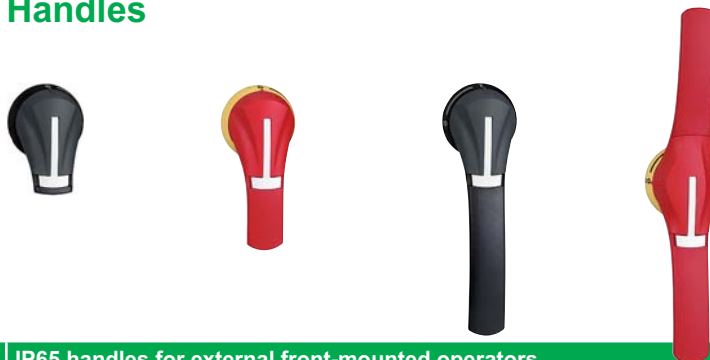
Type	Early break auxiliary contact blocks			
Fuse carrier rating	32 A		25 A	
For use with fuse carrier	LS1D32		LS1D323	
Contact type	NO + NC	NO + NO	NO + NC	NO + NO
References	GVAE11	GVAE20	GVAE113	GVAE203

Type	Direct operator handle		
Fuse carrier rating	125 A		32, 50, 125 A
For mounting on	RH side	LH side	Front
References	GK1AP07	GK1AP08	Fitted as standard

Type	External operator handle					
Fuse carrier rating	32 A		50 A		125 A	
For mounting on	RH side	LH side	RH side	LH side	RH side	LH side
References	LS1D32005	LS1D32006	GK1AP05	GK1AP06	GK1AP07	GK1AP08

Type	Padlocking devices				
Fuse carrier rating	32 A		50 A		
Number of poles	3 or 4		3		4
Single-phase protection device	Without	Without	With	Without	With
References	Integrated	GK1AV07	GK1AV08	GK1AV08	GK1AV09

Type	Tubular link		
Fuse carrier rating	32 A		125 A
References	DK1CB92	DK1EB92	DK1FA9



Type		IP65 handles for external front-mounted operators			
Switch rating		32...63 A	100...400 A	630...800 A	1250 A
References	Black/grey	GS2AH510 (1)	GS2AH530 (1)	GS2AH550	GS2AH570
	Red/yellow	GS2AH520 (1)	GS2AH540 (1)	GS2AH560	GS2AH580

(1) For external front operators with Test facility, insert the letter T in the reference. Example: GS2AH510 becomes GS2AHT510

Type		IP65 handles for external RH side-mounted operators (2)		
Switch rating		32...63 A	100...400 A	630...1250 A
References	Black/grey	GS2AH210	GS2AH230	GS2AH250
	Red/yellow	GS2AH220	GS2AH240	GS2AH260

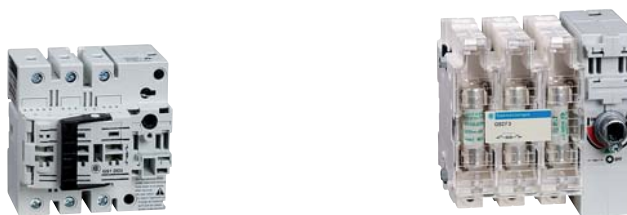
(2) For external LH side-mounted operators, replace the number 2 in the reference by 3. Example: GS2AH210 becomes GS2AH310

Type		Shafts for external operators			
Switch rating		32 A	50...400 A	630...1250 A	
References	Length of shaft	200 mm	GS2AE82	GS2AE22	GS2AE52
		320 mm	GS2AE8	GS2AE2	GS2AE5
		400 mm	GS2AE81	GS2AE21	GS2AE51

5



Type		Handles for direct operators				
Switch rating		32 A	50 and 63 A	100...400 A	630 and 800 A	1250 A
Type of operator		Front	RH side	RH side	Front	Front
References		GS1AH103	GS1AH01	GS1AH02	GS2AH104	GS2AH105



Type	Switch-disconnector-fuse switch bodies for use with NF C or DIN fuses Handle to be ordered separately (see previous page)			
Rated insulation voltage (Ui)	690 V			
Conventional thermal current (Ith)	32 A	50 A	63 A	100 A
Fuse size	10 x 38	14 x 51	Size 00C (1)	22 x 58
External front-mounted and RH side-mounted operator	3-pole GS1DD3	GS2F3	GS2G3	GS2J3
External LH side-mounted operator	4-pole GS1DD4 (2)	GS2F4	GS2G4	GS2J4
Direct RH side-mounted operator	3-pole GS1DD3 (3)	GS2FG3	GS2GG3	GS2JG3
operator	4-pole GS1DD4 (2)	GS2FG4	GS2GG4	GS2JG4
Direct RH side-mounted operator	3-pole GS1DD3 (3)	GS1FD3	GS1GD3	GS1JD3
operator	4-pole GS1DD4 (2) (3)	GS1FD4	GS1GD4	GS1JD4

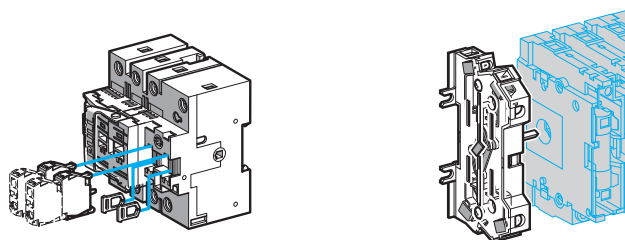
(1) Compact fuse for German market

(2) 3-pole + switched neutral

(3) Direct front-mounted operator

Type	Switch-disconnector-fuse switch bodies for use with BS fuses Handle to be ordered separately (see previous page)			
Rated insulation voltage (Ui)	690 V			
Conventional thermal current (Ith)	32 A	32 A	63 A	100 A
Fuse size	A1	A1	A2-A3	A4 (Ø ≤ 31 mm)
External front-mounted and RH side-mounted operator	3-pole GS1DDB3	GS2DB3	GS2GB3	GS2JB3
operator	4-pole GS1DDB4 (2)	GS2DB4	GS2GB4	GS2JB4

Accessories



Type	Auxiliary contacts			
	Early break and/or O, I and Test signalling		O and I signalling	
Switch rating	32...1250 A		50...1250 A	
Number of contacts	1 NO	1 NC	1 NO + NC	2 NO + 2 NC
Operator	external front-mounted or RH side-mounted GS1AM110	GS1AM101	GS1AN11	GS1AN22
	external LH side-mounted GS1AM110	GS1AM101	GS1AN11G	GS1AN22G
	direct RH side-mounted -	-	GS1AN11	GS1AN22
	direct front-mounted -	-	-	-

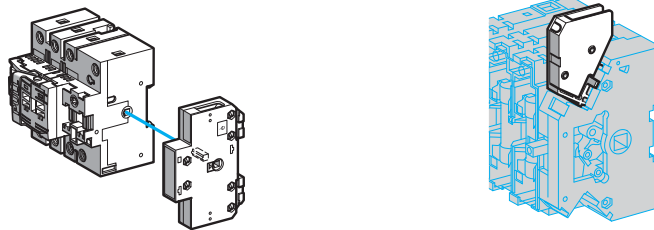
Type	Auxiliary "blown fuse" signalling contacts for use with NF C and DIN fuses			
Number of contacts	1 NO/NC			
Switch rating	50 A	100 and 125 A	160 A	250 and 400 A
Fuse size	14 x 51	22 x 58	Size 0	Size 1 and Size 2
References	3-pole GS1AF1	GS1AF23	GS1AF33	GS1AF43
	4-pole GS1AF1	GS1AF24	GS1AF34	GS1AF44



125 A		160 A		250 A	400 A	630 A	1250 A
22 x 58	Size 00	Size 00	Size 0	Size 1	Size 2	Size 3	Size 4
GS2K3	GS2KK3	GS2LL3	GS2L3	GS2N3	GS2QQ3	GS2S3	GS2V3
GS2K4	GS2KK4	GS2LL4	GS2L4	GS2N4	GS2QQ4	GS2S4	GS2V4
GS2KG3	GS2KKG3	GS2LLG3	GS2LG3	GS2NG3	GS2QQG3	GS2SG3	GS2VG3
GS2KG4	GS2KKG4	GS2LLG4	GS2LG4	GS2NG4	GS2QQG4	GS2SG4	GS2VG4
GS1KD3	GS1KKD3	GS1LLD3	GS1LD3	GS1ND3	GS1QD3	GS2S3 (3)	GS2V3 (3)
GS1KD4	GS1KKD4	GS1LLD4	GS1LD4	GS1ND4	GS1QD4	GS2S4 (3)	GS2V4 (3)

160 A		200 A	250 A	315 A	400 A	630 A	800 A	1250 A
A4	B1-B2	B1-B2	B1...B3	B1...B3	B1...B4	C1-C2	C1...C3	D1
GS2LLB3	GS2LB3	GS2MMB3	GS2NB3	GS2PPB3	GS2QPB3	GS2SB3	GS2TB3	GS2VB3
GS2LLB4	GS2LB4	GS2MMB4	GS2NB4	GS2PPB4	GS2QPB4	GS2SB4	GS2TB4	GS2VB4

5



O, I and Test signalling		Early break and O and I signalling			
50...400 A		32 A		50...400 A	
1 NO + NC	2 NO + 2 NC	1 NO/NC	2 NO/NC	1 NO/NC	2 NO/NC
GS1ANT11	GS1ANT22	–	–	–	–
–	–	–	–	GS1AM1	GS1AM2
–	–	GS1AM111	GS1AM211	–	–

630 A	1250 A	2 nd NO/NC
Size 3	Size 4	–
GS2AF63	GS2AF73	GS1AF
GS2AF64	GS2AF74	GS1AF



Thermal overload relays, TeSys K adjustable from 0.11 to 12 A

Connection by screw clamp terminals, direct mounting on contactors LC1-K, manual or automatic reset

Relay setting range	Fuses to be used with selected relay			Reference
	aM	gG	BS88	
Class 10A				
0.11...0.16 A	0.25 A	0.5 A	-	LR2K0301
0.16...0.23 A	0.25 A	0.5 A	-	LR2K0302
0.23...0.36 A	0.5 A	1 A	-	LR2K0303
0.36...0.54 A	1 A	1.6 A	-	LR2K0304
0.54...0.8 A	1 A	2 A	-	LR2K0305
0.8...1.2 A	2 A	4 A	6 A	LR2K0306
1.2...1.8 A	2 A	6 A	6 A	LR2K0307
1.8...2.6 A	2 A	6 A	10 A	LR2K0308
2.6...3.7 A	4 A	10 A	16 A	LR2K0310
3.7...5.5 A	6 A	16 A	16 A	LR2K0312
5.5...8 A	8 A	20 A	20 A	LR2K0314
8...11.5 A	10 A	25 A	20 A	LR2K0316

Thermal overload relays for use on class 10A unbalanced loads: for above references LR2-K0305 to LR2-K0316 only, replace the prefix LR2 with LR7.

Example: LR7-K0310.

Accessories

Prewiring kit

Allowing direct connection of the NC contact of relay LRD-01...35 or LR3-D01... D35 to the contactor	For use on	
	LC1D09...D18	LAD7C1
	LC1D25...D38	LAD7C2

Terminal blocks (1)

For clip-on mounting on 35 mm mounting rail (AM1-DP200) or screw fixing	LRD01...35 and LR3D01...D35	LAD7B10
	LRD3***, LR3D3***, LRD35**	LA7D3064 (2)
For independent mounting of the relay	LR2K****	LA7K0064

EverLink Terminal blocks

Separate terminal block	LRD313... LRD365	LAD9R3
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Terminal block adapter

For mounting a relay beneath an LC1-D115 or D150 contactor	LRD3***, LR3D3***, LRD35**	LA7D3058
------------------------------------------------------------	----------------------------	----------

Stop or electrical reset

Remote (3)	LRD01...35 and LR3D01...D35	LAD703• (4)
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Tripping or electrical reset device

Remote (3)	All relays except LRD01...35 and LR3D01...D35	LA7D03• (4)
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(1) Terminal blocks are supplied with terminals protected against direct finger contact and screws in the open "ready-to-tighten" position.

(2) To order a terminal block for connection by lug-clamps, the reference becomes LA7-D30646.

(3) The time for which the coil of remote tripping or electrical resetting device LA7-D03 or LAD-703 can remain energised depends on its rest time: 1 s pulse duration with 9 s rest time; maximum pulse duration of 20 s with a rest time of 300 s. Minimum pulse time 200 ms.

(4) Reference to be completed by adding the code indicating the control circuit voltage.

Standard control circuit voltages

~ supply

Volts	12	24	48	96	110	220/230	380/400	415/440
50/60 Hz. Consumption, inrush and sealed < 100 VA	-	B	E	-	F	M	Q	N

≡ supply

Consumption, inrush and sealed < 100 W	J	B	E	DD	F	M	-	-
----------------------------------------	---	---	---	----	---	---	---	---



Thermal overload relays, TeSys D

adjustable from 0.1 to 140 A

Compensated relays with manual or automatic reset, with relay trip indicator, for a.c. or d.c.

Connection by screw clamp terminals or connectors	Relay setting range	Fuses to be used with selected relay			With contactor	Reference	
		aM	gG	BS88			
Class 10A	0.10...0.16 A	0.25 A	2 A	-	LC1D09...D38	LRD01 (1)	
	0.16...0.25 A	0.5 A	2 A	-	LC1D09...D38	LRD02 (1)	
	0.25...0.40 A	1 A	2 A	-	LC1D09...D38	LRD03 (1)	
	0.40...0.63 A	1 A	1.6 A	-	LC1D09...D38	LRD04 (1)	
	0.63...1 A	2 A	4 A	-	LC1D09...D38	LRD05 (1)	
	1...1.7 A	2 A	4 A	6 A	LC1D09...D38	LRD06 (1)	
	1.6...2.5 A	4 A	6 A	10 A	LC1D09...D38	LRD07 (1)	
	2.5...4 A	6 A	10 A	16 A	LC1D09...D38	LRD08 (1)	
	4...6 A	8 A	16 A	16 A	LC1D09...D38	LRD10 (1)	
	5.5...8 A	12 A	20 A	20 A	LC1D09...D38	LRD12 (1)	
	7...10 A	12 A	20 A	20 A	LC1D09...D38	LRD14 (1)	
	9...13 A	16 A	25 A	25 A	LC1D12...D38	LRD16 (1)	
	12...18 A	20 A	35 A	32 A	LC1D18...D38	LRD21 (1)	
	16...24 A	25 A	50 A	50 A	LC1D25...D38	LRD22 (1)	
	23...32 A	40 A	63 A	63 A	LC1D25...D38	LRD32 (1)	
	30...38 A	50 A	80 A	80 A	LC1D32 and D38	LRD35 (1)	
	55...70 A	80 A	125 A	125 A	D50...D95	LRD3361 (1)	
	63...80 A	80 A	125 A	125 A	D65...D95	LRD3363 (1)	
	80...104 A	100 A	160 A	160 A	D80 and D95	LRD3365 (1)	
	80...104 A	125 A	200 A	160 A	D115 and D150	LRD4365 (1)	
95...120 A	125 A	200 A	200 A	D115 and D150	LRD4367 (1)		
110...140 A	160 A	250 A	200 A	D150	LRD4369 (1)		
80...104 A	100 A	160 A	160 A	Independent mtg.	LRD33656 (1)		
95...120 A	125 A	200 A	200 A	Independent mtg.	LRD33676 (1)		
110...140 A	160 A	250 A	200 A	Independent mtg.	LRD33696 (1)		
Class 20	6 A	10 A	16 A		LC1D09...D32	LRD1508 (1)	
	4...6 A	8 A	16 A	16 A	LC1D09...D32	LRD1510 (1)	
	5.5...8 A	12 A	20 A	20 A	LC1D09...D32	LRD1512 (1)	
	7...10 A	16 A	20 A	25 A	LC1D09...D32	LRD1514 (1)	
	9...13 A	16 A	25 A	25 A	LC1D12...D32	LRD1516 (1)	
	12...18 A	25 A	35 A	40 A	LC1D18...D32	LRD1521 (1)	
	17...25 A	32 A	50 A	50 A	LC1D25 and D32	LRD1522 (1)	
	23...28 A	40 A	63 A	63 A	LC1D25 and D32	LRD1530 (1)	
	25...32 A	40 A	63 A	63 A	LC1D25 and D32	LRD1532 (1)	
	55...70 A	100 A	125 A	125 A	D65...D95	LR2D3561 (1)	
	63...80 A	100 A	160 A	125 A	D80 and D95	LR2D3563 (1)	
	Connection by EverLink terminal blocks, with BTR screws						
	Class 10A	9...13 A	16 A	25 A	25 A	LC1D40A...D65A	LRD313 (2)
12...18 A		20 A	32 A	35 A	LC1D40A...D65A	LRD318 (2)	
17...25 A		25 A	50 A	50 A	LC1D40A...D65A	LRD325 (2)	
23...32 A		40 A	63 A	63 A	LC1D40A...D65A	LRD332 (2)	
30...40 A		40 A	80 A	80 A	LC1D40A...D65A	LRD340 (2)	
37...50 A		63 A	100 A	100 A	LC1D40A...D65A	LRD350 (2)	
48...65 A		63 A	100 A	100 A	LC1D40A...D65A	LRD365 (2)	
Class 20	9...13 A	20 A	32 A	35 A	LC1D40A...D65A	LRD313L (2)	
	12...18 A	25 A	40 A	40 A	LC1D40A...D65A	LRD318L (2)	
	17...25 A	32 A	50 A	50 A	LC1D40A...D65A	LRD325L (2)	
	23...32 A	40 A	63 A	63 A	LC1D40A...D65A	LRD332L (2)	
	30...40 A	50 A	80 A	80 A	LC1D40A...D65A	LRD340L (2)	
	37...50 A	63 A	100 A	100 A	LC1D40A...D65A	LRD350L (2)	
	48...65 A	80 A	125 A	125 A	LC1D40A...D65A	LRD365L (2)	

Class 10A with connection by lug-clamps:

Select overload relay with screw clamp terminals or connectors from the table above and add one of the following suffixes:

■ figure 6 for relays LRD01 to LRD35 and LRD313 to LRD365.

■ A66 for relays LRD3361 to LRD3365.

Relays LRD43 are suitable as standard, for use with lug-clamps.

(1) For independent mounting on a DIN rail, order an EverLink LAD7B106 terminal block.

Thermal overload relays for use with unbalanced loads Class 10A

with connection by screw clamp terminals and lug-clamp terminals:

In the reference selected above, change LRD(except LRD4●●●) to LR3D

Example: LRD01 becomes **LR3D 01**

Example with EverLink terminals: LRD340 becomes **LR3D 340**

Example with lug-clamp terminals: LRD3406 becomes **LR3D 3406**

(2) For independent mtg. on a DIN rail, order an EverLink LAD96560 terminal block.



For use with contactor	LC1-D	LC1-F
Motor current	60...150 A	30...630 A
Basic reference, to be completed	LR9D	LR9F

5

Relay setting range	Fuse to be used with selected relay		For mounting beneath contactor LC1-	Compensated and differential		With alarm
	aM	gG		Class 10	Class 20	
60...100	100	160	D115 and D150	LR9D5367	LR9D5567	Class 10 or 20
90...150	160	250	D115 and D150	LR9D5369	LR9F5569	
30...50	50	80	F115...F185	LR9F5357	LR9F5557	LR9F57
48...80	80	125	F115...F185	LR9F5363	LR9F5563	LR9F63
60...100	100	200	F115...F185	LR9F5367	LR9F5567	LR9F67
90...150	160	250	F115...F185	LR9F5369	LR9F5569	LR9F69
132...220	250	315	F185...F400	LR9F5371	LR9F5571	LR9F71
200...330	400	500	F225...F500	LR9F7375	LR9F7575	LR9F75
300...500	500	800	F225...F500	LR9F7379	LR9F7579	LR9F79
380...630	630	800	F400...F630 and F800	LR9F7381	LR9F7581	LR9F81

Accessories		
Remote control		
Function	Reset	Stop and/or Reset
Electrical reset (1)	LA7D03•(2)	
Reset by flexible cable (length 0.5 m)	LA7D305	
Adapter for door interlock mechanism		LA7D1020
Operating head for pushbutton		
Spring return	ZA2BL639	ZA2BL432
Rod with snap-off end		
Adjustable from 17 to 120 mm	ZA2BZ13	
Insulated terminal blocks		
For relays LR9-F5•57, F5•63, F5•67, F5•69, F57, F63, F67 and F69	Set of 2 blocks	
	LA9F103	

(1) The time for which the coil of remote electrical reset device LA7-D03 can remain energised depends on its rest time: 1 s pulse with 9 s rest time; 5 s pulse duration with 30 s rest time; 10 s pulse duration with 90 s rest time: maximum pulse duration 20 s with rest time of 300 s. Minimum pulse time: 200 ms.

(2) Reference to be completed by adding the coil voltage code, see page 5/27



Relay type		Electronic overcurrent relays TeSys LR97D			
Relay setting range		0.3...1.5 A	1.2...7 A	5...25 A	20...38 A
For use with contactor		LC1D09...D38			LC1D25...D38
References	200... 240 VAC	LR97D015M7	LR97D07M7	LR97D025M7	LR97D038M7
	100... 120 VAC	LR97D015F7	LR97D07F7	LR97D025F7	LR97D038F7
	24 VAC/DC	LR97D015B	LR97D07B	LR97D025B	LR97D038B
	48 VAC/DC	LR97D015E	LR97D07E	LR97D025E	LR97D038E

0.5...60 A



Relay type		Electronic overcurrent relays TeSys LT47 with manual reset		
Relay setting range		0.5...6 A	3...30 A	5...60 A
References	200... 240 VAC	LT4706M7S	LT47D30M7S	LT4760M7S
	100... 120 VAC	LT47D06F7S	LT47D30F7S	LT4760F7S
	24 VAC/DC	LT47D06BS	LT47D30BS	LT4760BS
	48 VAC/DC	LT47D06ES	LT47D30ES	LT4760ES

5



Relay type		Electronic overcurrent relays TeSys LT47 with automatic reset		
Relay setting range		0.5...6 A	3...30 A	5...60 A
References	200... 240 VAC	LT4706M7A	LT47D30M7A	LT4760M7A
	100... 120 VAC	LT47D06F7A	LT47D30F7A	LT4760F7A
	24 VAC/DC	LT47D06BA	LT47D30BA	LT4760BA
	48 VAC/DC	LT47D06EA	LT47D30EA	LT4760EA

Accessories: please consult your Schneider Electric agency.



Type of fieldbus			Ethernet		Modbus		Profibus DP	
Supply voltage			24 VDC	100...240 VAC	24 VDC	100...240 VAC	24 VDC	100...240 VAC
References	Current range	0.4...8 A	LTMR08EBD	LTMR08EFM	LTMR08MBD	LTMR08MFM	LTMR08PBD	LTMR08PFM
		1.35...27 A	LTMR27EBD	LTMR27EFM	LTMR27MBD	LTMR27MFM	LTMR27PBD	LTMR27PFM
		5...100 A	LTMR100EBD	LTMR100EFM	LTMR100MBD	LTMR100MFM	LTMR100PBD	LTMR100PFM



Type of fieldbus			CANopen		DeviceNet	
Supply voltage			24 VDC	100...240 VAC	24 VDC	100...240 VAC
References	Current range	0.4...8 A	LTMR08CBD	LTMR08CFM	LTMR08DBD	LTMR08DFM
		1.35...27 A	LTMR27CBD	LTMR27CFM	LTMR27DBD	LTMR27DFM
		5...100 A	LTMR100CBD	LTMR100CFM	LTMR100DBD	LTMR100DFM

Extension module



Type of module	Extension	Ethernet external port
	4 additional inputs + voltage measuring	Modbus RTU / Modbus TCP/IP
Inputs voltage	24 VDC	24 VDC
References	LTMEV40BD	TCSEQM113M13M

Control unit



Type of terminal	Compact display
Supply voltage	24 VDC
Reference	LTMCU



Type of transformer		External			
Operational current	primary	100 A	200 A	400 A	800 A
	secondary	1 A			
References		LT6CT1001	LT6CT2001	LT6CT4001	LT6CT8001

Earth fault toroids

Type of toroid	Closed						Split	
Maximum current	65 A	85 A	160 A	250 A	400 A	630 A	85 A	250 A
Internal diameter	Ø 30	Ø 50	Ø 80	Ø 120	Ø 200	Ø 300	Ø 46	Ø 110
References	TA30	PA50	IA80	MA120	SA200	GA300	POA	GOA

PTC thermistor probe

Type of probe	Triple							
Operating temperature	90°C	110°C	120°C	130°C	140°C	150°C	160°C	170°C
References	DA1TT090	DA1TT110	DA1TT120	DA1TT130	DA1TT140	DA1TT150	DA1TT160	DA1TT170

5

Accessories (1)



Type of accessory	Connecting cable Controller / Extension module		
Length of cable	0.04 m	0.3 m	1 m
References	LTMCC004	LU9R03	LU9R10



Type of accessory	Connecting cable Controller/ Display			Connection kit PC serial port
Length of cable	1 m	3 m	5 m	-
References	VW3A1104R10	VW3A1104R30	VW3A1104R50	VW3A8106

(1) For other connection accessories, see www.schneider-electric.com



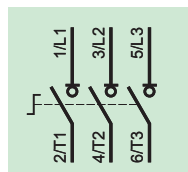
Relay type	PTC thermistor probes	
For use with contactor	LC1-D or LC1-F	LC1-D or LC1-F
Motor current	No limit	1...5 A
Basic reference, to be completed	LT3S	LT6P0M0•5FM

Protection unit

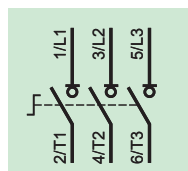
Type	with automatic reset with thermistor short-circuit detection			
without fault memory				
Connection	Voltage	Output contact	Reference	
by cage connectors	~ 50/60 Hz	115 V	NC	LT3SE00F
	---	230 V	NC	LT3SE00M
	---	24 V	NC	LT3SE00F
On front panel: fault and voltage signalling indicator				
	~ 50/60 Hz	115/230 V	NC + NO	LT3SA00M
	---	24/48 V	NC + NO	LT3SA00ED
	~ 50/60 Hz or ---	24...230 V	2 CO	LT3SA00MW
with fault memory				
On front panel: fault and voltage signalling indicator, Test and Reset button				
	~ 50/60 Hz	400 V	NC + NO	LT3SM00V
		24/48 V	NC + NO	LT3SM00E
		115/230 V	NC + NO	LT3SM00M
	---	24/48 V	NC + NO	LT3SM00ED
	~ 50/60 Hz or ---	24...230 V	2 CO	LT3SM00MW

Accessories

Type	PTC thermistor probes for LT3 relays							
Normal operating temperature (NOT)	90 °C	110 °C	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
Integrated triple probes	DA1TT090	DA1TT110	DA1TT120	DA1TT130	DA1TT140	DA1TT150	DA1TT160	DA1TT170
Normal operating temperature (NOT)	60 °C	70 °C	80 °C	90 °C	100 °C			
Surface probes	DA1TS060	DA1TS070	DA1TS080	DA1TS090	DA1TS100			



Type	Mini-Vario for standard applications		
	Door mounting		Backplate mounting in enclosure
Colour: Handle / Front plate	Red / Yellow	Black / Black	Red / Yellow
Front plate dimensions (mm)	60 x 60		60 x 60
Fixing	Ø 22.5 mm		Ø 22.5 mm
Degree of protection	IP 20		IP 20
Rated insulation voltage (Ui)	690 V		690 V
Thermal current in open air (Ith)	12 A	VCDN12	VBDN12
	20 A	VCDN20	VBDN20



Type	Vario for high performance applications					
	Door mounting			Backplate mounting in enclosure		
Colour: Handle / Front plate	Red / Yellow	Black / Black	Red / Yellow	Black / Black	Red / Yellow	Red / Yellow
Front plate dimensions (mm)	60 x 60		60 x 60		90 x 90	60 x 60
Fixing	Ø 22.5 mm		4 screws		4 screws	Ø 22.5 mm
Degree of protection	IP 20		IP 20		IP 20	IP 20
Rated insulation voltage (Ui)	690 V		690 V		690 V	690 V
Thermal current in open air (Ith)	12 A	VCD02	VBD02	VCF02	VBF02	–
	20 A	VCD01	VBD01	VCF01	VBF01	–
	25 A	VCD0	VBD0	VCF0	VBF0	–
	32 A	VCD1	VBD1	VCF1	VBF1	–
	40 A	VCD2	VBD2	VCF2	VBF2	–
	63 A	–	–	VCF3	VBF3	–
	80 A	–	–	VCF4	VBF4	–
	125 A	–	–	–	–	VCF5
	175 A	–	–	–	–	VCF6



Add-on modules	For mini-Vario		For Vario						
Main pole modules									
Switch rating	12 A	20 A	12 A	20 A	25 A	32 A	40 A	63 A	80 A
References	VZN12	VZN20	VZ02	VZ01	VZ0	VZ1	VZ2	VZ3	VZ4
Neutral pole module with early make and late break contacts									
Switch rating	12...20 A		12...40 A		63 and 80 A		125 and 175 A		
References	VZN11		VZ11		VZ12		VZ13		
Earthing module									
Switch rating	12...20 A		12...40 A		63 and 80 A		125 and 175 A		
References	VZN14		VZ14		VZ15		VZ16		
Auxiliary contact block modules									
Contact type	NO	NC	NO + NC			NO + NO			
References	VZN05	VZN06	VZ7			VZ20			



D.O.L. starters

		with circuit-breaker		with fuse protection
Level of service	Coordination:	Type 1		Type 2
Power at 400 V	Up to:	5.5 kW	15 kW	37 kW
Type of components		Combination automatic motor starter with overload protection incorporated in the circuit-breaker		Fuse carrier + plate-mounted contactor
Basic reference, to be completed		GV2ME	GV2DM	GV2DP



5

Starters GV2-ME

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3 (kW)			Setting range of thermal trips	Fixed magnetic tripping current	For customer assembly	Non-reversing	Reversing
400/415 V	440 V	500 V			Motor circuit-breaker	Factory assembled	Basic reference, to be completed with code indicating control circuit voltage
0.37	0.37	0.37	1...1.6	22.5	GV2ME06	LC1K06	GV2ME06K1**
0.55	0.55	0.55					GV2ME06K2**
-	-	0.75					
0.75	0.75	-	1.6...2.5	33.5	GV2ME07	LC1K06	GV2ME07K1**
-	1.1	1.1					GV2ME07K2**
1.1	-	1.5	2.5...4	51	GV2ME08	LC1K06	GV2ME08K1**
1.5	1.5	2.2					GV2ME08K2**
2.2	2.2	-	4...6.3	78	GV2ME10	LC1K06	GV2ME10K1**
-	-	3					GV2ME10K2**
3	-	4	6...10	138	GV2ME14	LC1K09	GV2ME14K1**
4	4	5.5					GV2ME14K2**
5.5	5.5	7.5	9...14	170	GV2ME16	LC1K12	GV2ME16K1**
							GV2ME16K2**

Standard control circuit voltages (for other voltages, please consult your Regional Sales Office)

Volts	24	110	220/230	230	230/240	380/400
~ 50...400 Hz	B7	F7	M7	P7	U7	Q7
--- (1)	BW3	-	-	-	-	-

(1) Low consumption coil (1.5 W), wide range (0.7...1.3 Uc) and with integral suppression device as standard.



D.O.L. starters GV2DM and GV3-DP

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3 (kW)				Setting range of thermal trips	Fixed magnetic tripping current	For customer assembly		Non-reversing	Reversing
400/415 V	440 V	500 V				Motor circuit-breaker	Contactor	Factory assembled	Factory assembled
Basic reference, to be completed with code indicating control circuit voltage									
0.06	0.06	-	0.16...0.25	2.4	13 Irth	GV2ME02	LC1D09**	GV2DM102**	GV2DM202**
						GV2P02	LC1D09**	GV2DP102**	GV2DP202**
0.09	0.09	-	0.25...0.40	5		GV2ME03	LC1D09**	GV2DM103**	GV2DM203**
-	0.12	-				GV2P03	LC1D09**	GV2DP103**	GV2DP203**
0.12	-	-	0.40...0.63	8		GV2ME04	LC1D09**	GV2DM104**	GV2DM204**
0.18	0.18	-				GV2P04	LC1D09**	GV2DP104**	GV2DP204**
0.25	0.25	-	0.63...1	13		GV2ME05	LC1D09**	GV2DM105**	GV2DM205**
0.37	0.37	-				GV2P05	LC1D09**	GV2DP105**	GV2DP205**
-	-	0.37	1...1.6	22.5		GV2ME06	LC1D09**	GV2DM106**	GV2DM206**
0.55	0.55	0.55				GV2P06	LC1D09**	GV2DP106**	GV2DP206**
-	-	0.75							
0.75	0.75	-	1.6...2.5	33.5		GV2ME07	LC1D09**	GV2DM107**	GV2DM207**
-	1.1	1.1				GV2P07	LC1D09**	GV2DP107**	GV2DP207**
1.1	-	1.5	2.5...4	51		GV2ME08	LC1D09**	GV2DM108**	GV2DM208**
1.5	1.5	2.2				GV2P08	LC1D09**	GV2DP108**	GV2DP208**
2.2	2.2	-	4...6.3	78		GV2ME10	LC1D09**	GV2DM110**	GV2DM210**
-	3	3				GV2P10	LC1D09**	GV2DP110**	GV2DP210**
3	-	4	6...10	138		GV2ME14	LC1D09**	GV2DM114**	GV2DM214**
4	4	5.5				GV2P14	LC1D09**	GV2DP114**	GV2DP214**
5.5	5.5	7.5	9...14	170		GV2ME16	LC1D12**	GV2DM116**	GV2DM216**
-	7.5	9				GV2P16	LC1D25**	GV2DP116**	GV2DP216**
7.5	9	-	13...18	223		GV2ME20	LC1D18**	GV2DM120**	GV2DM220**
						GV2P20	LC1D25**	GV2DP120**	GV2DP220**
9	11	11	17...23	327		GV2ME21	LC1D25**	GV2DM121**	GV2DM221**
						GV2P21	LC1D25**	GV2DP121**	GV2DP221**
11	-	15	20...25	327		GV2ME22	LC1D25**	GV2DM122**	GV2DM222**
						GV2P22	LC1D25**	GV2DP122**	GV2DP222**
15	15	18.5	24...32	416		GV2ME32	LC1D32**	GV2DM132**	GV2DM232**
						GV2P32	LC1D32**	GV2DP132**	GV2DP232**

5

D.O.L. starters GV3 + LC1D

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3 (kW)				Setting range of thermal trips	Fixed magnetic tripping current	For customer assembly		Non-reversing	Reversing
400/415 V	440 V	500 V				Motor circuit-breaker	Contactor	Reference of accessory to be ordered for assembly of motor starter (2)	Reference of accessory to be ordered for assembly of motor starter (2)
18,5	18,5	-	30...40	560	13 Irth	GV3P401 (1)	LC1D40A**	-	LAD9R3
-	22	22	30...40	560		GV3P401 (1)	LC1D40A**	-	LAD9R3
22	-	30	37...50	700		GV3P501 (1)	LC1D50A**	-	LAD9R3
30	30	37	48...65	910		GV3P651 (1)	LC1D65A**	-	LAD9R3

(1) Circuit-breaker GV3P without downstream EverLink terminal block. A standard GV3P can also be used by removing the downstream terminal block.

(2) For side by side circuit-breaker/contacting mounting, order accessory GV3S.

Standard control circuit voltages (for other voltages, please consult your Regional Sales Office)

Volts	24	220	230
~ 50...400 Hz	B7	M7	P7
⋮ (3)	BD	-	-

(3) Low consumption coil, wide range (0.7 to 1.25 Uc) and with suppression device as standard (bidirectional peak limiting diode).



Function characteristics, LUB... + LUCA...	Maximum motor power < 400/415 V	Power base		Standard control unit	
		Non-reversing	Reversing (1)	Class 10 (2)	Setting range
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only). - Manual reset following thermal fault.	0.09 kW	LUB12	LU2B12●●	LUCA6X●●	0.15...0.6 A
	0.25 kW	LUB12	LU2B12●●	LUCA1X●●	0.35...1.4 A
	1.5 kW	LUB12	LU2B12●●	LUCA05●●	1.25...5 A
	5.5 kW	LUB12	LU2B12●●	LUCA12●●	3...12 A
	7.5 kW	LUB32	LU2B32●●	LUCA18●●	4.5...18 A
15 kW	LUB32	LU2B32●●	LUCA32●●	8...32 A	

ADVANCED motor starter



Function characteristics, LUB... + LUCA...	Maximum motor power < 400/415 V	Power base Non-reversing	Advanced control unit		Setting range
			Class 10 (2) (3)	Class 20 (2)	
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only). - Manual reset following thermal fault. - Thermal overload test function.	0.09 kW	LUB120	LUCB6X●●	LUCD6X●●	0.15...0.6 A
	0.25 kW	LUB120	LUCB1X●●	LUCD1X●●	0.35...1.4 A
	1.5 kW	LUB120	LUCB05●●	LUCD05●●	1.25...5 A
	5.5 kW	LUB120	LUCB12●●	LUCD12●●	3...12 A
	7.5 kW	LUB320	LUCB18●●	LUCD18●●	4.5...18 A
15 kW	LUB320	LUCB32●●	LUCD32●●	8...32 A	

(3) For single-phase-motors, replace LUCB●●●● by LUC●●●●.

MULTIFUNCTION motor starter



Function characteristics, LUB... + LUCA...	Maximum motor power < 400/415 V	Power base Non-reversing	Multifunction control unit	
			Class 5 to 30	Setting range
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only). - Manual, automatic or remote reset, - Thermal overload test function, - Overtorque and no-load running, alarm, - Motor operation log, - Motor parameters display on LUCM..., PC or HMI, - Integrated Modbus communication.	0.09 kW	LUB120	LUCM6XBL	0.15...0.6 A
	0.25 kW	LUB120	LUCM1XBL	0.35...1.4 A
	1.5 kW	LUB120	LUCM05BL	1.25...5 A
	5.5 kW	LUB120	LUCM12BL	3...12 A
	7.5 kW	LUB320	LUCM18BL	4.5...18 A
15 kW	LUB320	LUCM32BL	8...32 A	

(1) Complete the references of the power bases according to the following table.

Example: LU2B12

●●

(2) Complete the references of the control units according to the following table.

Example: LUCA/B/D/M6X

●●

Standard control circuit voltages

24 V DC	BL
24 V AC	B
48 V AC / 48...72 V DC	ES
110...240 V AC / 110...220 V DC	FU



Type of optional function	Thermal overload alarm	Thermal fault signalling			Motor load indication
Compatible with LUCA	NO	NO	NO	NO	NO
Compatible with LUCL	NO	NO	NO	NO	NO
Compatible with LUCB, LUCD	YES	YES	YES	YES	YES
Compatible with LUCM	NO	NO	NO	NO	YES
Output signal	1 NO	1 NO +1 NC	1 NC	1 NO	4...20 mA
Reset	NA	Manual	Automatic or remote		NA
References	LUFW10	LUFDH11	LUFDA01	LUFDA10	LUFV2

Communication modules



Type of communication	Modbus	Modicon STB	Profibus DP	CANopen	DeviceNet	AS-Interface	Parallel wiring
Only compatible with 24 V DC control units LUCA..BL, LUCB..BL, LUCD..BL, LUCM..BL	YES	YES	YES	YES	YES	YES	YES
Transfer speed	19.2 Kbps	Dpg. on NIM (1)	9.6...12 Mbps	20 K...1 Mbps	125...500 Kbaud	167 Kbps	NA
Number of slaves	31 per Modbus master	Dpg. on Network Interface Module	125 per Profibus DP module	128 per CANopen module	63 per DeviceNet module	62 per AS-Interface master	8 per LU9GC02 splitter box
Pre-wired coil connection (A1 A2)	LU9BN11C, LU9MRC	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11C, LU9MRC	LU9Rxx
Connecting cable to PC	VW3 A8 306 R●●	LU9RCD●●, LU9RDD●●	TSXPBSCA●●	TSXCANC●●	DeviceNet standard	XZCG0142	TSXCDP●●●
References	LUFC033	LULC15	LULC07	LULC08	LULC09	ASILUFC51	LUFC00

(1) Network Interface Module.

Information carried by the Modbus, Modicon STB or CANopen bus

Type of control unit	LUCA●●BL	LUCB●●BL, LUCD●●BL	LUCM●●BL
Start and Stop commands	X	X	X
Starter status (ready, running, fault)	X	X	X
Thermal alarm		X	X
Remote reset via the bus		X	X
Indication of motor load		X	X
Signalling and fault differentiation		X	X
Alarms (overcurrent, ...)			X
Remote programming and monitoring of all the functions			X
"Log" function			X
Monitoring function			X

Contact blocks



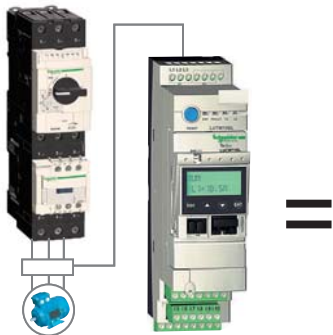
Type of contact block	Add-on	Auxiliary				
Signalling contacts	of any fault	NC (95-96)	NO (97-98)	–	–	–
	position of control handle	NO (17-18)	NO (17-18)	–	–	–
2 auxiliary contacts module		–	–	NO (33-34)	NC (31-32)	NC (31-32)
		–	–	NO (43-44)	NO (43-44)	NC (41-42)
References	Screw clamp terminals	LUA1C11	LUA1C20	LUFN20	LUFN11	LUFN02
	Without connections	LUA1C110	LUA1C200	–	–	–

TeSys

LUTM

TeSys GV3L
Circuit-breakers

TeSys LC1D
Contactor



Controller for 3-phase motors MULTIFUNCTION protection



+



Function characteristics

- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only).
- Manual, automatic or remote reset,
- Thermal overload test function,
- Overtorque and no-load running, alarm,
- Motor operation log,
- Motor parameters display on LUCM..., PC or HMI,
- Integrated Modbus communication.

Control base for use with contactors

TeSys D (LC1D..)

LUTM10BL

TeSys F (LC1F..)

LUTM20BL

Multifunction control unit Class 5 to 35

LUCMT1BL

ADVANCED protection



Function characteristics

- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only).
- Manual reset following thermal fault.
- Thermal overload test function.

Control base for use with contactors

TeSys D (LC1D..)

LUTM10BL

TeSys F (LC1F..)

LUTM20BL

Advanced control unit

Class 10

LUCBT1BL

Class 20

LUCDT1BL

Current transformers

Type of transformer							
Supply voltage		24 V DC					
Operating current	Primary	30 A	50 A	100 A	200 A	400 A	800 A
	Secondary	1 A					
References		LUTC0301	LUTC0501	LUTC01001	LUTC02001	LUTC04001	LUTC05001

Above 32 A, the TeSys U controller provides a motor starter management system solution identical to that provided by the TeSys U starter-controller.

Used in conjunction with a short-circuit protection device and a contactor, it provides a motor starter whose functions are the same as those of a TeSys U starter-controller and, in particular, provides the following functions: overload protection, motor starter control and application monitoring.

It comprises a control unit, whose adjustment range is compatible with the secondary of current transformers, and a control base that also enables the fitting of a function module or communication module.

It requires a 24 V DC external power supply.



Type of optional function	Thermal overload alarm	Motor load indication
Compatible with LUCA	NO	NO
Compatible with LUCL	NO	NO
Compatible with LUCB, LUCD	YES	YES
Compatible with LUCM	NO	YES
Output signal	1 NO	4...20 mA
Reset	NA	NA
References	LUFW10	LUFV2



TeSys rotating handles for	TeSys U
Kit IP54 black handle	LU9APN21
IP54 kit red handle and yellow front	LU9APN22
IP65 kit red handle and yellow front	LU9APN24

Communication modules



Type of communication	Modbus	Modicon STB	CANopen	DeviceNet	Parallel wiring
Only compatible with 24 V DC control units LUCA..BL, LUCB..BL, LUCD..BL, LUCM..BL	YES	YES	YES	YES	YES
Transfer speed	19.2 Kbps	Dpg. on NIM (1)	20 K...1 Mbps	125...500 Kbaud	NA
Number of slaves	31 per Modbus master	Dpg. on Network Interface Module	128 per CANopen module	63 per DeviceNet module	8 per LU9GC02 splitter box
Pre-wired coil connection (A1 A2)	LU9BN11C, LU9MRC	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9Rxx
Connecting cable to PC	VW3 A8 306 R●● LU9RDD●●	LU9RCD●●	TSXCANC●●	DeviceNet standard	TSXCDP●●●
References	LUFC033	LULC15	LULC08	LULC09	LUFC00

Information carried by the Modbus, Modicon STB or CANopen bus		
Type of control unit	LUCBT1BL, LUCDT1BL	LUCMT1BL
Start and Stop commands	X	X
Starter status (ready, running, fault)	X	X
Thermal alarm	X	X
Remote reset via the bus	X	X
Indication of motor load	X	X
Signalling and fault differentiation	X	X
Alarms (overcurrent, ...)		X
Remote programming and monitoring of all the functions		X
"Log" function		X
Monitoring function		X



Starters

D.O.L.

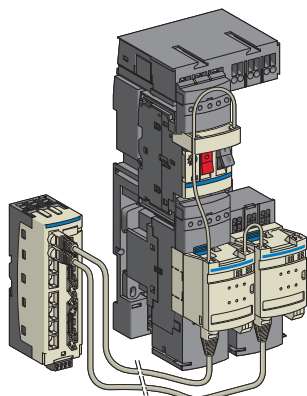
■ standard

Standard power ratings of 3-phase motors in category AC3 400/415 V		4...37 kW	0.06...37 kW	0.55...30 kW	0.37...5.5 kW	0.25...45 kW
Starters	manual	●	●	●	-	-
	auto	-	-	-	●	●
Isolating device	switch-disconnector-fuse	●	-	-	-	-
	circuit-breaker	-	●	●	●	-
	fuse carrier	-	-	-	-	-
Protection	short-circuit	-	●	●	●	-
	overload	-	●	-	●	●
Communication		-	-	-	-	-
Basic reference	Non-reversing	V•F•GE	GV2ME	GV2LC	LE1GVME	LE1M
		VCFN•GE	GV3PC	GV-NGC		LE1D
	Reversing	V•FXGE•	GV3CE			LE2K
						LE2D



2 stage

	■ safety applications			■ AS-Interface bus		standard star-delta	
2.2...45 kW	0.06...11 kW	0.06...9 kW	0.06...9 kW	0.06...5.5 kW	5.5...132 kW	7.5...75 kW	
-	●	-	-	-	-	-	
●	-	●	●	●	●	●	
-	-	●	-	-	-	-	
-	●	●	●	●	-	-	
●	-	-	-	-	-	●	
●	●	●	●	●	-	●	
●	●	●	●	●	●	●	
-	-	-	-	●	-	-	
LE4K	GV2ME	LG1K	LG7K	LF3M	LE3K	LE6D	
LE4D		LG1D	LG7D	LF3P	LE3D	LE3D	
			LJ7K	LF7P	LE3F		
LE8K			LG8K	LF4M			
LE8D			LJ8K	LF4P			
LE2D				LF8P			



TeSys Quickfit is a modular system which standardises and simplifies the implementation of motor starters with its pre-wired control and power circuits.

Installation of a motor starter becomes quick, simple, safe and flexible.

In addition, this system:

- enables the motor starter to be customised at a later date,
- reduces maintenance time and
- optimises panel space by reducing the number of terminals and intermediate interfaces and the amount of ducting.

The motor starters concerned are those created by combining:

- GV2 ME or GV3 P circuit-breakers, with an operating limit of 80% of the maximum current at an ambient temperature of 60 °C, up to 690 V
- with 9 to 65 A TeSys D (LC1) contactors.

This offer comprises components for pre-wiring

- the power part,
- the control part.

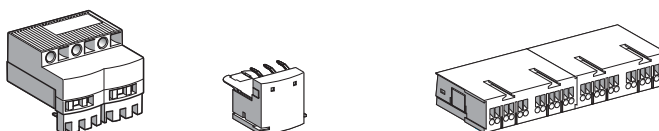
Components for pre-wiring the power part

- a **power kit** comprising, for each starter, a plate for mounting the contactor and the circuit-breaker, and two power connection modules,
- a **power splitter box** for 2 or 4 starters,
- an **upstream terminal block** for a power supply up to 60 A (16 mm²),
- a **downstream terminal block** for connecting the motor power supply cables and the earth cables (6 mm²).

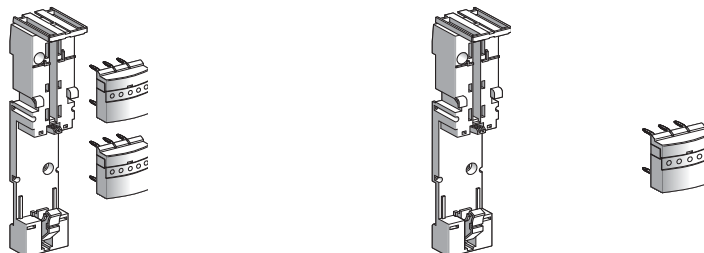
Components for pre-wiring the control part

- a **control circuit connection module** that mounts directly on the contactor and the circuit-breaker of each starter. This module integrates the status and control information of this particular motor starter.
- a **parallel wiring module** enabling grouping of the information relating to each motor starter:
 - **HE 10**, intended for centralised applications. The information is transmitted to the PLC via the Modicon pre-wired system.
 - **STB**, intended for decentralised automation architectures. This module is integrated in an Modicon STB configuration for connection to the PLC via a fieldbus.

9...25 A power pre-wiring components



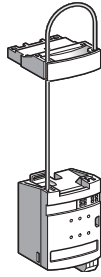
Type	Terminal block Upstream	Downstream	60 A power splitter box Extension by LAD32●	
Maximum c.s.a. of connection	16 mm ²	6 mm ²	–	–
Use	Splitter boxes supply	Motor cables	–	–
Number of starters	–	–	2	4
Reference	LAD3B1	LAD331	LAD322	LAD324



Type	Connection kit For D.O.L. starter (1)	Mounting plate for GV2 ME & contactor	Power connection module
Composition	1 mounting plate LAD311 for GV2ME 2 power connection modules LAD341	For 1 motor starter	
Reference	LAD252	LAD311	LAD341

(1) For a reversing starter order 2 connection kits LAD252

Control-command pre-wiring components



Type	Connection module			
TeSys D coil voltage	12...250 V AC or 5...130 V DC		24 V DC	
Type of coil control relay	Electronic		Without relay	
Type of motor starter	Direct	Reversing	Direct	Reversing
Reference	LAD9AP31	LAD9AP32	LAD9AP3D1	LAD9AP3D2

Type	24 V DC parallel wiring module	
	Splitter box	Modicon STB parallel interface module
PLC/motor starter side connectors	2 x HE10/8 x RJ45	-/4 x RJ45
Reference	LU9G02	STBEPI2145

5

Accessories

Type	Connecting cables				
	(1)	From splitter box LU9G02 to the PLC			
Connectors	2 x RJ45	2 HE10		Bare wires and HE10	
Gauge / c.s.a.	-	22 / 0.324 mm ²	28 / 0.080 mm ²	22 / 0.324 mm ²	
Reference	L = 0.3 m	LU9R03	-	-	
	0.5 m	-	TSXCDP053	-	
	1 m	LU9R10	TSXCDP103	ABFH20H100	
	2 m	-	TSXCDP203	ABFH20H200	
	3 m	LU9R30	TSXCDP303	ABFH20H300	TSXCDP301
	5 m	-	TSXCDP503	-	TSXCDP301

(1) From connection module LAD9AP3● to splitter box LU9G02 or module STBEPI2145

Type	Connectors		Connecting cable
	Spring terminals	Self-stripping	
Use	External contact, auxiliary power supply		Between communication module APP1C● and splitter box LU9GG02
Reference	APE1PRE21	APE1PAD21	APP2AH40H060

Components Lighting applications (AC5)

Sodium vapour lamps															
low pressure															
	Non-corrected							With parallel compensation							
P (W)	3-	55	90	135	150	180	200	35	55	90	135	150	180	200	
IB (A)	1.2	1.6	2.4	3.1	3.2	3.3	3.4	0.3	0.4	0.6	0.9	1	1.2	1.3	
C (µF)	-	-	-	-	-	-	-	17	17	25	36	36	36	36	LC1-
Max. number of lamps	6	5	3	2	2	2	2	-	-	-	-	-	-	-	K09
according to P (W), per contactor	10	7	5	3	3	3	3	40	30	-	-	-	-	-	D09, D12
	12	9	6	4	4	4	4	50	37	25	-	-	-	-	D18
	15	11	7	6	5	5	5	63	47	31	21	19	15	14	D25
	21	16	10	8	8	7	7	86	65	43	28	26	21	20	D32, D38
	27	20	13	10	10	10	9	110	82	55	36	33	27	25	D40A
	35	26	17	13	13	12	12	140	105	70	46	42	35	32	D50A, D65A
	50	37	25	19	18	18	17	200	150	100	66	60	50	46	D80, D95
	100	75	50	38	36	36	34	400	300	200	132	120	100	92	D115, D150
	140	104	70	54	52	50	48	560	420	280	186	168	140	128	F185
	152	114	76	58	56	54	54	606	454	302	202	182	152	140	F225
	174	130	88	68	66	64	62	700	524	350	232	210	174	162	F265
	198	148	98	76	74	72	70	792	594	396	264	238	198	182	F330
	250	188	124	96	94	90	88	1002	752	502	334	300	250	252	F400
	338	254	168	130	126	122	118	1352	1014	676	450	406	338	312	F500
	496	372	248	192	186	180	174	1982	1488	992	660	594	496	458	F600, F800
high pressure															
P (W)	150	250	400	700	1000			150	250	400	700	1000			
IB (A)	1.9	3.2	5	8.8	12.4			0.84	1.4	2.2	3.9	5.5			
C (µF)	-	-	-	-	-			20	32	48	96	120			LC1-
Max. number of lamps	4	2	1	-	-			-	-	-	-	-			K09
according to P (W), per contactor	6	3	2	1	-			-	-	-	-	-			D09, D12
	7	4	3	1	1			17	-	-	-	-			D18
	10	5	3	2	1			22	13	8	-	-			D25
	13	8	5	2	2			30	18	11	6	-			D32, D38
	17	10	6	3	2			39	23	15	8	6			D40A
	22	13	8	4	3			50	30	19	10	7			D50A, D65A
	31	18	12	6	4			71	42	27	15	10			D80, D95
	62	36	24	12	8			142	84	54	30	20			D115, D150
	88	52	34	18	14			200	120	76	42	30			F185
	96	56	36	20	16			216	130	82	46	32			F225
	110	66	42	24	18			250	150	94	54	38			F265
	124	74	48	26	20			282	170	108	60	42			F330
	158	94	60	34	24			358	214	136	76	54			F400
	214	126	80	46	32			482	290	184	104	74			F500
	312	186	118	68	48			708	424	270	152	108			F630, F800
Metal iodine vapour lamps															
P (W)	250	400	1000	2000				250	400	1000	2000				
IB (A)	2.5	3.6	9.5	20				1.4	2	5.3	11.2				
C (µF)	-	-	-	-				32	32	64	140				LC1-
Max. number of lamps	3	2	-	-				-	-	-	-				K09
according to P (W), per contactor	4	3	1	-				-	-	-	-				D09, D12
	6	4	1	-				-	-	-	-				D18
	7	5	2	-				13	9	-	-				D25
	10	7	2	1				18	13	4	-				D32, D38
	13	9	3	1				23	16	6	-				D40A
	16	11	4	2				30	21	7	-				D50A, D65A
	24	16	6	3				42	30	11	5				D80, D95
	48	32	12	6				84	60	22	10				D115, D150
	66	46	18	8				120	84	32	14				F185
	72	50	20	10				130	90	34	16				F225
	84	58	22	12				150	104	40	18				F265
	94	66	24	14				170	118	44	20				F330
	120	84	32	16				214	150	56	26				F400
	162	112	42	20				290	202	76	36				F500
	238	164	62	30				424	298	112	52				F630, F800

Incandescent and halogen lamps

P (W)	60	75	100	150	200	300	500	750	1000	
IB (A)	0.27	0.34	0.45	0.68	0.91	1.40	2.30	3.40	4.60	LC1-
Max. number of lamps	35	28	21	14	10	6	4	2	2	K09
according to P (W), per contactor	59	47	35	23	17	11	7	4	3	D09, D12
	77	61	46	30	23	15	9	6	4	D18
	92	73	55	36	27	18	11	7	5	D25
	129	103	77	51	38	25	15	10	7	D32, D38
	163	129	97	64	48	31	19	13	9	D40A
	207	164	124	82	62	40	24	16	12	D50A, D65A
	296	235	177	117	88	57	34	23	17	D80, D95
	430	340	256	170	126	82	50	34	24	D115
	466	370	280	184	138	90	54	36	26	D150
	710	564	426	282	210	136	82	56	40	F185
	770	610	462	304	228	148	90	60	44	F225
	888	704	532	352	262	170	104	70	52	F265
	1006	800	604	400	298	194	118	80	58	F330
	1274	1010	764	504	378	244	148	100	74	F400
	1718	1364	1030	682	508	330	200	136	100	F500
	2328	1850	1396	924	690	448	272	184	136	F600
	2776	2204	1666	1102	824	534	326	220	162	F800

Fluorescent lamps with starter single fitting

	Non-corrected					With parallel correction					
	20	40	65	80	110	20	40	65	80	110	
P (W)	0.39	0.45	0.70	0.80	1.2	0.17	0.26	0.42	0.52	0.72	
IB (A)	-	-	-	-	-	5	5	7	7	16	LC1-
C (µF)	24	21	13	12	8	56	36	22	18	-	K09
Max. number of lamps	41	35	22	20	13	94	61	38	30	22	D09, D12
according to P (W), per contactor	53	46	30	26	17	123	80	50	40	29	D18
	66	57	37	32	21	152	100	61	50	36	D25
	89	77	50	43	29	205	134	83	67	48	D32, D38
	112	97	62	55	36	258	169	104	84	61	D40A
	143	124	80	70	46	329	215	133	107	77	D50A, D65A
	205	177	114	100	66	470	367	190	153	111	D80, D95
	410	354	228	200	132	940	614	380	306	222	D115, D150
	492	426	274	240	160	1128	738	456	368	266	F185
	532	462	296	260	172	1224	800	490	400	288	F225
	614	532	342	300	200	1412	922	570	462	332	F265
	696	604	388	340	226	1600	1046	648	522	378	F330
	882	764	490	430	286	2024	1322	818	662	478	F400
	1190	1030	662	580	386	2728	1724	1104	892	644	F500
	1612	1398	698	786	524	3700	2418	1498	1210	874	F630, F800

twin fitting

P (W)	2x20	2x40	2x65	2x80	2x110	2x20	2x40	2x65	2x80	2x110	
IB (A)	2x0.22	2x0.41	2x0.67	2x0.82	2x1.1	2x0.13	2x0.24	2x0.39	2x0.48	2x0.65	LC1-
Max. number of lamps	2x21	2x11	2x7	2x5	2x4	2x36	2x20	2x12	2x10	2x7	K09
according to P (W), per contactor	2x36	2x18	2x10	2x8	2x6	2x60	2x32	2x20	2x16	2x12	D09, D12
	2x46	2x24	2x14	2x12	2x8	2x80	2x42	2x26	2x20	2x16	D18
	2x58	2x30	2x18	2x14	2x10	2x100	2x54	2x32	2x26	2x20	D25
	2x78	2x42	2x26	2x20	2x14	2x134	2x72	2x44	2x36	2x26	D32, D38
	2x100	2x52	2x32	2x26	2x18	2x168	2x90	2x56	2x44	2x32	D40A
	2x126	2x68	2x40	2x34	2x24	2x214	2x116	2x70	2x58	2x42	D50A, D65A
	2x180	2x96	2x58	2x48	2x36	2x306	2x166	2x102	2x82	2x60	D80, D95
	2x360	2x194	2x118	2x96	2x72	2x614	2x332	2x204	2x166	2x122	D115, D150
	2x436	2x234	2x142	2x116	2x86	2x738	2x400	2x246	2x200	2x148	F185
	2x472	2x254	2x154	2x126	2x94	2x800	2x432	2x266	2x216	2x160	F225
	2x544	2x292	2x178	2x146	2x108	2x922	2x500	2x308	2x250	2x184	F265
	2x618	2x332	2x202	2x166	2x124	2x1046	2x566	2x348	2x282	2x208	F330
	2x782	2x420	2x256	2x210	2x156	2x1322	2x716	2x440	2x358	2x264	F400
	2x1054	2x566	2x346	2x282	2x210	2x1784	2x966	2x594	2x482	2x356	F500
	2x1430	2x766	2x468	2x384	2x286	2x2418	2x1310	2x806	2x654	2x484	F630, F800

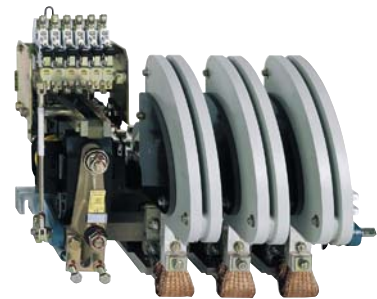
On-load capacitor switching for bar-mounted contactors, a.c. control circuit

Rated operational voltage (V)	Without damping resistor				With damping resistor			
	Number of poles	Max. operational current (A)		Basic reference, to be completed	Number of poles	Max. operational current (A)		Basic reference, to be completed
		50 Hz	180 Hz			50 Hz	180 Hz	
1300	1	80	60	CE5FB11•11	1 + 1 staggered pole	80	60	CE6FB12•11
		160	125	CE5GB11•11		160	125	CE6GB12•11
		240	190	CE5HB11•11		240	190	CE6HB12•11
	2	80x2	60x2	CE5FB21•11	2 + 2 staggered poles			
		160x2	125x2	CE5GB21•11				
		240x2	190x2	CE5HB21•11		240x2	190x2	CE6HB22•11
3	80x3	60x3	CE5FB31•11	1 + 2 staggered poles				
	160x3	125x3	CE5GB31•11					
	240x3	190x3	CE5HB31•11					
1500	2 poles in series	160	125	CE5GB12•11		160	125	CE6GB13•11
		280	220	CE5HB12•11		280	220	CE6HB13•11
	2 x 2 poles in series	280x2	220x2	CE5HB22•11				
2000	2 poles in series	240	190	CS5HB12•11	1 + 2 staggered poles	240	190	CS6HB13•11
	2 x 2 poles in series	240x2	190x2	CS5HB22•11				
3000	3 poles in series	280	220	CS5HB13•11	1 + 3 staggered poles	280	220	CS6HB14•11

Standard control circuit voltages

~ supply

Volts	110	125	127	200	220	240	250	380	415	440	500
50 Hz (coil LX1)	F	-	G	L	M	U	-	Q	N	R	S



Maximum operational power of contactors standard contactors

Operational power at 50/60 Hz

	$\theta \geq 40\text{ }^\circ\text{C}$			$\theta \geq 55\text{ }^\circ\text{C}$			Peak current	Contactor size
	220 V	400 V	600 V	220 V	400 V	600 V		
	240 V	440 V	690 V	240 V	440 V	690 V		
	kVAR	kVAR	kVAR	kVAR	kVAR	kVAR	A	
6	11	15	15	6	11	15	560	LC1D09, D12
9	15	20	20	9	15	20	850	LC1D18
11	20	25	25	11	20	25	1600	LC1D25
14	25	30	30	14	25	30	1900	LC1D32, D38
17	30	37	37	17	30	37	2160	LC1D40A
22	40	50	50	22	40	50	2160	LC1D50A
22	40	50	50	22	40	50	3040	LC1D65A
35	60	75	75	35	60	75	3040	LC1D80, D95
50	90	125	125	38	75	80	3100	LC1D115
60	110	135	135	40	85	90	3300	LC1D150
70	125	160	160	50	100	100	3500	LC1F185
80	140	190	190	60	110	110	4000	LC1F225
90	160	225	225	75	125	125	5000	LC1F265
100	190	275	275	85	140	165	6500	LC1F330
125	220	300	300	100	160	200	8000	LC1F400
180	300	400	400	125	220	300	10000	LC1F500
250	400	600	600	190	350	500	12000	LC1F630
250	400	600	600	190	350	500	14200	LC1F800
200	350	500	500	180	350	500	25000	LC1BL
300	550	650	650	250	500	600	25000	LC1BM
500	8350	950	950	400	750	750	25000	LC1BP
600	1100	1300	1300	500	1000	1000	25000	LC1BR

special contactors

Operational power at 50/60 Hz

	$\theta \geq 55\text{ }^\circ\text{C}$			Instantaneous auxiliary contacts		Tightening torque on cable end	Basic reference, to be completed
	220 V	400 V	660 V	NO	NC		
	240 V	440 V	690 V			N.m	
	kVAR	kVAR	kVAR				
6.7	12.5	18	18	1	1	1.2	LC1DFK11**
				-	2	1.2	LC1DFK02**
8.5	16.7	24	24	1	1	1.7	LC1DGK11**
				-	2	1.7	LC1DGK02**
10	20	30	30	1	1	1.9	LC1DLK11**
				-	2	1.9	LC1DLK02**
15	25	36	36	1	1	2.5	LC1DMK11**
				-	2	2.5	LC1DMK02**
20	33.3	48	48	1	2	5	LC1DPK12**
25	40	58	58	1	2	5	LC1DTK12**
40	60	92	92	1	2	9	LC1DWK12**

Standard control circuit voltages

~ supply

Volts	24	42	48	110	115	220	230	240	380	400	415	440
50/60 Hz (coil LX1)	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7



Maximum operational current (device in open air)

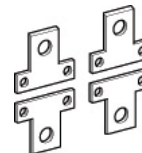
Contactors			LC1-/LP1- K09	LC1-/LP1- K12	LC1- D09	LC1- DT20	LC1- D12	LC1- D18	LC1- D25	LC1- D32	LC1- D38	LC1- D40A
■ 3-pole												
■ 4-pole												
LC2- changeover contactor pairs, factory assembled				K09004	K12004		DT20	DT25	DT32	DT40		DT60A
Operational current in AC-1, in A, ≤ 40°C	A		20	20	25	20	25	32	40	50	50	60
according to ambient temperature ≤ 60°C	A		20	20	25	20	25	32	40	50	50	60
	≤ 70°C											
Maximum operational power ≤ 60°C	220/230 V	kW	8	8	9	8	9	11	14	18	18	21
	240 V	kW	8	8	9	8	9	12	15	19	19	23
	380/400 V	kW	14	14	15	14	15	20	25	31	31	37
	415 V	kW	14	14	17	14	17	21	27	34	34	41
	440 V	kW	15	15	18	15	18	23	29	36	36	43
	500 V	kW	17	17	20	17	20	23	33	41	41	49
	660/690 V	kW	22	22	27	22	27	34	43	54	54	65

5

Increase in operational current by parallel connection of poles

Apply the following coefficients to the currents or powers above; these coefficients take into account an often unbalanced distribution of current between the poles:

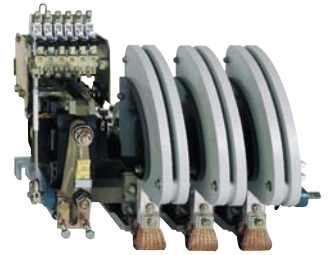
- 2 poles in parallel K = 1.6
- 3 poles in parallel K = 2.25
- 4 poles in parallel K = 2.8



Connection accessories for heating applications

Paralleling links for:		Reference
■ TeSys K	2 poles	with screw clamp terminals LA9E01
	4 poles	with screw clamp terminals LA9E02
■ TeSys D	2 poles	D09...D38 LA9D2561
		DT20 and DT25 (4P) LA9D1261
		DT32...DT40 (4P) LADD96061
	3 poles	D40A...D65A LAD9P32
		D80 LA9D80961
		D09...D38 LAD9P3 (1)
4 poles	D40A...D65A LAD9P33	
	D80 LA9D80962	
	DT20...DT25 LA9D1263	
	D40A...D65A 2 x LAD-9P33	
■ TeSys F	2 to 2	D80 LA9D80963
		LC1F1154 LA9FF602
		LC1F1504, F1854 LA9FG602
		LC1F2254, F2654, F3304, F4004 LA9FH602
		LC1F5004 LA9FK602
	LC1F6304 LA9FL602	

(1) Link that can be split, allowing parallel connection of 2 poles



	LC1-D50A	LC1-D65A	LC1-D80	LC1-D115	LC1-F185	LC1-F225	LC1-F265	LC1-F330	LC1-F400	LC1-F500	LC1-F630	LC1-F780	LC1-F800	LC1-BL	LC1-BM	LC1-BP	LC1-BR
		DT80A	D80004	D115004	F1854	F2254	F2654										
	80	80	125	250	275	315	350	400	500	700	1000	1600	1000	800	1250	2000	2750
	80	80	125	200	275	280	300	360	430	580	850	1350	850	700	1100	1750	2400
					180	200	250	290	340	500	700	1100	700	600	900	1500	2000
	29	29	45	80	90	100	120	145	170	240	350	550	350	300	425	700	1000
	31	31	49	83	100	110	125	160	180	255	370	570	370	330	450	800	1100
	50	50	78	135	165	175	210	250	300	430	600	950	600	500	800	1200	1600
	54	54	85	140	170	185	220	260	310	445	630	1000	630	525	825	1250	1700
	58	58	90	150	180	200	230	290	330	370	670	1050	670	550	850	1400	2000
	65	65	102	170	200	220	270	320	380	660	750	1200	750	600	900	1500	2100
	86	86	135	235	280	300	370	400	530	740	1000	1650	1000	800	1100	1900	2700

Mounting accessories for changeover contactor pairs

(for customer assembly)

Contactor type	Set of power connections	Mechanical interlock	Contactor type	Set of power connections	Mechanical interlock
2 contactors, vertically mounted					
■ 4-pole changeover pairs with locking device components					
LC1B	–	EZ2LB0601	–	–	–
2 identical contactors, horizontally mounted					
■ with electrical interlocking kit for the contactors					
LC1DT20...DT40	LAD-T9R1V (1)	–	–	–	–
■ mechanical interlock with integral electrical interlocking					
LP1D80004	LA9D8070	LA9D8002	LC1D115004	LA9D11570	LA9D11502
■ without electrical interlocking (2)					
LC1DT20...DT40	LAD-T9R1 (2)	–	–	–	–
LC1DT60A & LC1DT80A	–	LAD4CM (3)	LP1D80004	LA9D8070	LA9D80978
2 contactors of identical rating, horizontally mounted					
■ 4-pole changeover pairs					
LC1F1154	LA9FF977	LA9FF970	LC1F1504	LA9F15077	LA9FF970
LC1F1854	LA9FG977	LA9FG970	LC1F2254	LA9F22577	LA9FG970
LC1F2654	LA9FH977	LA9FJ970	LC1F3304	LA9FJ977	LA9FJ970
LC1F4004	LA9FJ977	LA9FJ970	LC1F5004	LA9FK977	LA9FJ970
LC1F6304	LA9FL977	LA9FL970	–	–	–
■ 3-pole changeover pairs with electrical interlocking					
LC1D115 et D150	LA9D11571	LA9D11502	–	–	–
reversers assembled using 2 contactors, vertically mounted					
■ 4-pole changeover pairs using contactors of identical rating (3)			■ 3 or 4-pole changeover pairs using contactors of different rating		
			At bottom	At top	
LC1F1154 or F1505	(3)	LA9FF4F	LC1F115 or F1154	LC1F185 or F1854	LA9FG4F
LC1F1854	(3)	LA9FG4G	or LC1F150 or F1504	LC1F225 or F2254	LA9FG4F
LC1F2254	(3)	LA9FG4G		LC1F265 or F2654	LA9FH4F
LC1F2654 or F3304	(3)	LA9FH4H		LC1F300 or F3304	LA9FH4F
LC1F4004	(3)	LA9FJ4J		LC1F400 or F4004	LA9FJ4F
LC1F5004	(3)	LA9FK4K		LC1F500 or F5004	LA9FK4F
LC1F6304	(3)	LA9FL4L		LC1F630, F6304 or F800	LA9FL4F
LC1F7804	(4)	LA9FX971 (4)	LC1F185 or F1854	LC1F265 or F2654	LA9FH4G
			or LC1F225 or F2254	LC1F330 or F3304	LA9FH4G
				LC1F400 or F4004	LA9FJ4G
				LC1F500 or F5004	LA9FK4G
				LC1F630, F6304 or F800	LA9FL4G
			LC1F265 or F2654	LC1F400 or F4004	LA9FJ4H
			or LC1F330 or F3304	LC1F500 or F5004	LA9FK4H
				LC1F630, F6304 or F800	LA9FL4H
			LC1F400 or F4004	LC1F500 or F5004	LA9FK4J
				LC1F630, F6304 or F800	LA9FL4J
			LC1F500 or F5004	LC1F630, F6304 or F800	LA9FL4K

(1) Including mechanical interlock.

(2) Order separately 2 auxiliary contact blocks LAD-N*1 to obtain electrical interlocking between the two contactors.

(3) Power connections to be made by the customer.

(4) Double mechanical interlock mechanism with 2 interlock connecting rods and 4 power connecting links.

6

Schneider Electric offers complete and compact ranges of power supplies (switch mode or filtered rectified) and transformers.

With the Phaseo range, your installations will be equipped with a high quality AC or DC power supply compliant with international standards.

Phaseo

Phaseo offers universal power supplies and protection modules with a very wide operating range to provide continuity of service for your installations.

An innovative offer, Phaseo integrates numerous features which set the standard across this market.



6 | Power Supplies



Power supplies

Regulated switch mode, filtered rectified power supplies

Accessories

Phaseo ABL8, ABL4, ABL1 6/2 to 6/5

Transformers

Phaseo ABL6, ABT7 6/6

Connection

Terminal blocks

AB1 6/8

Cable ends

DZ5/AZ5 6/9



Type of power supply	7 to 60 W Single-phase					
Rated input voltage	100...240 VAC					
Rated output voltage	24 V			5 V		12 V
Rated power / Rated output current	7.5 W / 0.3 A	15 W / 0.6 A	30 W / 1.2 A	60 W / 2.5 A	20 W / 4 A	25 W / 2 A
Reset	Auto					
Conformity to IEC 61000-3-2	Without					
Certifications	cULus, cCSAus, TUV, CE, C-Tick					
Dimensions W x D x H (mm)	36 x 59 x 90		54 x 59 x 90	72 x 59 x 90	54 x 59 x 90	
Fixing (mm)	DIN rail 35x7.5 or 35x15 or on panel mount by screw					
References	ABL8MEM24003	ABL8MEM24006	ABL8MEM24012	ABL7RM24025	ABL8MEM05040	ABL8MEM12020



Type of power supply	72 to 240 W Single-phase - Wide input range		
Rated input voltage	100...120 VAC and 200...500 VAC		
Rated output voltage	24 V		
Rated power / Rated output current	72 W / 3 A	120 W / 5 A	240 W / 10 A
Permissible temporary inrush current (boost)	1.5 In during 4 s		
Reset	Auto or manual		
Conformity to IEC 61000-3-2	Yes		
Diagnostic relay (output voltage > 21.6V)	No	Yes	
Certifications	cCSAus, CB scheme, CE		
Dimensions W x D x H (mm)	44 x 120 x 143	56 x 120 x 143	85 x 140 x 143
Fixing (mm)	DIN rail 35x7.5 or 35x15		
References	ABL8RPS24030	ABL8RPS24050	ABL8RPS24100

Regulated, Switch-mode
Compact - Rail mounting



Type of power supply	85 to 480W Single-phase			
Rated Input Voltage AC	120...230V 50/60Hz		120/230V	
Rated Input Voltage DC	100...370V		300...350 V	
Output Voltage	24V rated adjustable 23...27,5 V			24V rated 24...28V
Rated power / Rated output current	84W / 3,5A	120W / 5A	240W / 10A	480W / 20A
Temporary permissible inrush current output	6A for 30s	8A for 30s	15A for 30s	30A for 5s
Reset after overload	Auto			
Diagnostic relay (output voltage > 21.6V)	Yes			
Fixing (mm)	DIN rail 35 x 7,5			
Dimensions W x D x H (mm)	39 x 115 x 134		64 x 140 x 139	
References	ABL4RSM24035	ABL4RSM24050	ABL4RSM24100	ABL4RSM24200



60 to 144 W single-phase

100...240 VAC			
24 V		12 V	
72 W / 3 A	120 W / 5 A	60 W / 5 A	48 V
Auto		Auto or manual	
No		Yes	
cULus, cCSAus, TUV, CE, C-Tick			
27 x 120 x 120		54 x 120 x 120	
DIN rail 75x7.5, 35x7.5 or 35x15			
ABL8REM24030	ABL8REM24050	ABL7RP1205	ABL7RP4803



480 to 960 W single and 3-phases

100...120 VAC and 200...240 VAC	3 x 380...500 VAC	
24 V		
480 W / 20 A	960 W / 40 A	
1.5 In during 4 s		
Auto or manual		
Yes		
Yes		
cCSAus, CB scheme, CE		
145 x 140 x 143	95 x 155 x 143	165 x 155 x 143
DIN rail 35x7.5 or 35x15		
ABL8RPM24200	ABL8WPS24200	ABL8WPS24400

Type of module

Converters DC/DC

Compatibility	Output connection of power supplies ABL8RPS24..., ABL8WPS24..., ABL4RSM24... and ABL4WSR24...	
Rated output voltage	5 V	12 V
Rated output current	6 A	2 A
Certifications	cCSAus, CB scheme, CE	
Dimensions W x D x H (mm)	44 x 140 x 146	
Fixing (mm)	DIN rail 35x7.5 or 35x15	
References	ABL8DCC05060	ABL8DCC12020

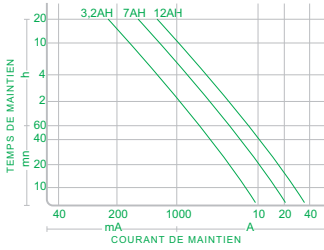
6



Type of power supply

480 to 960W 3-phase

Rated Input Voltage AC	400 ... 500V 50/60 Hz		
Working on 2 phases	Possible with output current = 75% of the nominal output current.		
Output Voltage	24V		
Rated power / Rated output current	480W / 20A	720W / 30A	960W / 40A
Temporary permissible inrush current output	30A for 5s	45A for 5s	60A for 5s
Reset after overload	Auto		
Diagnostic relay	Yes		
Fixation (mm)	DIN rail 35 x 7,5		
Dimensions W x D x H (mm)	80 x 127 x 146		
References	ABL4WSR24200	ABL4WSR24300	ABL4WSR24400



Type of module	Microcuts and cuts network solutions. (1)		
Compatibility	Output connection of Universal power supplies ABL8RPS24..., ABL8WPS24..., ABL4RSM24..., ABL4WSR24...		
Technology	Buffer module	battery backup module + battery	
Rated output voltage	40 A	20 A	40 A
Holding time 1A	2 s typique	adjustable from 10 s to 24 H (battery depending)	
Holding time for maximum current output	100 ms typique	adjustable from 10 s to 30 mn (battery depending)	adjustable from 10 to 10 mn (battery depending)
Certifications	cCSAus, CB scheme, CE		
Dimensions W x D x H (mm)	85 x 140 x 146	86 x 175 x 143	86 x 175 x 143
Fixing (mm)	DIN rail 35x7.5 or 35x15 (1)		
References Control module	ABL8BUF24400	ABL8BBU24200	ABL8BBU24400
References battery	3,2AH (2)	ABL8BPK24A03	ABL8BPK24A03
	7AH (2)	ABL8BPK24A07	ABL8BPK24A07
	12AH (2)	ABL8BPK24A12	ABL8BPK24A12

(1) Battery module except 7AH and 12AH. For battery module 3.2AH with ABL1A02 kit.

(2) Battery to be chosen according to the graph page 6/2



Type of module	Redundancy power supplies solutions
Compatibility	Connection of 2 power supplies inputs ABL4... or ABL8RP, ABL8WP up to 20 A (1 power supply 40A)
Rated output voltage	24 V
Rated output current	40 A
Certifications	cCSAus, CB scheme, CE
Dimensions W x D x H (mm)	44 x 140 x 146
Fixing (mm)	DIN rail 35x7.5 ou 35x15
References	ABL8RED24400

Type of module	Starter protection solution
Compatibility	Output connection of Universal power supplies ABL8RPS24100..., ABL8RPM24200..., ABL8WPS24..., ABL4RSM24... and ABL4WSR24...
Rated output current	10A par voie
Calibres	1 / 2.5 / 4 / 5 / 7 / 8 / 10 A
Number of channels	4
Diagnostic relay	Yes
Manual switch off (1 per channel)	Two-pole
Certifications	cCSAus, CB scheme, CE
Dimensions (mm)	71 x 109 x 110
Fixing (mm)	DIN rail 35x7.5 or 35x15 or on panel mount by screw
References	ABL8PRP24100



Type of power supply		60W to 240W					
Input voltage		85...264 VAC			85...132 VAC / 170...264 VAC		
Output voltage		12 VDC		24 VDC		24 VDC	
Rated power / Rated output current		60 W / 5 A	100 W / 8.3 A	60 W / 2.5 A	100 W / 4.2 A	150 W / 6.2 A	240 W / 10 A
Certifications		UL, c CSA us, CE, Ctick					
Dimensions W x D x H (mm)		150 x 38 x 98	200 x 38 x 98	150 x 38 x 98	200 x 38 x 98	200 x 50 x 98	200 x 65 x 98
Fixing (mm)		Panel mount by scrow, by bracket ABL1A01 (1) , on DIN rail 35mm by panel ABL1A02 (1).					
References	Without filter	ABL1REM12050	–	ABL1REM24025	ABL1REM24042	ABL1REM24062	ABL1REM24100
	With filter (2)	–	ABL1RPM12083	–	ABL1RPM24042	ABL1RPM24062	ABL1RPM24100

(1) has to order separately.

(2) Anti harmonic IEC/EN 61000-3-2

Filtered rectified



Type of power supply		12W to 480W single-phase							
Input voltage		215/230/245 V or 385/400/415 VAC							
Rated output voltage		24 V							
Certifications		cULus, ENEC							
Rated power / Rated output current		12 W / 0.5 A	24 W / 1 A	48 W / 2 A	96 W / 4 A	144 W / 6 A	240 W / 10 A	360 W / 15 A	480 W / 20 A
Dimensions W x D x H (mm)		87 x 124 x 108	87 x 124 x 108	87 x 142 x 108	87 x 165 x 108	123 x 153 x 153	123 x 185 x 153	135 x 185 x 138	175 x 215 x 128
Fixing (mm)		DIN rail 35x7.5 or 35x15 or on panel mount by screw				On panel mount by screw			
References		ABL8FEQ24005	ABL8FEQ24010	ABL8FEQ24020	ABL8FEQ24040	ABL8FEQ24060	ABL8FEQ24100	ABL8FEQ24150	ABL8FEQ24200

6



Type of power supply		240W to 1440W 3-phases				
Input voltage		3x 380 / 400 / 420 V				
Rated output voltage		24 V				
Certifications		cULus, ENEC				
Rated power / Rated output current		240 W / 10 A	480 W / 20 A	720 W / 30 A	960 W / 40 A	1440 W / 60 A
Dimensions W x D x H (mm)		185 x 190 x 78	220 x 215 x 104	240 x 252 x 108	310 x 310 x 140	310 x 310 x 154
Fixing (mm)		On panel mount by screw				
References		ABL8TEQ24100	ABL8TEQ24200	ABL8TEQ24300	ABL8TEQ24400	ABL8TEQ24600

Phaseo Transformers



Type of transformer		Double winding operating temperature +60°C									
Rated input voltage	230/400 VAC (±15 V) 1-phase										
Certifications	cULus, ENEC										
Rated power / Rated output current	25 VA	40 VA	63 VA	100 VA	160 VA	250 VA	320 VA	400 VA	630 VA	1000 VA	
Visualization	LED display of voltage presence at primary								Without		
Fixing (mm)	DIN rail 35x15 or on panel mount by screw						On panel mount by screw				
References	ABT7PDU***(1)										
Rated output voltage	24/48 V	002B	004B	006B	010B	016B	025B	032B	040B	063B	100B
	115/230 V	002G	004G	006G	010G	016G	025G	032G	040G	063G	100G

(1) Complete the reference according to the power and voltage using the table below (example: ABL6TS02J)



Type of transformer		Single winding operating temperature +50°C									
Rated input voltage	230/400 VAC (±15 V) 1-phase										
Certifications	UL										
Rated output power	25 VA	40 VA	63 VA	100 VA	160 VA	250 VA	400 VA	630 VA	1000 VA		
Fixing (mm)	On panel mount by screw										
References	ABL6TS***(1)										
Rated output voltage	24 V	02B	04B	06B	10B	16B	25B	40B	63B	100B	
	115 V	02G	04G	06G	10G	16G	25G	40G	63G	100G	
	230 V	02U	04U	06U	10U	16U	25U	40U	63U	100U	

(1) Complete the reference according to the power and voltage using the table below (example: ABL6TS02J)

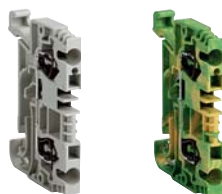


Type of transformer		Single winding operating temperature +40°C						
Rated input voltage	230 VAC (±15 V) 1-phase							
Certifications	Without							
Rated power / Rated output current	40 VA	63 VA	100 VA	160 VA	250 VA	320 VA	400 VA	
Fixing (mm)	On panel mount by screw							
References	ABT7ESM***(1)							
Rated output voltage	24 V	004B	006B	010B	016B	025B	032B	040B

(1) Complete the reference according to the power and voltage using the table below (example: ABL6TS02J)

Large area with horizontal green and light green stripes for notes.

Terminal blocks Spring clamp technology



Clip-on mounting on 35 mm \mathcal{E} \mathcal{L} rails		Terminal blocks (sold in lots of 100)	End covers (sold in lots of 100)	Commoning link (sold in lots of 100)
2.5 mm ² c.s.a.	Conducting	AB1RRN235U2GR	AB1RRNAC242GR	AB1RRAL22 (1)
	Protective earth conductor	AB1RRNTP235U2	AB1RRNTPAC242	–
4 mm ² c.s.a.	Conducting	AB1RRN435U2GR	AB1RRNAC442GR	AB1RRAL42 (1)
	Protective earth conductor	AB1RRNTP435U2	AB1RRNTPAC442	–
6 mm ² c.s.a.	Conducting	AB1RRN635U2GR	AB1RRNAC642GR	AB1RRNAL62 (2)
	Protective earth conductor	AB1RRNTP635U2	AB1RRNTPAC642	–
10 mm ² c.s.a.	Conducting	AB1RRN1035U2GR (3)	AB1RRNAC1042GR	AB1RRNAL102
	Protective earth conductor	AB1RRNTP1035U2 (3)	AB1RRNTPAC1042	–
16 mm ² c.s.a.	Conducting	AB1RRN1635U2GR (3)	AB1RRNAC1642GR	AB1RRNAL162
	Protective earth conductor	AB1RRNTP1635U2 (3)	AB1RRNTPAC1642	–
35 mm ² c.s.a.	Conducting	AB1RRN3535U2GR (4)	–	AB1RRAL352
	Protective earth conductor	AB1RRNTP3535U2 (4)	–	–

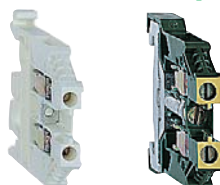
(1) For a 3, 4, 5 or 10-pole commoning link replace the last number of the reference (2) by 3, 4, 5 or 10 respectively. (Example: AB1RRAL22 becomes A1BRRAL23)

(2) For a 3, 4, 5 or 10-pole commoning link replace the last number of the reference (2) by 3, 4, 5 or 10 respectively. (Example: AB1RRNAL62 becomes A1BRRNAL64)

(3) Sold in lots of 50

(4) Sold in lots of 10

Screw clamp technology



Clip-on mounting on 35 mm \mathcal{E} \mathcal{L} \mathcal{L} rails		Terminal blocks (sold in lots of 100)	End covers (sold in lots of 100)	Commoning link (sold in lots of 100)
2.5 mm ² c.s.a.	Conducting	AB1VV235U	AB1AC24	AB1ALN22 (1)
	Protective earth conductor	AB1TP235U	AB1AC25	–
4 mm ² c.s.a.	Conducting	AB1VV435U	AB1AC24	AB1ALN42 (1)
	Protective earth conductor	AB1TP435U	–	–
6 mm ² c.s.a.	Conducting	AB1VV635U	AB1AC6	AB1ALN62 (1)
	Protective earth conductor	AB1TP635U	–	–
10 mm ² c.s.a.	Conducting	AB1VVN1035U (2)	AB1ACN10	AB1ALN102 (1)
	Protective earth conductor	AB1TP1035U (2)	–	–
16 mm ² c.s.a.	Conducting	AB1VVN1635U (2)	AB1ACN16	AB1ALN162 (1)
	Protective earth conductor	AB1TP1635U (2)	–	–
35 mm ² c.s.a.	Conducting	AB1VVN3535U (3)	–	AB1ALN352 (1)
	Protective earth conductor	AB1TP3535U (3)	–	–
70 mm ² c.s.a.	Conducting	AB1VVN7035U (3)	–	AB1ALN702
150 mm ² c.s.a.	Conducting	AB1VVN15035U (4)	–	AB1ALN1502 (1)

(1) For a 3, 4, 5 or 10-pole commoning link replace the last number of the reference (2) by 3, 4, 5 or 10 respectively. (Example: AB1ALN22 becomes AB1ALN23)

(2) Sold in lots of 50

(3) Sold in lots of 20

(4) Sold in lots of 10

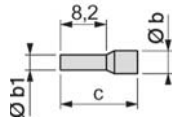
Insulation displacement technology



Clip-on mounting on 35 mm \mathcal{E} \mathcal{L} rails		2-way terminal blocks (sold in lots of 100)	End covers (sold in lots of 10)	2-pole commoning link (1) (sold in lots of 10)
1 mm ² c.s.a.	Conducting	AB1AA135U2GR	AB1AAAC122GR	AB1RRAL22
	Protective earth conductor	AB1AATP135U2	AB1AAAC122VE	–
2.5 mm ² c.s.a.	Conducting	AB1AA235U2GR	AB1AAAC122GR	AB1RRAL22
	Protective earth conductor	AB1AATP235U2	AB1AAAC122VE	–

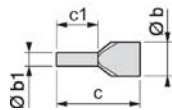
(1) For a 3, 4, 5 or 10-pole commoning link replace the last number of the reference (2) by 3, 4, 5 or 10 respectively. (Example: AB1RAL22 becomes AB1RAL23).

mm ²	Øb	Øb1	c
0.5	3	1.4	13
0.75	3.1	1.6	13
1	3.4	1.8	13.5
1.5	4	2.1	13.5
2.5	4.6	2.7	14.5



Type			Single cable ends Sold in lots of 10 x 100		
Packaging			Individual or "strings" of bags	Dispenser pack	Strips of 50 in bag
Conductor c.s.a. in mm ²	0.5	White	DZ5CE005D	AZ5CE005D	DZ5CEB005D
	0.75	Grey	DZ5CE007D	AZ5CE007D	DZ5CEB007D
	1	Red	DZ5CE010D	AZ5CE010D	DZ5CEB010D
	1.5	Black	DZ5CE015D	AZ5CE015D	DZ5CEB015D
	2.5	Blue	DZ5CE025D	AZ5CE025D	DZ5CEB025D

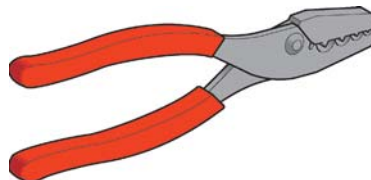
mm ²	Øb	Øb1	c	c1
0.75	2.8 x 5	1.8	15	8
1	3.4 x 5.4	2.05	15	8
1.5	3.6 x 6.6	2.3	15	8
2.5	4.2 x 7.8	2.9	18.5	10



Type			Double cable ends Sold in lots of 5 x 100	
Packaging			Dispenser pack	
Conductor c.s.a. in mm ²	2 x 0.75	Grey	AZ5DE007D	
	2 x 1	Red	AZ5DE010D	
	2 x 1.5	Black	AZ5DE015D	
	2 x 2.5	Blue	AZ5DE025D	

(1) For insulated cable ends conforming to standard NF C 63-023, please refer to your Schneider Electric agency.

Wiring accessories



Type	Pliers/cutters				
Functions	Stripping	Cutting/stripping	Crimping	Crimping (ratchet)	Cutting/stripping/crimping (2)
For cable c.s.a.	0.08 to 4 mm ²	0.4 to 4 mm ²	0.5 to 16 mm ²	0.25 to 6 mm ²	0.5 to 2.5 mm ²
References	AT1PA7	AT2PE1	AT1PA2	AT2PA5	AT2TRIF01

(2) For use with cable ends packed in strips of 50.



From simple connectors to integrated I/O platforms, monobloc products to modular solutions, Modicon I/O presents an extensive range of interfaces and I/O for any application.

Modicon I/O (ex Advantys)

The compact dimensions and pre-wired system characteristic of the Modicon I/O range allow you to optimise installation time, minimise costs and the risk of error, as well as simplify maintenance.



7 | Interfaces and I/O



Distributed I/O

IP20	
Expandable Block I/O, Modicon OTB	7/2
Modular I/O with device integration capabilities, Modicon STB	7/ 3 to 7/6
IP67	
Block I/O, Modicon FTB	7/7
Modular I/O, Modicon FTM	7/8

Distributed I/O with embedded control

IP20	
Block I/O, Modicon Momentum	7/9 to 7/12

Interfaces

IP20	
Passive I/O sub-bases, Modicon ABE7	7/13
Relay-based I/O sub-bases, Modicon ABE7	7/14
Twido I/O sub-bases, Modicon ABE7	7/15
IP67	
Embases E/S passives, Modicon ABE9	7/16

Accessories and Cabling

Connection cables and jumper cables	7/17 to 7/19
-------------------------------------------	--------------

Modicon OTB _____ IP 20 distributed I/O, optimised block Interface modules



Discrete Type of bus	CANopen Machine bus	Ethernet TCP/IP network (2)	Modbus Series network
Number of I/Os	20 I/O		
Number of inputs	12 inputs 24 VDC IEC type 1		
Number of outputs	6 relay outputs and 2 solid state 24 VDC outputs		
Connection method	Removable terminal block		
Number of I/O expansion modules (1)	7 discrete or analogue input/output modules, or connection accessories		
Maximum I/O configuration	With interface module base: 132 with screw terminal I/O expansion; 244 with HE10 connector I/O expansion; up to 48 analogue channels		
Supply voltage	24 VDC		
Counting	5 kHz	2 channels, 32 bits (0...4 294 967 295 points) dedicated discrete inputs -up counting/down counting with preset	
	20 kHz	2 channels, 32 bits (0...4 294 967 295 points) up/down counting, up counting, down counting, frequency meter	
Pulse generator, 7 kHz	2 PWM function channels (output with pulse width modulation) or PLS function (pulse generator output)		
Dimensions W x D x H (mm)	55 x 70 x 90		
References	OTB1C0DM9LP	OTB1E0DM9LP	OTB1S0DM9LP

(1) for the references of discrete I/O and analogue expansion modules, refer to the Twido or Modicon OTB catalogue

(2) Transparent Ready : Class A10

Accessories

Type of accessory	Commoning modules	Documentation
Usage	For grouping input or output commons, max 8 A	User guides for Modicon hardware and software, and Modicon Configuration Software for Modicon OTB/FTB/FTM. Provided on CD.
Positioning	Inter-module	–
Référence	OTB9ZZ61JP	FTXES01



Type of module NIM		EtherNet Modbus TCP	Modbus TCP, dual port	EtherNet/IP
Baud rate		10 Mbps	10/100 Mbps	10/100 Mbps
Transparent Ready	Class	B20	B15	N/A
	Embedded Web server	Standard services	Standard services	Standard services
	Ethernet services	SNMP agent, FDR, BootP & DHCP client	SNMP agent, RSTP, BootP & DHCP client	SNMP agent, BootP & DHCP client
Max. number of addressable I/O modules		32 per island	32 per island	32 per island
Dimensions W x D x H (mm)		40 x 70 x 128.3	40 x 70 x 128.3	40 x 70 x 128.3
Reference	Standard	STBNIP2212	STBNIP2311	STBNIC2212



Type of module NIM		Machine bus CANopen	Fieldbus Fipio	INTERBUS	Profibus DP
Max. number of addressable I/O modules		32 per island (1) (2)	32 per island (1)	32 per island (1) (2)	32 per island (1) (2)
Baud rate		10 K...1 Mbps	1 Mbps	0.5 Mbps	9.6 K...12 Mbps
Dimensions W x D x H (mm)		40 x 70 x 128.3			
Reference	Standard	STBNCO2212	STBNFP2212	STBNIB2212	STBNDP2212
	Basic	STBNCO1010	–	STBNIB1010	STBNDP1010

(1) On 1 primary segment and 6 expansion segments max.

(2) 12 max on 1 primary segment for basic versions.



Type of module		Other networks Modbus Plus	DeviceNet	
Max. number of addressable I/O modules		32 per island	32 per island	12 per island
Baud rate		1 Mbps	125, 250 or 500 Kbps	125, 250 or 500 Kbps
Dimensions W x D x H (mm)		40 x 70 x 128.3		
Reference	Standard	STBNMP2212	STBNDN2212	–
	Basic	–	–	STBNDN1010

Connection accessories

Type of accessory		Removable terminals for 24 VDC power supply	DeviceNet
Use		All communication modules	Network link DeviceNet module
Reference	Screw terminals	STBXTS1120 (1)	STBXTS1111
	Spring terminals	STBXTS2120 (1)	STBXTS2111

(1) To be ordered separately, sold in lots of 10 only for spares parts. (STBXTS1120 are delivered systematically with STBN●●●●●●)

Marking label sheets	STBXMP6700
Screwdriver	STBXTT0220



Type of module		PDM				Auxiliary Power supply	
Connection by removable terminals		Screw STBXTS1130 (2) (3) Spring STBXTS2130 (2) (3)				Screw STBXTS1120 (2) Spring STBXTS2120 (2)	
Supply voltage		24 VDC		115...230 VAC		24 VDC	
Maximum current	Inputs (4)	4 A at 30°C, 2.5 A at 60°C		5 A at 30°C, 2.5 A at 60°C		–	
	Outputs (4)	8 A at 30°C, 5 A at 60°C		10 A at 30°C, 5 A at 60°C		–	
	Inputs/Outputs (4)	–	4 A at 30°C, 2.5 A at 60°C		–	4 A at 30°C, 2.5 A at 60°C	
	Logic internal 5 V	–	–		–	1.2 A	
Sensor/actuator bus voltage range		19.2...30 VDC		85...265 VAC		–	
Dimensions W x D x H (mm)		18.4 x 70 x 128.3					
Reference	Module (5)	Standard	STBPDT3100K	–	STBPDT2100K	–	STBCPS2111K
		Basic	–	STBPDT3105K	–	STBPDT2105K	–
	Base	STBXBA2200	–	STBXBA2200	–	STBXBA2100	–

- (1) Process power supplies see chapter 6 "Power supply"
- (2) To be ordered separately, sold in lots of 10.
- (3) PDM connector keying pin kit STBXMP7810.
- (4) PDM fuse kit STBXMP5600.
- (5) Kit reference including module, base and terminal

Bus extension modules for standard range



Type of module		"EOS" End of segment	"BOS" Beginning of segment	Extension for CANopen connection devices	
Connection by removable terminals		–	Screw STBXTS1120 (1) Spring STBXTS2120 (1)	Screw STBXTS1110 (2) Spring STBXTS2110 (2)	
Use		For placing at end of segment (except for the last)	For placing at head of each extension segment	For placing at end of last segment	
Dimensions W x D x H (mm)		18.4 x 70 x 128.3			
Reference	Module (3)	Standard	STBXBE1100K	STBXBE1300K	STBXBE2100K
	Base	STBXBA2300K	STBXBA2400	STBXBA2000	STBXBA2000

- (1) To be ordered separately, sold in lots of 10.
- (2) To be ordered separately, sold in lots of 20.
- (3) Kit reference including module, base and terminal

Software and memory card



Type	Modicon STB, OTB, FTM, FTB configuration software (PC connection cable supplied)					Removable memory card
Software User Guide	Single station	3 pack	10 pack	Unlimited Site	System Alliance Integrator	–
Memory size	–					32 KB
Reference	STBSPU1000	STBSPU1003	STBSPU1011	STBSPU1130	STBSPU1010	STBXMP4440
Hardware User Guide	STBSUS8800					–

Connection accessories

Type of accessory	Island bus expansion cable				
Length	0.3 m	1 m	4.5 m	10 m	14 m
Reference	STBXCA1001	STBXCA1002	STBXCA1003	STBXCA1004	STBXCA1006
Type of accessory	Bus termination module or plug		Programmation connection cable L= 2 m		
Reference	STBXMP1100		STBXCA4002		

Connection accessories: See www.schneider-electric.com

Discrete modules



Type of module			Discrete inputs						
Connection by removable terminals (1)	Screw (2)		STBXTS1100			STBXTS1180		STBXTS1110	
		Spring (2)	STBXTS2100			STBXTS2180		STBXTS2110	
Number of channels			2	4	6	16	2	2 (isolated)	2
Input voltage			24 VDC				115 VAC		230 VAC
Dimensions W x D x H (mm)			13.9 x 70 x 128.3				18.4 x 70 x 128.3		
Reference	Module (6)	Standard	STBDDI3230K	STBDDI3420K	STBDDI3610K	–	STBDAI5230K	STBDAI5260K	STBDAI7220K
		Basic	–	STBDDI3425K	STBDDI3615K	STBDDI3725KS/KC*	–	–	–
	Base (3)		STBXBA1000			STBXBA3000		STBXBA2000	

* KS with base and screw terminals,
KC with base and spring terminals

** Without base and terminal



Type of module			Discrete solid state outputs						
Connection by removable terminals (1)	Screw (2)		STBXTS1100			STBXTS1180			
		Spring (2)	STBXTS2100			STBXTS2100			
Number of channels			2		4		6	16	
Output voltage			24 VDC		24 VDC		24 VDC	24 VDC	
Output current			0.5 A	2 A	0.25 A	0.5 A	0.25 A	0.5 A	
Dimensions W x D x H (mm)			13.9 x 70 x 128.3						
Reference	Module (6)	Standard	STBDDO3200K	STBDDO3230K	–	STBDDO3410K	–	STBDDO3600K	–
		Basic	–	–	STBDDO3415K	–	STBDDO3605K	–	STBDDO3705KS/KC*
	Base (3)		STBXBA1000			STBXBA3000			

* KS with base and screw terminals,
KC with base and spring terminals

** Without base and terminal



Type of module			Discrete outputs			
			Triac		Relay	
Connection by removable terminals (1)	Screw (2)		STBXTS1100			
		Spring (2)	STBXTS2100			
Number of channels			2	2 (isolated)	2 NO/NC and common	2NC+NO
Output voltage			115...230 VAC		115 VAC	24 VDC ou 115...230 VAC
Output current			2 A à 30°C, 1 A à 60°C		2 A per contact	7 A per contact
Dimensions W x D x H (mm)			18.4 x 70 x 128.3			
Reference	Module (6)	Standard	STBDAO8210K	STBDAO5260K	STBDRC3210K	STBDRA3290K
		Base (3)	STBXBA2000			

(1) To be ordered separately, sold in lots of 20.

(2) I/O connector keying pin kit STBXMP7800

(3) Module keying pin kit STBXMP7700

(4) if connection on Telefast2 order STBXTS6510 or connection on Telefast Twido order STBXTS5510

(5) if connection on Telefast2 order STBXTS6610 or connection on Telefast Twido order STBXTS5610

(6) Kit reference including module, base and terminal

Connection accessories: See www.schneider-electric.com



Type of module (1)		Analog inputs (*)									
Connection by removable terminals		Screw STBXTS1100 (2) / Spring STBXTS2100 (2)									
Number of channels		2				4		8		2	
Input signal		- 10...+10 V	0...+10 V	0...20 mA	4...20 mA	4...20 / 0...20 mA	Selectable	Selectable	Multirange (3)		
Resolution		11 bits + sign	10 bits	12 bits	10 bits	15 bits + sign					
Dimensions W x D x H (mm)		13.9 x 70 x 128.3				18.4 x 70 x 128.3				13.9 x 70 x 128.3	
Reference	Module (8)	Standard	-		STBACI1230K	-		STBACI0320K	STBAVI0300K	STBACI1400K (5)	STBART0200K
		Basic	-		STBAVI1270K	-		STBACI8320K (4)	-		STBAVI1400K (6)
	Base	STBXBA1000				STBXBA2000				STBXBA1000	

(*) For other references, see catalogue or visit our website: www.schneider-electric.com



Type of module (1)		Analog outputs									
Connection by removable terminals		Screw STBXTS1100 (2) / Spring STBXTS2100 (2)									
Number of channels		1	2								
Output signal		4...20 mA	0...+10, -10...+10 V	0...+10 V	-10 V...+10 V	0...20 mA	4...20 mA	4...20 mA	Selectable (6)		
Resolution		15 bits + sign	11 bits + sign or 12 bits	10 bits	9 bits + sign	12 bits	10 bits	15 bits + sign			
Dimensions W x D x H (mm)		18.4 x 70 x 128.3		13.9 x 70 x 128.3			18.4 x 70 x 128.3				
Reference	Module (8)	Standard	STBACO0120K	STBAVO1250K	-		STBACO1210K	-		STBACO0220K	STBAVO0200K
		Basic	-		STBAVO1255K	STBAVO1265K	-		STBACO1225K	-	
	Base	STBXBA2000	STBXBA1000				STBXBA2000				

Application-specific modules



Type of module (1)		For motor starters TeSys model U	Counter
Connection by connector		4 RJ45	Spring STBXTS2150 (2)
Number of inputs/outputs		12 I / 8 O	4 I / 2 O
Input voltage		24 VDC	24 VDC
Output voltage/current		24 VDC/0.1 A per channel	24 VDC/0.5 A
Number of channels		4 starters-controllers	1 counter channel 40 kHz
Dimensions W x D x H (mm)		28.1 x 70 x 128.3	
Reference	Module (8)	Standard	STBEPI2145K
	Base	STBXBA3000	
	Connection cables	(7)	-

(1) Grounding kit (conseilled for counter > 40 kHz): STBXSP3000 (connecting support) + STBXSP3010 (1.5...6 mm² cables) + STBXSP3020 (5...11 mm² cables)

(2) To be ordered separately, sold in lots of 20.

(3) Multirange temperature probe thermocouples B, E, J, K, R, S, T. Thermal probe Pt 100, Pt 1000, Ni 100, Ni 1000, cu 10, ± 80 mV.

(4) 4 HART-tolerant channels (5) Input signal selectable / channel 0...20 mA and 4...20 mA (6) Input signal selectable / channel 1...5 VDC, 0...5 VDC, 0...10 VDC, ± 5 VDC and ± 10 VDC

(7) LU9R03 (0,3 m), LU9R10 (1 m), 490NTW00002 (2 m), LU9R30 (3 m), 490NTW00005 (5 m), 490NTW00012 (12 m)

(8) Kit reference including module, base and terminal



Type of module	CANopen machine bus	DeviceNet Fieldbus	Profibus Fieldbus	InterBus Fieldbus	
Number of channels	16				
Type of female connector	M12, 5-pin				
Max. voltage / current of inputs	24 VDC type 2/200 mA				
Max. voltage / current of outputs	24 VDC/1.6 A				
Max. current per splitter box	8 A				
Product certification	cULus				
Dimensions W x D x H (mm)	63 x 50.5 x 220			63 x 69 x 220	
Diagnostics	Splitter boxes	By LED for: bus and I/O undervoltage + I/O short-circuit + I/O power supply			
	Channels	By LED for: I/O short-circuit + wire breakage fault + I/O fault			
References	16 inputs	FTB1CN16EP0	FTB1DN16EP0	FTB1DP16EP0	FTB1IB16EP0
	8 inputs/8 outputs	FTB1CN08E08SP0	FTB1DN08E08SP0	FTB1DP08E08SP0	FTB1IB08E08SP0
	12 inputs/4 outputs	FTB1CN12E04SP0	FTB1DN12E04SP0	FTB1DP12E04SP0	FTB1IB12E04SP0
	16 configurable inputs/outputs	FTB1CN16CP0	FTB1DN16CP0	FTB1DP16CP0	FTB1IB16CP0

Interface modules, metal enclosure



Type of module	CANopen	DeviceNet	Profibus	
Number of channels	8			
Type of female connector	M12, 5-pin			
Max. voltage / current of inputs	24 VDC type 2/200 mA			
Max. voltage / current of outputs	24 VDC/1.6 A			
Max. current per splitter box	8 A			
Product certification	cULus			
Dimensions W x D x H (mm)	62.7 x 38.9 x 224.7			
Diagnostics	Splitter boxes	By LED for: bus and I/O undervoltage + I/O short-circuit + I/O power supply		
	Channels	By LED for: I/O short-circuit + wire breakage fault + I/O fault		
References	16 inputs	FTB1CN16EM0	FTB1DN16EM0	FTB1DP16EM0
	8 inputs/8 outputs/configurable outputs	FTB1CN08E08CM0	FTB1DN08E08CM0	FTB1DP08E08CM0
	16 configurable inputs/outputs	FTB1CN16CM0	FTB1DN16CM0	FTB1DP16CM0



Type of bus module	CANopen machine bus	DeviceNet fieldbus	Profibus fieldbus
Max. number of Discrete I/O	256		
Max. number of splitter boxes	16		
Bus module supply voltage	24 V DC		
Bus module max. supply current	9 A		
Product certification	UL/CSA	CULus	
Dimensions W x D x H (mm)	50 x 50.3 x 151		
References	FTM1CN10	FTM1DN10	FTM1DP10

Splitter boxes



Type of splitter box	Discrete inputs/outputs				
	Compact		Expandable		
Input voltage	24 V DC/type 2/200 mA		24 V DC/type 2/200 mA		
Output voltage	24 V DC		24 V DC		
Type of output	Solid-state		Solid-state		
Output current	0.5 A		0.5 A		
Maximum supply current by internal bus	4 A		4 A		
Diagnostics	Short-circuit on I/O, wire breakage fault, sensor/actuator fault				
Dimensions W x D x H (mm)	30 x 34.5 x 126		30 x 34.5 x 151		
I/O connection	M8 connector	M12 connector	M8 connector	M12 connector	
References	8 inputs	FTM1DE08C08	FTM1DE08C12	FTM1DE08C08E	FTM1DE08C12E
	8 configurable inputs/outputs	FTM1DD08C08	FTM1DD08C12	FTM1DD08C08E	FTM1DD08C12E
	16 inputs	–	FTM1DE16C12 (1)	–	FTM1DE16C12E (1)
	16 configurable inputs/outputs	–	FTM1DD16C12 (1)	–	FTM1DD16C12E (1)

(1) Dimensions: 50 x 34.5 x 126 .



Type of splitter box	Analogue inputs/outputs				
	Compact				
Type of inputs/outputs	Current		Voltage		
Measuring range	0...20 mA/4...20 mA		± 10 V DC/0...10 V DC		
Diagnostics	Short-circuit on I/O, wire breakage fault, sensor/actuator fault				
Conversion time	≤ 2 ms per channel				
Dimensions W x D x H (mm)	30 x 34.5 x 126				
Resolution	16 bit	12 bit	15 bit + sign	11 bit + sign	
References	4 inputs	FTM1AE04C12C	–	FTM1AE04C12T	–
	4 outputs	–	FTM1AS04C12C	–	FTM1AS04C12T

Modicon Momentum _____ Distributed I/O and processors

Discrete I/O modules



Type of module	Multibus discrete inputs			
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)			
Input voltage	24 VDC	120 VAC	230 VAC	
Number of channels	16 (1 common point)	32 (2 common points)	16 (2 common points)	
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)			
Reference	170ADI34000	170ADI35000	170ADI54050	170ADI74050



Type of module	Multibus discrete outputs					
		Solid state		Triac		
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)					
Output voltage	24 VDC		120 VAC		230 VAC	
Number of protected channels	16 (2 common pts)	32 (2 common pts)	8 (2 common pts)	16 (2 common pts)	8 (2 common pts)	16 (2 common pts)
Output current	Per channel	0,5 A	0,5 A	2 A	0,5 A	0,5 A
	Per group of channels	4 A	8 A	4 A	4 A	4 A
	Per module	8 A	16 A	8 A	8 A	8 A
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)					
Reference	170ADO34000	170ADO35000	170ADO53050	170ADO54050	170ADO73050	170ADO74050



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Type of module	Multibus discrete I/O							
		Solid state			Relay		Triac	
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)							
Number of channels	Inputs	16 (1 common pt)	16 (4 com. pts)	16 (1 com. pt)	10 (1 common pt)			
	Input logic	Positive	Positive (2)	Negative	Positive		-	
	Outputs	16 (1 common pt)	16 (2 common pts)	8/4 (1 com. pt)	12	8 (2 common pts)		8 (1 com. pt)
Input voltage	12...48 VDC		24 VDC				120 VAC	
Output voltage	12...48 VDC		24 VDC				24...230 VAC/20...115 VDC	
Output current	Per output	0,5 A	0,5 A	2 A	0,5 A	2 A	0,5 A	
	Per group of channels	-	4 A	4 A	4/2 A	8 A	4 A	
	Per module	8 A	8 A	8 A	6 A	16 A		4 A
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)							
Reference	170ADM85010	170ADM35010	170ADM35015	170ADM37010	170ADM39010	170ADM39030	170ARM37030	170ADM69051

(2) For a version with high-speed positive logic, replace 0 at the end of the reference with 1. E.g. 170ADM35010 becomes 170ADM35011

Connection accessories: See www.schneider-electric.com

Modicon Momentum _____ Distributed I/O and processors

Analog I/O modules



Type of module	Multibus analog inputs		
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)		
Number of channels	8 isolated	16 with common point	4 isolated
Input signal	$\pm 5\text{ V}$, $\pm 10\text{ V}$, $\pm 20\text{ mA}$, 1...5 V, 4...20 mA	$\pm 5\text{ V}$, $\pm 10\text{ V}$, 4...20 mA	Multi-range $\pm 25\text{ mV}$, $\pm 10\text{ mV}$ (1)
Resolution	14 bits + sign, 15 bits unipolar	12 bits + sign	15 bits + sign
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)		
Reference	170AAI03000	170AAI14000	170AAI52040

(1) Temperature probe: Pt 100, Pt 1000, Ni 100, Ni 1000, Thermocouple: B, E, J, K, N, R, S, T.



Type of module	Multibus analog outputs		Analog I/O and multibus discrete I/O			
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)					
Number of channels	Inputs	–	4 differential + 4 discrete		6 with com pt + 8 discrete (24 VDC)	
	Outputs	4	2 + 2 discrete (24VDC)	2 + 2 discrete (12VDC)	4 with com pt + 8 discrete (24 VDC)	
Input signal	$\pm 10\text{ V}$, 0...20 mA	$\pm 10\text{ V}$, 4...20 mA	$\pm 5\text{ V}$, $\pm 10\text{ V}$, $\pm 20\text{ mA}$, 1...5 V, 4...20 mA	0...10 V	$\pm 10\text{ V}$	
Output signal	–		$\pm 10\text{ V}$, 4...20 mA	0...10 V	$\pm 10\text{ V}$	
Resolution	12 bits + sign		12...14 bits dep. on signal	14 bits	14 bits	
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)					
Reference	170AAO12000	170AAO92100	170AMM09000	170AMM09001	170ANR12090	170ANR12091

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Application-specific I/O modules



Type of module	High-speed counter	Discrete I/O with Modbus port
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)	
Type of inputs for	Incremental or absolute encoders	RS 485 Modbus port
Operating voltage	24 VDC	120 VAC
Counting frequency	200 kHz	–
Number of channels	2 independent	–
Number of discrete I/O	2 x 3 inputs/2 x 2 outputs	6 inputs/3 outputs
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or M1/M1E processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)	
Reference	170AEC92000	170ADM54080

Modicon Momentum _____ Distributed I/O and processors

Communication modules



Type of module	Ethernet TCP/IP network		Fipio fieldbus	INTERBUS (1) fieldbus	Profibus DP fieldbus
Speed	10 Mbps	10/100 Mbps	1 Mbps	0.5 Mbps	9.6 K...12 Mbps
Manager PLC	-		Premium	-	-
Redundancy	No		No	No	No
Standard services	Modbus TCP/IP		-	-	-
Reference	170ENT11002	170ENT11001	170FNT11001	170INT11000 (1)	170DNT11000

(1) Generation 4, twisted pair medium: 170INT11003, with optical fiber medium: 170INT12000



Type of module	Other networks Modbus Plus		DeviceNet
Speed	1 Mbps		0.5 Mbps
Manager PLC	Premium or Quantum	Quantum	-
Redundancy	No	Yes	No
Standard services	-		-
Reference	170PNT11020	170PNT16020	170LNT71000

Optional modules for M1/M1E processors



Type of module (2)	Modbus Plus		Asynchronous serial link
Communication ports	1 Modbus Plus	2 redundant Modbus Plus	RJ45
Real-time clock	Integrated, ± 13 sec/day accuracy		
Connection	By 9-way SUB-D connector		
Reference	172PNN21022	172PNN26022	172JNN21032

(2) Include save battery of the M1/M1E processors application and data memories.

Connection accessories

Type	RS 232C communication cable		
Length	1 m	3 m	6 m
Reference	110XCA28201	110XCA28202	110XCA28203

Power supply module (3)



Type of power supply module for	Momentum processors
Input voltage	120 or 230 VAC (selected by jumper)
Output voltage	24 VDC
Output current	0.7 A
Dimensions W x D x H (mm)	73 x 44.5 x 146
Reference	170CPS11100

(3) Process power supplies see chapter 6 "Power supply"

Modicon Momentum _____ Distributed I/O and processors

M1/M1E processors



Type of processor		M1			
Number of I/O	Discrete	2048 I/O		2048 I/2048 Q	
	Registers	2048 words		4096 words	
Integrated communication ports	Modbus	1 RS 232C	1 RS 232C + 1 RS 485		1 RS 232C
	Ethernet TCP/IP	–			
	I/O bus (1)	–		1 I/O port	–
Transparent Ready	Embedded Web server	–			
Memory capacity	RAM	64 Kb		256 Kb	
	Flash	256 Kb		256 Kb	
	User, 984 LL language (2)	2.4 K		12 K	
	User, IEC language (3)	–		160 K	
	Data	2 K		4 K	
Cycle time		1 ms/K	1 ms/K	0.63 ms/K	1 ms/K
Reference		171CCS70000	171CCS78000	171CCS76000	171CCC78010

(1) I/O bus derived from INTERBUS bus.

(2) ProWORX 32 or Concept programming software.

(3) Concept programming software.



Type of processor		M1	M1E		
Number of I/O	Discrete	8192 I/O			
	Registers	26048 words			
Integrated communication ports	Modbus	1 RS 232C	1 RS 485		–
	Ethernet TCP/IP	–		1 integrated Ethernet port	
	I/O bus (1)	1 I/O port	–		1 I/O port
Transparent Ready	Embedded Web server	–		Standard services (class A10)	
Memory capacity	RAM	512 Kb		544 Kb	
	Flash	512 Kb		1 Mb	512 Kb
	User, 984 LL language (2)	18 K			
	User, IEC language (3)	240 K	–	200 K	–
	Data	24 K			
Cycle time		1 ms/K	0.3 ms/K		
Reference		171CCC76010	171CCC98020	171CCC98030	171CCC96020
				171CCC96030	



Type of processor		171 CBB97030
Integrated communication ports	Modbus	1 RS 232/485
	Ethernet TCP/IP	4 integrated Ethernet port
Transparent Ready	Embedded Web server	Standard services (class B)
Memory capacity	RAM	512 Kb
	Flash	1 Mb
	User, 984 LL language (2)	18 K
	User, IEC language (3)	200 K
	Data	24 K
Cycle time		0.25 ms/K
Reference		171CBB97030

Connection accessories: See www.schneider-electric.com



Type of connection sub-base	Optimum			
Number of channels	16	16		
Max. current per channel	0.5 A	0.5 A		
Control voltage / output voltage	24 VDC / 24 VDC	24 VDC / 24 VDC		
LED per channel	–	With		
Number of terminals per channel/on row number	1/2	1/1	2/2	3/3
Dimensions W x D x H (mm)	55 x 59 x 67	106 x 60 x 49		
References	–	ABE7H16C11	ABE7H16C21	ABE7H16C31
Cable L = 1 m	ABE7H20E100 (1)	–	–	–
Cable L = 2 m	ABE7H20E200 (1)	–	–	–
Cable L = 3 m	ABE7H20E300 (1)	–	–	–
Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m (2)	ABFH20H100			

(1) Connection cable supplied for PLCs.

(2) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H100 becomes ABFH20H200).



Type of connection sub-base	Universal					
Number of channels	16					
Max. current per channel	0.5 A					
Control voltage / output voltage	24 VDC / 24 VDC					
LED per channel	–	With	–	–	With	With
Number of terminals per channel/on row number	1/1	1/1	1/2	2/2	2/2	3/3
Dimensions W x D x H (mm)	125 x 58 x 70		84 x 58 x 70	125 x 58 x 70		
References	ABE7H16R10	ABE7H16R11	ABE7H16R50	ABE7H16R20	ABE7H16R21	ABE7H16R31
Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m: ABFH20H100 (2)						

(2) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H100 becomes ABFH20H200).



Type of connection sub-base	For counter and analogue channels	Passive distribution with shielding continuity	Distribution and supply of analogue channels
Number of channels	1 counter channel (3)	8	8
Max. current per channel	25 mA	25 mA	25 mA
Control voltage / output voltage	24 VDC / 24 VDC		
Number of terminals per channel	2	2 or 4	2 or 4
Dimensions W x D x H (mm)	143 x 58 x 70	125 x 58 x 70	125 x 58 x 70
References	ABE7CPA01	ABE7CPA02	ABE7CPA03
Connection cable recommended for Modicon PLCs (4)	TSX Micro L = 2.5 m Premium L = 3 m	TSXCCPS15	–
		TSXCAP030	–

(3) Or 8 inputs + 2 outputs, analogue .

(4) Connection cables available for other PLCs, please refer to your Schneider Electric agency.



Type of connection sub-base	With soldered solid-state relay inputs	With soldered solid-state relay outputs	With soldered electro-mechanical relay outputs
Number of channels	16	16	16
Max. current per channel	12 mA	0.5 A	2 A 5 A
Input voltage / output voltage	24 VDC / - 110 VAC / -	- / 24 VDC	- / 5...30 VDC, 250 VAC
Number of contacts	-	-	1 N/O
Polarity distribution	-	-	(1) Volt-free
Number of terminals per channel	2		
Dimensions W x D x H (mm)	206 x 58 x 77		
References	ABE7S16E2B1 ABE7S16E2F0	ABE7S16S2B0(2) ABE7S16S1B2	ABE7R16S111 ABE7R16S210

Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m: **ABFH20H100** (3)

(1) Contact common per group of 8 channels.

(2) With fault detection signal (can only be used with modules with protected outputs).

(3) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H100 becomes ABFH20H200).



Type of connection sub-base	With plug-in electromechanical relays				
Number of channels	16				
Max. current per channel	5 A	2.5 A		4 A	5 A
Control voltage / output voltage	24 VDC / 5...24 VDC, 230 VAC				
Number of contacts	1 N/O		1 C/O		2 C/O
Polarity distribution	(4)	(5)	Volt-free		
Number of terminals per channel	2	2 or 3		2 to 6	
Dimensions W x D x H (mm)	110 x 54 x 89	211 x 64 x 89		272 x 74 x 89	
References	ABE7R16T111	ABE7R16T212	ABE7R16T210 ABE7R16T230	ABE7R16T330	ABE7R16T370

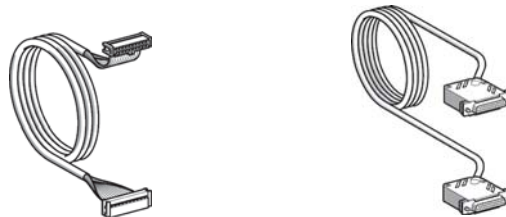
Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m: **ABFH20H100** (6)

(4) Contact common per group of 4 channels.

(5) Common on both poles.

(6) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H100 becomes ABFH20H200).

Connection cables for PLCs (7)



Input/Output functions		Discrete	Analogue	Analogue and counter	Counter	Axis control
References	Cable L = 1 m	ABFH20H100	-	-	-	-
	Cable L = 2 m	ABFH20H200	ABFY25S200	-	-	TSXCXP213
	Cable L = 2.5 m	-	-	TSXCCPS15	TSXCCPH15	-
	Cable L = 3 m	ABFH20H300	TSXCAP030	-	-	-
	Cable L = 6 m	-	-	-	-	TSXCXP613

(7) Modicon, TSX Micro and Premium PLCs.

For other connection cables and accessories, please refer to your Schneider Electric agency.



Type of connection sub-base	Discrete outputs			Relay
	Number of channels	16	16	16
Type of outputs	16 I (1 common for 16 channels)	16 O (1 common for 16 channels)	16 O, fuse protected (1 common for 16 channels)	16 O (1 common for 4 channels)
Voltage / current of outputs	24 VDC / 5 mA	24 VDC / 0.1 A		Relay: 5...30 VDC, 250 VAC / 3 A
LED per channel	–		With	–
Number of terminals per channel/row number	2/2			
Dimensions W x D x H (mm)	106 x 60 x 49		130 x 62.5 x 83	
References	ABE7E16EPN20	ABE7E16SPN20	ABE7E16SPN22	ABE7E16SRM20

Connection cables for Twido



Type of cable	For linking Twido and Telefast sub-base	
For use with	TWDLMDA20DTK/40DTK	
Type of connectors	HE10, 26-pin, at either end	
References	Cable	
	L = 0.5 m	ABFT26B050
	L = 1 m	ABFT26B100
	L = 2 m	ABFT26B200
		ABFT20E050
		ABFT20E100
		ABFT20E200

Accessories

Type of accessory	Optional clip-in terminals	
Number of linked terminals	20	12 + 8
References	ABE7BV20	ABE7BV20TB



Type of connection		To PLC using multicore cable		
Number of channels		4	8	
Type of female connector		M12, 5-pin	M12, 5-pin	
Max. number of signals		8	16	
Max. current per channel		4 A		
Max. current per splitter box		16 A (1 mm ²)		
Product certification		cULus		
Dimensions W x D x H (mm)		50.2 x 42 x 92.2	50.2 x 42 x 149.2	
References	Without LEDs	Cable L = 5 m	ABE9C1240L05	ABE9C1280L05
		Cable L = 10 m	ABE9C1240L10	ABE9C1280L10
	With LEDs (1)	Cable L = 5 m	ABE9C1241L05	ABE9C1281L05
		Cable L = 10 m	ABE9C1241L10	ABE9C1281L10

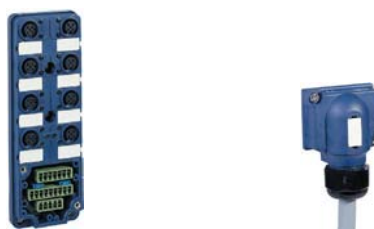
(1) Green LED: power supply status, yellow LED: channel status.



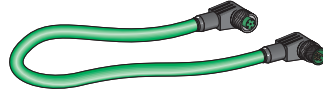
Type of connection		To PLC using M23 connector	
Number of channels		4	8
Type of female connector		M12, 5-pin	M12, 5-pin
Max. number of signals		8	16
Max. current per channel		4 A	
Max. current per splitter box		16 A	
Product certification		cULus	
Dimensions, W X D x H		50.2 x 36.5 x 92.2	50.2 x 36.5 x 149.2
References	Without LEDs	ABE9C1240C23	ABE9C1280C23
	With LEDs (1)	ABE9C1241C23	ABE9C1281C23

(1) Green LED: power supply status, yellow LED: channel status.

Accessories



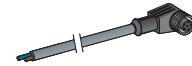
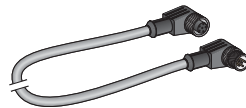
Type of accessory		Splitter boxes w/o cable		Terminal connectors		Sealing plugs (sold in lots of 10)
		Without LEDs	With LEDs	Cable L = 5 m	Cable L = 10 m	
References	4-channel	ABE9C1240M	ABE9C1241M	ABE9XCA1405	ABE9XCA1410	–
	8-channel	ABE9C1280M	ABE9C1281M	ABE9XCA1805	ABE9XCA1810	–
	for Ø12 connector	–	–	–	–	FTXCM12B



(1) For sensor/actuator cabling accessories, see page 7/13

Type of cable			For linking bus module and splitter boxes
Type of connector			Elbowed M12, 6-pin, at either end
References	Cable	L = 0.3 m	FTXCB3203
		L = 0.6 m	FTXCB3206
		L = 1 m	FTXCB3210
		L = 2 m	FTXCB3220
		L = 3 m	FTXCB3230
		L = 5 m	FTXCB3250

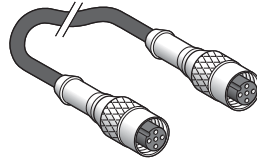
Auxiliary power supply connection cables



Type of cable			For connection of 24 V DC auxiliary power supply	
Type of connector			Elbowed M12, 6-pin, at either end	Elbowed M12, 6-pin, at one end (other end free)
References	Cable	L = 0.3 m	FTXCA3203	FTXCA3103
		L = 0.6 m	FTXCA3206	FTXCA3106
		L = 1 m	FTXCA3210	FTXCA3110
		L = 2 m	FTXCA3220	FTXCA3120
		L = 3 m	FTXCA3230	FTXCA3130
		L = 5 m	FTXCA3250	FTXCA3150

Accessories

Type		Line terminator for end of internal bus
Type of connector		M12
References		FTXCBTL12



(1) For sensor and actuator cabling accessories:
 see page 7/17

Type of bus			CANopen machine bus	DeviceNet fieldbus	Profibus fieldbus	INTERBUS fieldbus
Type of female connector			M12, 5-pin, at either end			–
Connector coding			A encoded		B encoded	–
References	Cable	L = 0.3 m	FTXCN3203		FTXDP3203	–
		L = 0.6 m	FTXCN3206		FTXDP3206	FTXIB1206 (2)
		L = 1 m	FTXCN3210		FTXDP3210	FTXIB1210 (2)
		L = 2 m	FTXCN3220		FTXDP3220	FTXIB1220 (2)
		L = 3 m	FTXCN3230		FTXDP3230	–
		L = 5 m	TXCN3250		FTXDP3250	FTXIB1250 (2)

(2) Reference includes the Bus connection cable + the power supply cable.

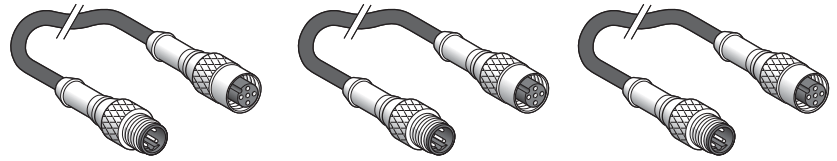
Power supply connection cables



Type of bus			CANopen machine bus	DeviceNet fieldbus	Profibus fieldbus
Type of female connector			Type 7/8, 5-pin, at either end		
References	Cable	L = 0.6 m	FTXDP2206		
		L = 1 m	FTXDP2210		
		L = 2 m	FTXDP2220		
		L = 5 m	FTXDP2250		
Type of female connector			Type 7/8, 5-pin, at one end (other end free)		
References	Cable	L = 1.5 m	FTXDP2115		
		L = 3 m	FTXDP2130		
		L = 5 m	FTXDP2150		

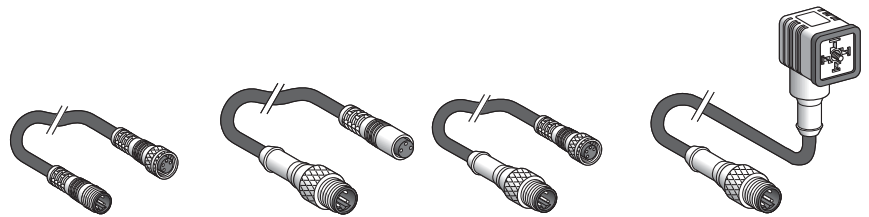
Accessories

Type of bus		CANopen machine bus	DeviceNet fieldbus	Profibus fieldbus	INTERBUS fieldbus
References	Configuration CD-ROM	FTXES00			
	Diagnostics M12 adaptor	FTXDG12			
	Power supply T-connector	FTXCNCT1			–
	Line terminator	FTXCNTL12		FTXDPTL12	–



Type			Male / Female jumper cables		
Type of male connector, interface side			M12, 4-pin, straight, screw thread	M12, 4-pin, straight, screw thread	M12, 5-pin, straight, screw thread
Type of female connector, sensor side			M12, 3-pin, straight, screw thread	M12, 4-pin, straight, screw thread	M12, 5-pin, straight, screw thread
Cable			PUR, black	PUR, black	PUR, black
References	Cable	L = 1 m	XZCR1511040A1	XZCR1511041C1	XZCR1511064D1
		L = 2 m	XZCR1511040A2	XZCR1511041C2	XZCR1511064D2

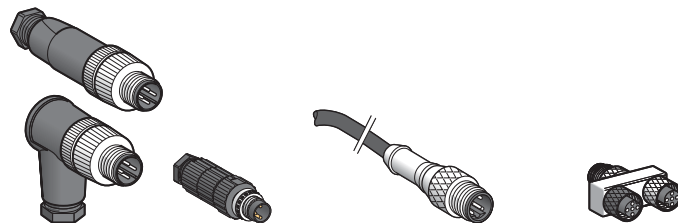
M8/M8, M8/M12 and M12/DIN jumper cables



Type			Male / Female jumper cables			
Type of male connector, interface side			M8, 3-pin straight, screw thread	M12, 3-pin straight, screw thread	M12, 3-pin straight, screw thread	M12, 3-pin straight, screw thread
Type of female connector, sensor side			M8, 3-pin straight, screw thread	M8, 3-pin straight, clip together	M8, 3-pin straight, screw thread	DIN 43650A elbowed, screw thread
Cable			PUR, black	PUR, black	PUR, black	PUR, black
References	Cable	L = 1 m	XZCR2705037R1	XZCR1501040G1	XZCR1509040H1	XZCR1523062K1
		L = 2 m	XZCR2705037R2	XZCR1501040G2	XZCR1509040H2	XZCR1523062K2

7

Pre-wired connectors and splitter box



Type			Connectors		Pre-wired connectors	Splitter box "Y"	
Type of male connector, interface side			M12, 4-pin	M8, 3-pin	M12, 5-pin, straight, screw thread	1 x M12	1 x M12
Type of female connector, sensor side			-	-	-	2 x M12	2 x M8
Cable			-	-	PUR, black	-	-
References	Straight connector, screw thread		XZCC12MDM40B	XZCC8MMDM30V	-	FTXCY1212	FTXCY1208
		Elbowed connector, screw thread	XZCC12MCM40B	-	-	-	-
	Cable	L = 0.5 m	-	-	XZCP1564L05	-	-
		L = 2 m	-	-	XZCP1564L2	-	-

Modicon FactoryCast

Modicon FactoryCast PLC modules and the Modicon FactoryCast Gateway combine the benefits of open Web technologies with the reliability of industrial control.

In the areas of distributed infrastructure, RTU installations, industry, machinery and energy, the Modicon FactoryCast ranges offer an ideal solution for all your remote diagnostics and maintenance, monitoring, control and programming needs.



8

Schneider Electric's communication solutions for industrial networks monitor your control system applications to give you precise control and maintenance data in real time.

Remote intelligent modules or in-rack modules for PLCs, standalone products and devices - the Modicon FactoryCast, AS-Interface and Modicon Connexium ranges provide access to advanced functions, flexible tools and services for optimising communication between all your automation products.



AS-Interface

AS-Interface is a quick expandable cabling system which connects all components in a control system with just a single cable. Intelligent, it features built-in communication management.



Modicon Connexium

Designed for open industrial solutions, Modicon Connexium products are the Ethernet-ready network hubs, switches, transceivers, gateways and cables which provide you with integrated Ethernet solutions to unite everything in your installation, from device level all the way to your corporate intranet. Modicon Connexium boosts network performance and reliability.

8 | Networks connectivity and Web servers



ConneXium cabling system

Hub, Transceiver, IP 67 Switch	8/2
Switches	8/3 to 8/6
Gateways & Converters	8/7
ConneXview Software	8/8
Cables & Connectors	8/9

AS-Interface cabling system

Modicon interfaces for generic products	8/10 and 8/11
IP20 interfaces	
IP67 interfaces	
Dedicated components	8/12 and 8/13
For control	
For dialogue	
Installation system	8/14 to 8/16
Master modules, power supply units	
Cables, repeaters	
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Adjustment and addressing terminals	
Safety solutions	
Safety monitors	
Safety interfaces	
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Servers and Gateways

Data server software,	
OPC Factory Server	8/18
Embedded Web Servers,	
FactoryCast and FactoryCast HMI	8/19
Web Gateways for Remote control,	
FactoryCast Gateway and FactoryCast HMI Gateway	8/20 and 8/21



Hub			
Interfaces	Copper cable ports	Number and type	4 x 10BASE-T ports
		Shielded connectors	RJ45
		Medium	Shielded twisted pair, category CAT 5E
		Total length of pair	100 m
Power supply	Voltage	24 V (18...32) DC, safety extra low voltage (SELV)	
Degree of protection	IP 30		
Dimensions W x H x D	40 x 125 x 80 mm		
Conformity to standards	cUL 60950, UL 508 and CSA 142, UL 1604 and CSA 213 Class 1 Division 2, C€, GL FM 3810, FM 3611 Class 1 Division 2 , C-TICK		
Reference	499 NEH 104 10		



Transceiver			
Interfaces	Copper cable ports	Number and type	1 x 100BASE-TX port
		Shielded connectors	RJ45
		Medium	Shielded twisted pair, category CAT 5E
		Total length of pair	100 m
Interfaces	Fiber optic ports	Number and type	1 x 100BASE-FX port
		Connectors	SC
		Medium	Multimode optical fiber
		Length of optical fiber	
		50/125 µm fiber	3000 m (1)
		62.2/125 µm fiber	3000 m (1)
		Attenuation analysis	
50/125 µm fiber	8 dB:		
62.2/125 µm fiber	11 dB:		
Power supply	Voltage	24 V (18...32) DC, safety extra low voltage (SELV)	
Degree of protection	IP 20		
Dimensions W x H x D	47 x 135 x 111 mm		
Conformity to standards	cUL 60950, UL 508 and CSA 142, UL 1604 and CSA 213 Class 1 Division 2, C€, GL , C-TICK		
Reference	499 NTR 101 00		

(1) Length dependent on the attenuation analysis and attenuation of the optical fiber (typical value: 2000 m).



IP 67 switch		Twisted pair, unmanaged	
Interfaces	Copper cable ports	Number and type	5 x 10BASE-T/100BASE-TX ports
		Shielded connectors	M12 (type D)
		Medium	Shielded twisted pair, category CAT 5E
		Total length of pair	100 m with rated cable
Power supply	Voltage	24 VDC (18...32 VDC), safety extra low voltage (SELV)	
Degree of protection	IP 65/67		
Dimensions W x H x D	60 x 126 x 31 mm		
Conformity to standards	cUL 508 and CSA 22.2 14 , C-TICK		
Reference	TCS ESU 051 F0		



Switches			Copper twisted pair, unmanaged			
Interfaces	Copper cable ports	Number and type	3 x 10BASE-T/ 100BASE-TX ports	4 x 10BASE-T/ 100BASE-TX ports	5 x 10BASE-T/ 100BASE-TX ports	8 x 10BASE-T/ 100BASE-TX ports
		Shielded connectors	Type RJ45			
		Medium	Shielded twisted pair, category CAT 5E			
		Total length of pair	100 m			
	Fiber optic ports	Number and type	–	1 x 100BASE-FX ports	–	–
		Connectors	–	Duplex SC	–	–
		Medium	–	Multimode optical fiber	–	–
		Length of optical fiber				
		50/125 µm fiber	–	5000 m (1)	–	–
		62,2/125 µm fiber	–	4000 m (1)	–	–
Attenuation analys	50/125 µm fiber	–	8 dB	–	–	
	62,2/125 µm fiber	–	11 dB	–	–	
Power supply	Voltage, safety extra low voltage (SELV)	~ 24 VDC (≈ 9,6...32 VDC)				
	Power consumption	Max. 2,2 W	Max. 3,9 W	Max. 2,2 W	Max. 4,1 W	
	Connector	3 way removable connector				
Degree of protection		IP 30				
Dimensions		W x H x D	25 x 114 x 79 mm		35 x 138 x 121 mm	
Weight			0,113 kg	0,120 kg	0,113 kg	0,246 kg
Conformity to standards		UL 508 and CSA 22.2 N° 142 IEC/EN 61131-2, IEC 60825-1 class 1, CISPR 11A				
Alarm relay		–				
Reference		TCS ESU 033FN0	TCS ESU 043F1N0	TCS ESU 053FN0	TCS ESU 083FN0	

(1) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 2,000 m).



Switches			Copper twisted pair and fibre optic, unmanaged				
Interfaces	Copper cable ports	Number and type	4 x 10BASE-T/ 100BASE-TX ports	3 x 10BASE-T/ 100BASE-TX ports	4 x 10BASE-T/ 100BASE-TX ports	3 x 10BASE-T/ 100BASE-TX ports	8 x 10BASE-T/ 100BASE-TX ports
		Shielded connectors	RJ45				
		Medium	Shielded twisted pair, category CAT 5E				
		Total length of pair	100 m				
	Fiber optic ports	Number and type	1 x 100BASE-FX port	2 x 100BASE-FX ports	1 x 100BASE-FX port	2 x 100BASE-FX ports	–
		Connectors	SC				–
		Medium	Multimode optical fiber		Single mode optical fiber		–
		Length of optical fiber					
		50/125 µm fiber	5000 m (1)	–	–	–	–
		62,2/125 µm fiber	4000 m (1)	–	–	–	–
	9/125 µm fiber	–	–	32 500 m (2)	–	–	
Power supply	Voltage	24 VDC (18...32), safety extra low voltage (SELV)					
Degree of protection		IP 20					
Dimensions		W x H x D	47 x 135 x 111 mm				
Conformity to standards		cUL 60950, cUL 508 and CSA 142, UL 1604 and CSA 213 Class 1 Division 2, CE, GL, C-TICK					
References		499 NMS 251 01	499 NMS 251 02	499 NSS 251 01	499 NSS 251 02	499 NES 181 00	

(1) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 2,000 m).

(2) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 15,000 m).



Switches			Copper twisted pair and fiber optic, managed			
Interfaces	Copper cable ports	Number and type	3 x 10/100BASE-TX ports	2 x 10/100BASE-TX ports	3 x 10/100BASE-TX ports	2 x 10/100BASE-TX ports
		Shielded connectors	RJ45			
		Medium	Shielded twisted pair, category CAT 5E			
		Total length of pair	100 m			
	Fiber optic ports	Number and type	1 x 100BASE-FX port	2 x 100BASE-FX ports	1 x 100BASE-FX port	2 x 100BASE-FX ports
	Connectors	Duplex SC				
	Medium	Multimode optical fiber		Single mode optical fiber		
	Length of optical fiber					
	50/125 µm fiber	5,000 m (1)		–		
	62.2/125 µm fiber	4,000 m (1)		–		
	9/125 µm fiber	–		32,500 m (2)		
Power supply	Voltage	Operation	9.6...60 VDC/18...30 VAC, safety extra low voltage (SELV)			
Degree of protection			IP 20			
Dimensions W x H x D			47 x 131 x 111 mm			
Conformity to standards			IEC 61131-2, IEC 61850-3, UL 508, UL 1604 Class 1 Division 2, CSA C22.2 14 (cUL), CSA C22.2 213 Class 1 Division 2 (cUL), CE, GL, C-TICK			
References			TCSESM043F1CU0	TCSESM043F2CU0	TCSESM043F1CS0	TCSESM043F2CS0

(1) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 2,000 m).

(2) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 15,000 m).



Switches			Copper twisted pair, managed	
Interfaces	Copper cable ports	Number and type	4 x 10/100BASE-TX ports	8 x 10/100BASE-TX ports
		Shielded connectors	RJ45	
		Medium	Shielded twisted pair, category CAT 5E	
		Total length of pair	100 m	
Power supply	Voltage	Operation	9.6...60 VDC/18...30 VAC, safety extra low voltage (SELV)	
Degree of protection			IP 20	
Dimensions W x H x D			47 x 131 x 111 mm	74 x 131 x 111 mm
Conformity to standards			IEC 61131-2, IEC 61850-3, UL 508, UL 1604 Class 1 Division 2, CSA C22.2 14 (cUL), CSA C22.2 213 Class 1 Division 2 (cUL), CE, GL, C-TICK	
References			TCSESM043F23F0	TCSESM083F23F0



Switches			Copper twisted pair and fiber optic, managed			
Interfaces	Copper cable ports	Number and type	7 x 10/100BASE-TX ports	6 x 10/100BASE-TX ports	7 x 10/100BASE-TX ports	6 x 10/100BASE-T ports
		Shielded connectors	RJ45			
		Medium	Shielded twisted pair, category CAT 5E			
		Total length of pair	100 m			
	Fiber optic ports	Number and type	1 x 100BASE-FX port	2 x 100BASE-FX port	1 x 100BASE-FX port	2 x 100BASE-FX port
		Connectors	Duplex SC			
		Medium	Multimode optical fiber (MM)		Single mode optical fiber (SM)	
Length of optical fiber						
	50/125 µm fiber	5,000 m (1)	–			
	62.2/125 µm fiber	4,000 m (1)	–			
	9/125 µm fiber	–	32,500 m (2)			
Power supply	Voltage	Operation	9.6...60 VDC/18...30 VAC, safety extra low voltage (SELV)			
Degree of protection	IP 20					
Dimensions W x H x D	74 x 131 x 111 mm					
Conformity to standards	IEC 61131-2, IEC 61850-3, UL 508, UL 1604 Class 1 Division 2, CSA C22.2 14 (cUL), CSA C22.2 213 Class 1 Division 2 (cUL), CE, GL, C-TICK					
References			TCSESM083F1CU0	TCSESM083F2CU0	TCSESM083F1CS0	TCSESM083F2CS0

(1) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 2,000 m).

(2) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 15,000 m).



Switches			Copper twisted pair, managed	Copper twisted pair and fiber optic, managed		
Interfaces	Copper cable ports	Number and type	16x 10/100BASE-TX ports	14x 10/100BASE-TX ports	22x 10/100BASE-TX ports	14 ports 10/100BASE-TX
		Shielded connectors	RJ45			
		Total length of pair	100 m			
	Fiber optic ports	Number and type	–	2 x 100BASE-FX ports		
		Connector	–	Duplex SC		
		Medium	–	Multimode optical fiber		Optical fiber
		Length of optical fiber				
	50/125 µm fiber	–	5,000 m (1)	–		
	62.2/125 µm fiber	–	4,000 m (1)	32 500 M (2)		
Power supply	Voltage	Operation	9.6...60 VDC/18...30 VAC, safety extra low voltage (SELV)			
Degree of protection	IP 20					
Dimensions W x H x D	111 x 131 x 111 mm					
Conformity to standards	cUL60950, UL508and CSA142, UL1604and CSA213Class1Division2, CE, GL, C-TICK					
References			TCSESM163F23F0	TCSESM163F2CU0	TCSESM243F2CU0	TCSESM16F2CS0

(1) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 2,000 m).



Switches			Copper twisted pair and fibre optic, managed - extended features			
Interfaces	Copper cable ports	Number and type	8 x 10/100 BASE-TX ports	6 x 10/100 BASE-TX ports	6 x 10/100 BASE-TX ports	
		Shielded connectors	RJ45			
		Medium	Shielded twisted pair, category CAT 5E			
		Total length of pair	100 m			
	Fiber optic ports	Number and type	–	2 x 100BASE-FX ports	2 x 100BASE-FX ports	
		Connectors	–	Duplex SC	Duplex SC	
		Medium	–	Multi mode optical fibre	Single mode optical fibre	
		Length of optical fiber	50/125 µm fiber	–	5,000 m (1)	–
			62.2/125 µm fiber	–	4,000 m (1)	–
			9/125 µm fiber	–	–	32,500 m (2)
		Attenuation analysis	50/125 µm fibre	–	8 dB	–
			62.2/125 µm fiber	–	11 dB	–
			9/125 µm fiber	–	–	16 dB
		Ethernet services	FDR, SMTP V3, SNMP client, multicast filtering for optimization of the Global Data protocol, configuration via Web access, VLAN, IGMP Snooping, RSTP (Rapid Spanning Tree Protocol), priority port, data stream control, secure port.			
Topology	Number of switches	Cascaded	Unlimited			
		Redundant in a ring	max. 50			
Redundancy	Redundant power supplies, redundant single ring, ring coupling					
Power supply	Voltage	Operation	18 - 60 V safety extra low voltage (SELV)			
	Power consumption		10 W	12 W	12 W	
Degree of protection	IP30					
Dimensions W x H x D	120 x 137 x 115 mm					
Conformity to standards	IEC/EN 61131-2, IEC 61850-3, UL 508, UL ISA-12.12.-01 Class 1 Div 2 Group A, B, C, D, CSA 22.2 No. 142 (cUL), CSA 22.2 No. 213 Class 1 Division 2 (cUL), CE, GL, C-Tick					
Alarm relay	Power supply fault, Ethernet network fault or communication port fault (2 A max. volt-free contact at 30 VDC)					
References			TCSESM083F23F1	TCSESM063F2CU1	TCSESM063F2CS1	

(1) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 2,000 m).

(2) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 15,000 m).

Switches			Copper twisted pair and fiber optic, managed			Copper twisted pair, managed
Interfaces	Copper cable ports	Number and type	8 x 10/100 BASE-TX ports			8 x 10/100 BASE-TX ports 2 x 100 BASE-TX ports (Gigabits)
		Shielded connectors	RJ45			
		Medium	Shielded twisted pair, category CAT 5E			
		Total length of pair	100 m			
	Fiber optic ports	Number and type	2 x 100BASE-SX ports (1)	2 x 100BASE-LH ports (2)	2 x 100BASE-LX ports (3)	-
		Connectors	LC			-
		Medium	Multimode optical fiber	Single optical fibre	Single mode and multimode optical fiber	-
		Length of optical fiber				-
		50/125 µm fiber	550 m	-	550 m	-
		62.2/125 µm fiber	275 m	-	550 m	-
		9/125 µm fiber	-	8 - 72,000 m	20,000 m	-
		Attenuation analysis				-
		50/125 µm fibre	7,5 dB	-	11 dB	-
		62.2/125 µm fiber	7,5 dB	-	11 dB	-
		9/125 µm fiber	-	6 - 22 dB	11 dB	-
Ethernet services	FDR, SMTP V3, SNMP client, multicast filtering for optimization of the Global Data protocol, configuration via Web access, VLAN, IGMP Snooping, RSTP (Rapid Scanning Tree Protocol), priority port, data stream control, secure port.					
Topology	Number of switches	Cascaded	Unlimited			
		Redundant in a ring	max. 50			
Redundancy	Redundant power supplies, redundant single ring, ring coupling					
Power supply	Voltage	Operation	9,6...60 VDC/18...30 VAC, safety extra low voltage (SELV)			
Degree of protection	IP20					
Dimensions W x H x D	111 x 113 x 111 mm					
Conformity to standards	cUL 60950, UL 508 and CSA 22.2, UL 1604 and CSA 213 CSA 22.2 No. 213 Class 1 Division 2, CÉ, GL					
References	TCSESM103F2LG0			TCSESM103F23G0		

(1) With TCSEAAF1LFU00 fiber optic module to be ordered separately

(2) With TCSEAAF1LFH00 fiber optic module to be ordered separately

(3) With TCSEAAF1LFS00 fiber optic module to be ordered separately

Switches			Copper twisted pair and fiber optic, managed			Copper twisted pair, managed
Interfaces	Copper cable ports	Number and type	6 x 10/100 BASE-TX ports			8 x 10/100 BASE-TX ports
		Shielded connectors	RJ45			
		Total length of pair	100 m			
	Fiber optic ports	Number and type	2 x 100 BASE-SX ports	3 x 100 BASE-LX ports		-
		Connector	Duplex SC			-
		Medium	Multimode optical fiber			-
		Length of optical fiber				-
		50/125 µm fiber	5,000 m (1)			-
		62.2/125 µm fiber	4,000 m (1)			-
		9/125 µm fiber	-	-		-
		Attenuation analysis				-
		50/125 µm fiber	8 dB			-
		60.2/125 µm fiber	11 dB			-
		9/125 µm fiber	-	-		-
	Ethernet services	FDR, SNMP client, multicast filtering for optimization of the Global Data protocol, configuration via Web access, IGMP Snooping, RSTP (Rapid Scanning Tree Protocol), priority port, data stream control, secure port.				
Topology	Number of switches	Cascaded	Unlimited			
		Redundant in a ring	Max. 50			
Redundancy	Redundant power supplies					
References	TCSESB083F23F0		TCSESB083F2CU0	TCSESB093F2CU0		



Type of gateway		TSX ETG 100	
Transparent Ready services	Class	B10	
	Standard Web services	Configuration	Predefined Web pages
		Read/Write	Acces to connected products list, reading of Modbus devices registers
		Diagnostic	Via predefined Web pages : diagnostic on Ethernet and Modbus links
	Ethernet TCP/IP communication management services	Modbus messaging	Read/Write Modbus registers of connected devices
		SNMP	SNMP Agent, device administration with a SNMP manager
		BOOTP protocol	FDR Client (replacement of defective product)
Security		Miniature firewall on-board (IP address filtering) and password protection	
Ethernet connectivity	Physical interface	10BASE-T/100BASE-TX (RJ45)	
	Data rate	10/100 Mbps with automatic recognition	
	Medium	Twisted pair	
Modbus connectivity	Type of port	RS 485 (2 or 4-wire) or RS 232	
	Protocol	Modbus (RTU and ASCII)	
	Maxi transmission speed	38,4 Kbps (RS 485), 57,6 Kbps (RS 232)	
	Number of devices	32 max.	
Power supply		24 VDC, 4 W or by power supply device PoE (Power Over Ethernet - IEEE 802.3af)	
Degree of protection		IP 30	
Dimensions W x H x D		72 x 81 x 76 mm, mounting on symmetrical DIN rail	
Conformity to standards		UL, cUL (conforming to CSA C22-2 no. 14-M91), UL508 , C-TICK, CÉ	
Reference		TSX ETG 100 (1)	

(1) Fonctions: Twido, Compact, Momentum, TSX Micro, Altivar, Altistart, Magelis, ... All products compatible with Modbus standard.



Type of gateway		Ethernet/Modbus Plus gateway/router Class B10	
Transparent Ready services	Class	B10	
	Standard Web services	Configuration	Predefined Web pages
		Read/Write	Acces to connected products list, reading of Modbus Plus devices registers
		Diagnostic	Via predefined Web pages : diagnostic on Ethernet and Modbus Plus links
Functions	Standard Ethernet TCP/IP communication services	Modbus TCP messaging SNMP Agent	
	Communication gateway	Ethernet/Modbus Plus (many-to-many Modbus Plus)	
Interfaces	Ethernet TCP/IP port	Type	1 x 10BASE-T/100BASE-TX
		Shielded connectors	RJ45
		Medium	Shielded twisted pair
		Max. distances	100 m (327 ft)
	Serial port	Type	1 x Modbus Plus
		Shielded connectors	9-way SUB-D connector
		Medium	Shielded twisted pair (single or double)
Power supply	Voltage	110/220 VAC (93.5 VAC...242 VAC), 47...63 Hz	
Degree of protection		IP 20	
Dimensions W x H x D		122 x 229 x 248 mm	
Conformity to standards		UL 508, CSA 142, CÉ	
Reference		174 CEV 200 40 (2)	

(2) Fonctions: 1 Ethernet port, 10BASE-T/100BASE-TX, 1 Modbus Plus port

8

Ethernet TCP/IP, Transparent Ready Cabling system: Connection components Shielded copper connection cables

ConneXium shielded connection cables are available in two versions to meet the various current standards and approvals:

These cables conform to:

- EIA/TIA-568 standard, category CAT 5E,
- IEC 11801/EN 50173 standard, class D.

Their fire resistance conforms to:

- NFC 32070# C2 classification
- IEC 322/1 standards
- Low Smoke Zero Halogen (LSZH).

EIA/TIA 568 shielded twisted pair cables



EIA/TIA 568 shielded twisted pair cables for CE market

Length	m / (ft)	2 (6.6)	5 (16.4)	12 (39.4)	40 (131.2)	80 (262.5)
Straight cables	Preformed at both ends	2 RJ45 connectors for connection to terminal devices (DTE)				
References		490 NTW 000 02	490 NTW 000 05	490 NTW 000 12	490 NTW 000 40	490 NTW 000 80
Crossed cord cables	Preformed at both ends	2 RJ45 connectors for connections between hubs, switches and transceivers				
References	References	-	490 NTC 000 05	-	490 NTC 000 40	490 NTC 000 80

EIA/TIA 568 shielded twisted pair cables



Cable material is :

- CEC type FT-1
- NEC type CM

EIA/TIA shielded twisted pair cables for UL markets

Length	m / (ft)	2 (6.6)	5 (16.4)	12 (39.4)	15 (49.2)	40 (131.2)	80 (262.5)
Straight cables	Preformed at both ends	2 RJ45 connectors for connection to terminal devices (DTE)					
References		490 NTW 000 02U	490 NTW 000 05U	490 NTW 000 12U	-	490 NTW 000 40U	490 NTW 000 80U
Crossed cord cables	Preformed at both ends	2 RJ45 connectors for connections between hubs, switches and transceivers					
References		-	490 NTC 000 05U	-	490 NTC 000 12U	490 NTC 000 40U	490 NTC 000 80U

Cables M12



Cables M12						
M12 / M12	Length (m)	1	3	10	25	40
Reference		TCSECL1M1M●●S2●●				
RJ45 / M12	Length(m)	1	3	10	25	40
Reference		TCSECL1M3M●●S2●●				

Glass fiber optic cables



These glass fiber optics are for making connections:

- To a terminal device (DTE)
- Between hubs, transceivers and switches

Glass fiber optic cables

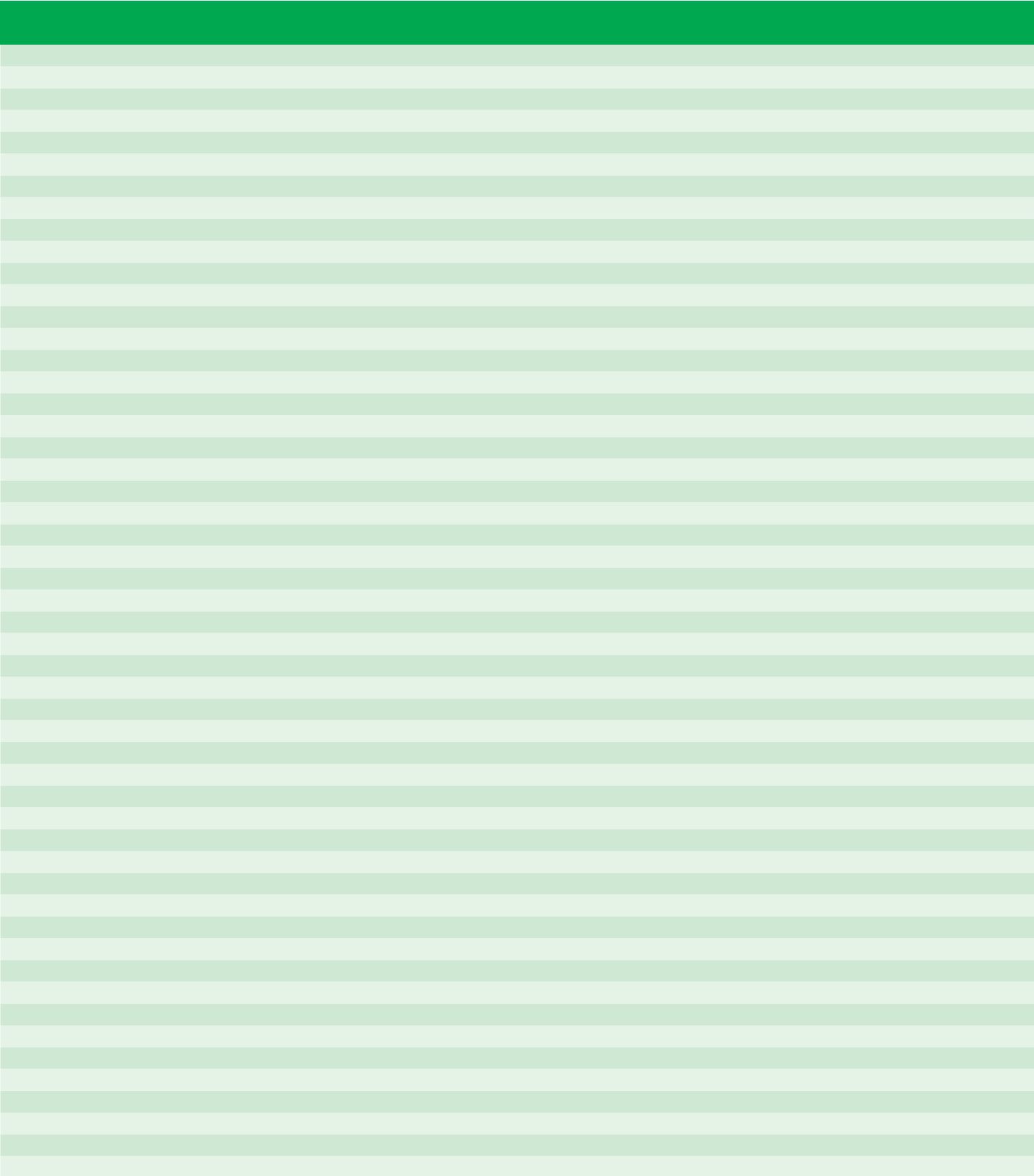
Length	m / (ft)	5 (16.4)	5 (16.4)	3 (9.8)	5 (16.4)
Glass fiber optic cables	Preformed at both ends	1 SC connector 1 MT-RJ connector	1 ST connector (BFOC) 1 MT-RJ connector	2 MT-RJ connectors	
References		490 NOC 000 05	490 NOT 000 05	490 NOR 000 03	490 NOR 000 05



Access Points and Clients		Dual band industrial wireless LAN Access Point/Client based on IEEE 802.11a/b/g/h/i		Dual band industrial high performance wireless LAN Access Point/Client based on IEEE 802.11a/b/g/h/n	
Wireless standard		IEEE 802.11a/b/g/h/i	IEEE 802.11a/b/g/h/i	IEEE 802.11a/b/g/h/n	IEEE 802.11a/b/g/h/n
Operating frequencies		2.4GHz & 5GHz	2.4GHz & 5GHz	2.4GHz & 5GHz	2.4GHz & 5GHz
IP Rating		IP 40	IP 67	IP 40	IP 67
Mounting		Din Rail	Wall / Mast	Din Rail	Wall / Mast
Radios		Access Point: 2 Client: 1	2	1	1
Nominal Data rate		54 Mbps	54 Mbps	300 Mbps	300 Mbps
Antenna connections		4 x RP-SMA	4 x N-type	3 x RP-SMA	4 x N-type
Ethernet connections (10/100BASE-TX)		Access Points: 2 Client: 1	1	2	2
Wireless connections		2 x WLAN Interfaces 8 SSIDs per interface	2 x WLAN Interfaces 8 SSIDs per interface	1 x WLAN Interfaces 8 SSIDs per interface	1 x WLAN Interfaces 8 SSIDs per interface
References	Global	TCSGWA242	TCSGWA272	TCSNWA241	TCSNWA271
	North America (FCC approved)	TCSGWA242F	–	TCSNWA241F	TCSNWA271F
	Client only	TCSGWC241	–	–	–
	ATEX Compliant	–	–	–	TCSNWA2A1

Antennas		TSCG**** Compatible References (1)	TSCN**** Compatible References (1)
2.4 GHz	2.4 GHz Omni Directional (6dBi)	TCSWAB20	–
	2.4 GHz Directional (14dBi)	TCSWAB2D	–
	2.4 GHz Dual Slant (8dBi)	TCSWAB2S	TCSWAB2S
	Leaky Cable – 50 meter	TCSWABC5	–
	Leaky Cable – 100 meter	TCSWABC10	–
5 GHz	5 GHz Omni Directional (5dBi)	TCSWAB50	–
	5 GHz Directional – Medium (18.5dBi)	TCSWAB5D	–
	5 GHz Directional – Long (23dBi)	TCSWAB5V	TCSWAB5V
	5 GHz Directional – 802.11n (23dBi)	TCSWAB5VN	TCSWAB5VN
	5 GHz Dual Slant (9dBi)	TCSWAB5S	–
	5 GHz Directional – 802.11n (9dBi)	–	TCSWAB5DN
Dual Band	Dual Band Hemispherical (6dBi/8dBi)	TCSWABDH	–
	Dual Band Omni (3.5dBi/5.5dBi)	–	TCSWABDON

(1) Consult www.schneider-electric.com for a complete list of antenna cables and accessories for WiFi products





Modular interface, width 25 mm V2.1 with standard addressing	Analogue		Digital		
	Number of inputs	2 (0...10V)	2 (0/4...20mA)	4	4
Number of outputs	–	–	4 relay, 2A	4 solid state, 0.5A	4 solid state, 0.5A
Type of addressing	Standard				
Supply by AS-Interface	Inputs and sensor supply (200 mA max.)				–
Supply by 24 VDC external source (black AUX cable)	–	–	–	Outputs	(2)
AS-Interface profile	S.7.3.F.D	S.7.3.F.D	S.7.0.F.E	S.7.0.F.E	S.7.0.F.E
Maximum consumption from AS-Interface (excluding sensor supply)	60 mA	60 mA	110 mA	50 mA	20 mA
Dimensions (WxDxH)	25x77x87 mm	25x77x87 mm	25x77x87 mm	25x77x87 mm	25x77x87 mm
References	ASI20MA2VU	ASI20MA2VI	ASI20MT4I4OR	ASI20MT4I4OS	ASI20MT4I4OSA
Accessory (1) for connection to flat cables	TCSATN01N2	TCSATN01N2	TCSATN01N2	TCSATV01N2	TCSATV01N2

(1) Or direct screw terminal connection (without accessory).

(2) Inputs, outputs and sensor supply (200 mA max.).



Modular interface, width 25 mm V2.1 with Extended (A/B) addressing	Digital				
	Number of inputs	4	2	4	4
Number of outputs	–	1 triac, 2A	3 relay, 2A	3 solid state, 0.5A	3 solid state, 0.5A
Type of addressing	Extended (A/B)				
Supply by AS-Interface	Inputs and sensor supply (200 mA max.) (3)				–
Supply by 24 VDC external source (black AUX cable)	–	–	–	Outputs	(2)
AS-Interface profile	S.0.A.7.0	S.3.A.7.0	S.7.A.7.0	S.7.A.7.0	S.7.A.7.0
Maximum consumption from AS-Interface (excluding sensor supply)	50 mA	40 mA	90 mA	50 mA	20 mA
Dimensions (WxDxH)	25x77x87 mm	25x77x87 mm	25x77x87 mm	25x77x87 mm	25x77x87 mm
References	ASI20MT4IE	ASI20MT2I1OTE	ASI20MT4I3ORE	ASI20MT4I3OSE	ASI20MT4I3OSAE
Accessory (1) for connection to flat cables	TCSATN01N2	TCSATN01N2	TCSATN01N2	TCSATV01N2	TCSATV01N2

(1) Or direct screw terminal connection (without accessory).

(2) Inputs, outputs and sensor supply (200 mA max.).

(3) Except ASI20MT4I3ORE (170 mA max.).

IP67 for mounting on machine



Interface			Digital						
V2.1 with extended (A/B) addressing									
Number of inputs			4	2	–	4	4	8	
Input cabling			Standard (1 x M12)			"Y" (2 x M12)		"Y" (4 x M12)	
Number of outputs			–	2 solid-state, 2A	3 solid-state, 2A	3 solid-state, 2A	–	3 solid-state, 2A	
Type of addressing			Extended (A/B)						
Supply by AS-Interface			Inputs and sensor supply (200 mA max. except ASI67FFP22*: 100 mA)						
Supply by 24 VDC external source (black AUX cable)			–	Outputs	–	Outputs	–	Outputs	
AS-Interface profile			S.0.A.7.0	S.B.A.7.0	S.8.A.7.0	S.7.A.7.0	S.0.A.7.2	S.7.A.7.E	S.0.A.7.2 (2x)
Maximum consumption from AS-Interface (excluding sensor supply)			45 mA	32 mA	18 mA	48 mA	45 mA	48 mA	90 mA
Dimensions (WxDxH)			45x42x80mm	45x42x80mm	45x42x80mm	60x30,5x151mm	45x42x80mm	60x30,5x151mm	60x30,5x151mm
Connection	IDC	Interface	ASI67FFP40E	ASI67FFP22E	ASI67FFP03E	ASI67FFP43E	ASI67FFP40EY	ASI67FFP43EY	ASI67FFP80EY
		Standard connection base	ASI67FFB01 (1)	ASI67FFB01 (1)	ASI67FFB01 (1)	ASI67FFB03	ASI67FFB01 (1)	ASI67FFB03	ASI67FFB03
	M12 connector	Interface + Connection base	ASI67FMP40E	ASI67FMP22E	ASI67FMP03E	ASI67FMP43E	ASI67FMP40EY	ASI67FMP43EY	–

(1) A connection base with fixing centres that are compatible with the ASIB4VM12 connection base is available. Reference **ASI67FFB02**.



Interface			Digital					
V2.1 with standard addressing								
Number of inputs			4	2	–	4	4	8
Input cabling			Standard (1 x M12)			"Y" (2 x M12)		"Y" (4 x M12)
Number of outputs			–	2 solid-state, 2A	4 solid-state, 2A	4 solid-state, 2A	4 solid-state, 2A	–
Type of addressing			Standard					
Supply by AS-Interface			Inputs and sensor supply (200 mA max. except ASI67FFP22*: 100 mA)					
Supply by 24 VDC external source (black AUX cable)			–	Outputs	Outputs	Outputs	Outputs	–
AS-Interface profile			S.0.0.F.E	S.3.0.F.E	S.8.0.F.E	S.7.0.F.E	S.7.1.F.E	S.0.1.F.F (2x)
Maximum consumption from AS-Interface (excluding sensor supply)			45 mA	32 mA	19 mA	49 mA	49 mA	90 mA
Dimensions (WxDxH)			45x42x80mm	45x42x80mm	45x42x80mm	60x30,5x151mm	60x30,5x151mm	60x30,5x151mm
Connection	IDC	Interface	ASI67FFP40D	ASI67FFP22D	ASI67FFP04D	ASI67FFP44D	ASI67FFP44DY	ASI67FFP80DY
		Standard connection base	ASI67FFB01 (1)	ASI67FFB01 (1)	ASI67FFB01 (1)	ASI67FFB03	ASI67FFB03	ASI67FFB03
	M12 connector	Interface + Connection base	ASI67FMP40D	ASI67FMP22D	ASI67FMP04D	ASI67FMP44D	ASI67FMP44DY	–

(1) A connection base with fixing centres that are compatible with the ASIB4VM12 connection base is available. Reference **ASI67FFB02**.



Interface			Digital			
V2.1 (V1 compatible) with standard addressing						
Number of inputs			4	2	–	4
Input cabling			Standard (1 x M12 input)			
Number of outputs			–	2 solid-state, 2A	4 solid-state, 2A	4 solid-state, 2A
Type of addressing			Standard			
Supply by AS-Interface			Inputs and sensor supply (200 mA max. except ASI67FFP22*: 100 mA)			
Supply by 24 VDC external source (black AUX cable)			–	Outputs	Outputs	Outputs
AS-Interface profile			S.0.0.F.F	S.3.0.F.F	S.8.0.F.F	S.7.0.F.F
Maximum consumption from AS-Interface (excluding sensor supply)			45 mA	32 mA	19 mA	49 mA
Dimensions (WxDxH)			45x42x80 mm	45x42x80 mm	45x42x80 mm	60x30,5x151 mm
Connection	IDC	Interface	ASI67FFP40A	ASI67FFP22A	ASI67FFP04A	ASI67FFP44A
		Standard connection base	ASI67FFB01	ASI67FFB01	ASI67FFB01	ASI67FFB03

AS-Interface Dedicated components For control



Starter in insulated enclosure (1) V1		Control by	
		Black rotary knob (blue bkgnd.)	Pushbuttons
Type of addressing		Standard	
Supply by AS-Interface		Inputs, sensor supply (2)	
Supply by 24 VDC external source (black AUX cable)		(2)	
AS-Interface profile		S.7.F.F. (LF3....) / S.7.A.7.0. (LF4....)	
Maximum consumption from AS-Interface		20 mA	
Dimensions (WxDxH)		175x175x195 mm	
References (3)	Non reversing	LF3P●●D	LF3M●●D
(see table below)	Reversing	LF4P●●D	LF4M●●D

Connection to AS-Interface and external supply (AUX) by accessory for flat cable: **TCSATN011F1** (AS-Interface and AUX cables) or **TCSATV011F1** (AS-Interface cable).

(1) For an LF3 or LF4 starter in a metal enclosure, add the letter **M** after the 3rd digit in the references listed above (example: LF3P02D becomes **LF3MP02D**).

(2) Contactors supplied by AS-Interface or external source, configurable directly on terminal block.

(3) To complete the reference, replace ●● by the numbers indicated in the table below. (Example: LF3P●●D becomes LF3P00D).

kW	A	●●	kW	A	●●
–	without MCB	00	0.75	1.6...2.5	07
0.06	0.16...0.25	02	1.1 / 1.5	2.5...4	08
0.09	0.25...0.40	03	2.2	4...6.3	10
0.12 / 0.18	0.40...0.63	04	3 / 4	6...10	14
0.25	0.63...1	05	5.5	9...14	16
0.37/ 0.55	1...1.6	06			

kW= Motor power ratings in category AC-3, 400/415V, in kilowatts.

A= Adjustable range of circuit-breaker thermal trips, in amperes.



Communication interface for V2.1		TeSys U	
Type of addressing		Standard	Extended (A/B)
Supply by AS-Interface		–	–
Supply by external source (AUX)		Coil	Coil
AS-Interface profile		S.7.D.F.0	7.A.7.E
Maximum consumption from AS-Interface		30 mA	30 mA
Dimensions (WxDxH)		depending on LU model	depending on LU model
References		ASILUFC5	ASILUFC51
Recommended accessory for connection to AS-Interface cable (4)		TCSATV01N2	TCSATV01N2

(4) Or direct screw terminal connection to AS-Interface and external supply (AUX).

For dialogue



Control stations V2.1	Control stations with 2 pushbuttons		
	Black and white	Green and red	Green and red illuminated
Type of addressing	Extended (A/B)	Extended (A/B)	Extended (A/B)
Supply by AS-Interface	Buttons	Buttons	Buttons and pilot lights
Supply by external source (AUX)	–	–	–
AS-Interface profile	S.B.A.E.	S.B.A.E.	S.B.A.E.
Consumption from AS-Interface	< 45 mA	< 45 mA	< 80 mA
Dimensions (WxDxH)	68x62x118 mm	68x62x118 mm	68x65x118 mm
References	XALS2001H	XALS2002H	XALS2003H
Recommended accessory for connection to AS-Interface cable (5)	TCSATN011F1	TCSATN011F1	TCSATN011F1

(5) Or direct screw terminal connection to AS-Interface and external supply (AUX).



Interface (6) V2.1	For 2 control units and 2 pilot lights
Number of pages available	–
Number of inputs	2
Number of outputs	2 solid state, 0.5 A
Type of addressing	Standard
Supply by AS-Interface	Inputs and pilot lights
AS-Interface profile	S.B.A.E.
Maximum consumption from AS-Interface	80 mA
Dimensions (WxDxH)	52x15x38 mm
References	XALSZ1E

(6) Direct screw terminal connection to AS-Interface or by accessory for flat cable: **TCSATN01N2**.



Indicator banks, Ø 70 mm (9) V2.1	Base units and cover		Illuminated units		Audible unit
			"Flash" discharge tube	Steady light	
Type of addressing	Standard	Standard	–	–	–
Connection to AS-Interface cable and AUX (male M12 connector)	yes	yes, remote L=1m	–	–	–
Supply by AS-Interface	(7)	(7)	–	–	–
Supply by external source (AUX)	(7)	(7)	–	–	–
AS-Interface profile	S.7.F	S.7.F	–	–	–
Consumption from AS-Interface, supply by AS-Interface / external	250 / 30 mA	250 / 30 mA	–	–	–
Light source	–	–	5 Joule	LED	–
Buzzer	–	–	–	–	70...80 dB at 1m
References	XVBC21A	XVBC21B	XVBC6B● (8)	XVBC2B● (8)	XVBC9B
Recommended accessory for connection to AS-Interface cable & AUX	TCSATN011F1	TCSATN011F	–	–	–

(7) Illuminated units supplied by AS-Interface or externally, configurable by shunt.

(8) To complete the reference, replace the ● by the following number designating the colour: green: 3, red: 4, orange: 5, blue: 6, clear: 7, yellow: 8.

(9) To obtain a complete indicator bank, order a base unit + the illuminated or audible units (5 units maximum).

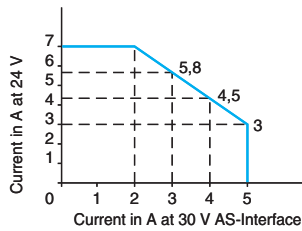
AS-Interface Installation system

Master modules



Platform	Twido	Premium	Micro	Quantum	Ethernet GW
Maximum number of master modules per PLC	2	2, 4 or 8 depending on processor	1	8 (1)	–
Compatibility with AS-Interface interfaces and components	V1 / V2.1	V1 / V2.1	V1	V1	V1 / V2.1 / V3.0
Direct connection to AS-Interface cable	by terminal block	by terminal block	by terminal block	by terminal block	by terminal block
Maximum number of addresses	62	62	31	31	62
Type of addressing	Standard / Extended (A/B)	Standard / Extended (A/B)	Standard	Standard	Standard / Extended (A/B)
Compatibility with analogue interfaces	Yes	Yes	–	–	Yes
Compatibility with safety interfaces	Yes	Yes	Yes	Yes	Yes
AS-Interface profile	M.3	M.2.E	M.2	M.2	M.4
References	TWDNOI10M3	TSXSAY1000	TSXSAZ10	140EIA92100	TCSAGEA1SF13F

(1) 4 per local rack, 4 per remote I/O, 2 per distributed I/O.



Power supply units



Type of supply	AS-Interface		AS-Interface + Auxiliary
Input voltage	100...240 VAC	100...240 VAC	100...240 VAC
AS-Interface output voltage	30 VDC	30 VDC	30 VDC
Auxiliary output voltage	–	–	24 VDC
AS-Interface nominal power	73 W	146 W	73 W
Auxiliary nominal power	–	–	72 W
AS-Interface nominal current	2.4 A	4.8 A	2.4 A
AUX nominal current	–	–	3 A
Direct connection to AS-Interface cable	by terminal block	by terminal block	by terminal block
Dimensions (WxDxH)	54x120x120 mm	81x120x120 mm	81x120x120 mm
References	without earth fault detection	ASIABL3002	ASIABL3004
	with earth fault detection	ASIABLD3002	ASIABLD3004
			ASIABLM3024

(2) Power supply unit with constant maximum output, see curve above.

8

Insulation control relay



Type	For AS-Interface line
Degree of protection	IP20
Number of C/O contacts	2 relays, each with 1 N/O contact
Rated operational voltage	50 VDC
Dimensions (WxDxH)	90x58x76 mm
References	RM0PAS101 (3)

(3) Provided with an impedance adapter.

Cables, repeater and line extension



Type	Yellow AS-Interface cable	Black Auxiliary cable	Repeater (5)	Line Extension	
Wire c.s.a.	2 x 1.5 mm ²	2 x 1.5 mm ²	–	–	
References	Cable	L = 20 m	XZCB10201 (4)	XZCB10202 (4)	–
		L = 50 m	XZCB10501 (4)	XZCB10502 (4)	–
		L = 100 m	XZCB11001 (4)	XZCB11002 (4)	–
Reference of repeater	–	–	ASIRPT01	TCSARR011M	

(4) Standard cable. For TPE cable (oil and vapour resistant) add the letter **H** to the end of the reference, example: XZCB10201 becomes **XZCB10201H**.

(5) Enables an AS-Interface network to be extended by 100 m. Direct connection to the AS-Interface yellow cable by IDC

Tap-offs for flat cable

(For connecting interfaces and components)



Connection to cable by IDC	AS-Interface IP67	AS-Interface + Auxiliary IP67				
Connection to the AS-Interface component	M12 connector (6)	Bared wires (7)				
References	Cable	L = 1 m	TCSATN011F1	–	TCSATV011F1	–
		L = 2 m	TCSATN011F2	TCSATN01N2	TCSATV011F2	TCSATV01N2

(6) Female 5-pin M12 end connector, screw threaded for connection with M12 male connector.

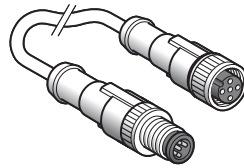
(7) 2 x 0.34 mm² for product with terminal block.

(8) 4 x 0.34 mm² for product with terminal block.

T connectors

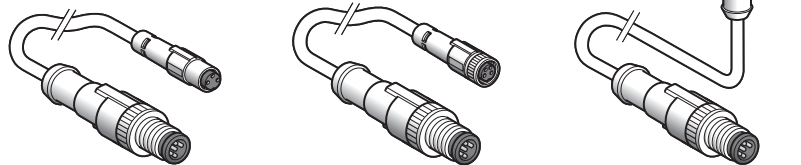


Connection to cable by IDC	T connector AS-Interface IP 67	Branch AS-Interface or Auxiliaires IP 67
Connection to the AS-Interface sensor or actuator	1 x M12 connector 5-pin female, screw threaded	Extension for 2 flat cables
References	TCSATN011F	TCSATN02V



Type		Male / Female jumper cable		
Male connector type, interface side		M12, 3-pin, straight, screw thread.	M12, 4-pin, straight, screw thread.	M12, 5-pin, straight, screw thread.
Female connector type, sensor side		M12, 3-pin, straight, screw thread.	M12, 4-pin, straight, screw thread.	M12, 5-pin, straight, screw thread.
Cable		PUR, black	PUR, black	PUR, black
References	Cable L = 1 m	XZCR1511040A1	XZCR1511041C1	XZCR1511064D1
	L = 2 m	XZCR1511040A2	XZCR1511041C2	XZCR1511064D2

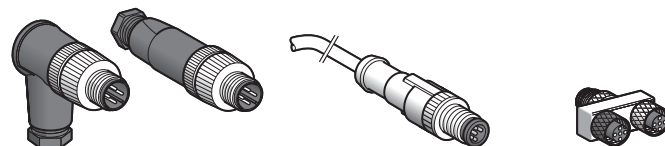
Jumper cables M12 / M8 or DIN



Type		Male / Female jumper cable		
Male connector type, interface side		M12, 3-pin, straight, screw thread.	M12, 3-pin, straight, screw thread.	M12, 3-pin, straight, screw thread.
Female connector type, sensor side		M8, 3-pin, straight (1)	M8, 3-pin, straight, screw thread.	DIN 43650A, elbowed, screw thrd.
Cable		PUR, black	PUR, black	PUR, black
References	Cable L = 1 m	XZCR1501040G1	XZCR1509040H1	XZCR1523062K1
	L = 2 m	XZCR1501040G2	XZCR1509040H2	XZCR1523062K2

(1) Clip together connector.

Connectors, splitter box



Type		Connectors	Pre-wired connectors	Splitter box
Male connector type, interface side		M12, 4-pin	M12, 5-pin, straight, screw thread.	1 x M12, 5-pin, straight, screw thrd.
Female connector type, sensor side		–	–	2 x M12, 5-pin, straight, screw thrd.
Cable		–	PUR, black	–
References	Straight connector, screw thread.	XZCC12MDM40B	–	FTXCY1212
	Elbowed connector, screw thread.	XZCC12MCM40B	–	–
	Cable L = 0.5 m	–	XZCP1564L05	–
	Cable L = 2 m	–	XZCP1564L2	–

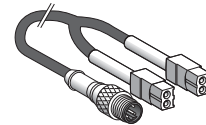
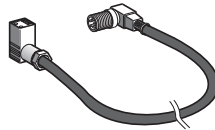
Tools

Adjustment and addressing terminals

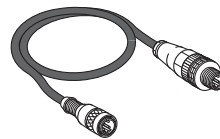
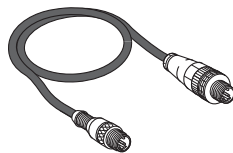


Display	25 mm LCD screen
Degree of protection	IP40
AS-Interface voltage / current measurement	yes
Addresses stored in memory	yes
Access to functions	direct by selector switch
Compatibility	V1/V2
Operating time	2500 addressing operations
References	ASITERV2
Reference with set of 7 leads + protective cover for terminal	ASITERV2SET

Addressing accessories for terminals ASITERV2 and XZMC11



Product connection	Infrared addressing	Socket
For products	ASISL...	ABE8... / APP1 / ASILUF... / XBZS43 / ASI20M
References	ASITERIR1	XZMG12

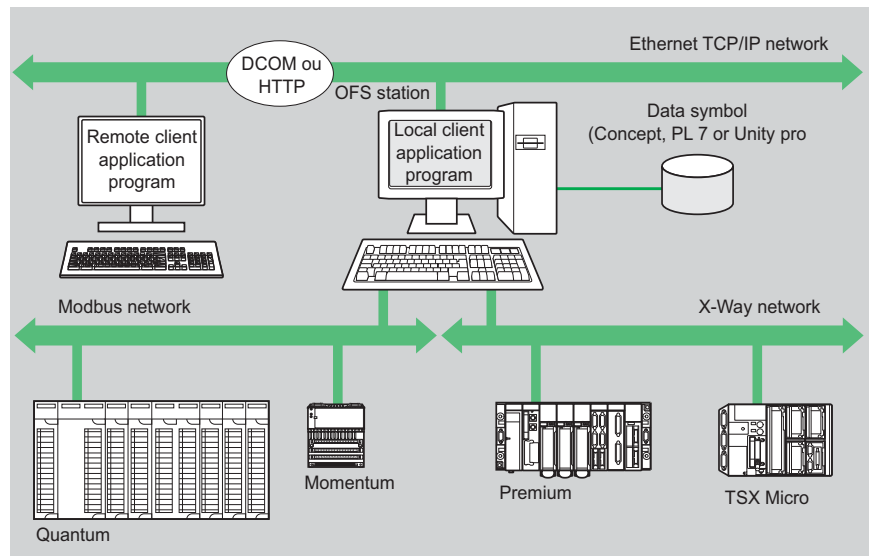


Product connection	M12, male	M12, female	Jack plug
For products	(2)	ASI67FMP XVB... / XAL... / LF...	ASI20M... / ASI67FFP...
References	ASITERACC1M	ASITERACC1F	ASITERACC

(2) Possibility to connect AS-Interface cable using T connector TCSATN011F.



Type	OPC data server	
	OFS Small	OFS Large
Items number	1000 items	Unlimited
OPC protocols	OPC DA	OPC DA, OPC XML DA,
References	Single station licence	TLX CD SU OFS 33
	10 stations licence	TLX CD ST OFS 33
	200 stations licence	TLX CD LF OFS 33



Description:

Based on the OPC protocols, Schneider-Electric's OFS software (**OPC Factory Server**) enables local or remote OPC client applications such as SCADA, supervisors or custom interfaces, to access Schneider devices and PLCs data in real time.

OFS software is a multi-device data server which provides simultaneous use of various communication protocols, and allows client applications to access control data via physical addresses or via symbols

Supported devices :

- Modicon Quantum, Premium, Micro, Compact and Momentum PLCs
- TSX Series 7 and April Series 1000 Schneider-Electric PLCs
- Serial Modbus or Uni-Telway devices connected via Schneider-Electric and Merlin Gerin gateways TSX ETG 10xx, EGX xxx ranges etc.

Supported networks and protocols :

- Modbus: Serial Modbus, Modbus Plus, Modbus TCP/IP.
- XWAY/UNI-TE: Uni-Telway, FIPWAY, ETHWAY, ISAWAY, PCIWAY.

Openess:

OFS V3.3, integrates the most recent specifications of the OPC Foundation:

- **OPC-DA** (OPC Data Access)
- **.NET API interface**
- **OPC XML-DA V1.0** (OPC XML Data Access)

The development of specialized interfaces is even more easy and open.

Developers and System integrators can develop custom applications (in Visual Basic, VBA for Excel, C++, etc) requiring access to Schneider Electric control devices. The OPC XML-DA V1.0 interface is designed to provide an interface for Windows and non-Windows client applications and remote access via the Internet through firewalls.



FactoryCast modules for PLC

“Ready to use” diagnostic and monitoring functions embedded in a PLC module accessible remotely via a simple Internet browser:

- Real-time communication based on Ethernet TCP/IP (Modbus and Uni-TE)
- Secure access to the PLC system and application diagnostics
- Numerical or graphical data monitoring and control
- E-mail notifications
- Web server open to user customization and creation of Web pages for diagnostics suited to your needs
- Library of animated graphic objects
- Open communications using SOAP/XML protocol as a server interface (Web services)

FactoryCast HMI modules for PLC

Diagnostic functions identical as FactoryCast modules + Built-in HMI / SCADA functions embedded in a PLC module:

- Visualization of Unity Pro PLC program and Operator screens via Web pages
- PLC data acquisition
- Calculations scripts for data-processing Real-time database (1000 variables)
- Alarm and report notifications via E-mail
- Archiving of data directly into database servers (SQL, Oracle, MySQL)
- Data logging in CSV files in the module.
- Recipe management with read Database
- Dynamic HTML Reporting function
- Web server open to user Web pages customization
- Built-in Supervision via graphic screens and custom Web pages
- Data monitoring and Graphic monitoring (read/write)
- Library of animated graphic objects
- Open communication using SOAP/XML protocol as a server interface (Web services)

FactoryCast Gateways - ETG 1000 / 10.. modules

Cost-effective web gateways offer integrating in a stand-alone module:

- All Communications network interfaces: Ethernet TCP/IP, Modbus and Uni-Telway
- Remote access functions, RAS server,
- Transparent gateway / Router functions
- Notification of alarms via E-mail
- Data monitoring and Graphic monitoring (read/write)
- A user customizable Web server for creating an interface fully adapted to your needs
- Library of animated graphic objects

FactoryCast HMI Gateways - ETG 3000 / 30.. modules

“All in one” Web gateway module integrating in a stand-alone device:

- a built-in modem (PSTN or GSM/GPRS) depending on the reference
- Secured access : VPN, data encryption and IP filtering.
- A Remote Access server function (RAS)
- 2 Ethernet ports and a Modbus serial port
- Transparent gateway router functions NAT to Ethernet or Modbus serial devices
- I/O card : 6 discrete inputs/ 2 discrete outputs
- Operating temperature : -25°C to +75°C
- User customizable Web server
- Built-in Supervision via graphic screens and custom Web pages
- Data monitoring and Graphic monitoring (read/write)
- Data Acquisition, Data Processing and Data logging in the module (CSV files)
- Archiving of data directly into database servers (SQL, Oracle, MySQL)
- Alarms and reports via E-mail / SMS
- Open communication using SOAP/XML protocol as a server interface



Embedded in the TCP/IP communication modules for Modicon M340, Premium and Quantum PLCs, FactoryCast Web servers provide secured access to the diagnostics, monitoring and maintenance functions of your automation installations via a simple web browser.



In the areas of distributed infrastructures, transport, RTU installations, industry and machines, ETG 1000 / 3000 modules more than satisfy your requirements for remote diagnostics and maintenance, remote monitoring and control, and remote programming.



Applications		Web Server modules for PLCs					
		FactoryCast				FactoryCast HMI	
Target devices	Type	TSX Micro PLCs	Modicon M340 PLCs	Modicon Premium PLCs	Modicon Quantum PLCs	Modicon Premium PLCs	Modicon Quantum PLCs
Network & Remote access services	Remote access	Intranet or via external RAS/modem					
		Remote programming, downloading via FTP, access to Web server via Internet browser					
	Gateway function	-					
	Serial protocols	-					
	Ethernet protocols	Modbus TCP, Uni-TE	Modbus TCP	Modbus TCP, Uni-TE	Modbus TCP	Modbus TCP, Uni-TE	Modbus TCP
	TCP/IP protocols	BootP/DHCP, DNS, SNMP agent, SMTP client, NTP client, FTP					
	Security	Protection by IP address filtering and passwords					
Web server	Characteristics	HTTP and FTP server, 8 Mb memory available for user, hosting of user Web pages and documents (Doc, Pdf, Excel)					
Predefined services	Configuration	Via Web Designer software or predefined Web pages					
	Diagnostics	System, rack and PLC I/O diagnostics via predefined Web pages					
	Monitoring of variables	Monitoring of devices and application via animated data (read/write variables)					
	Alarm management	PLCs and applications alarms monitoring via predefined Web pages					
Customizable services	Graphic views	Graphic monitoring via animated pages (integrated graphic editor)					
	Unity Pro operator screen	-				Display in the form of Web pages	
	User Web pages	Graphic monitoring via animated Web pages created by the user					
Advanced services and HMI	Calculation scripts	-				Arithmetic and logical scripts	
	E-mail service	Alarm notification by E-mail					
	Data logging	-				Data logging in the module with time stamping (CSV files)	
	Database connection	-				Direct logging in an SQL, Oracle, MySQL database servers	
	Report service	-				Dynamic HTML report management	
	Recipe service	-				Management of "Recipe" data (storage and read locally or on remote database)	
	PLC programme visualization by Web page	-				All the languages supported by Unity Pro, are accessible by Web page on Runtime, without Unity Pro	

8

Application development software

Web Designer

Supplied with each module



References

TSXETZ510 BMXNOE0110 TSXETY5103 140NOE77111 TSXWMY100 140NWM10000

FactoryCast Gateway

Web Gateways for Remote control



Standalone Gateway, Web Server for Remote Access FactoryCast Gateway ETG 10●0		FactoryCast HMI Gateway ETG30●●	
All equipment supporting Modbus	All equipment supporting Uni-Telway	All Modicon PLCs and third-party equipment supporting Modbus	
Intranet or via external Modem, integrated RAS function		Intranet or Modem External modem, integrated RAS	Intranet or Modem Integrated PSTN/RTC/GSM modem and RAS modem, NAT
Remote programming, downloading via FTP, access to Web server via		Internet browser	
Ethernet to Modbus serial Modem to Modbus serial and Ethernet	Ethernet to Uni-Telway serial Modem to Uni-Telway and Ethernet	Ethernet to Modbus serial Modem to Modbus serial and Ethernet (Modbus, UNITE)	
Modbus (Master)	Uni-Telway (Slave)	Modbus (Master)	
Modbus TCP	Modbus TCP, Uni-TE (Modicon Premium, Modicon TSX Micro)	Modbus TCP Uni-TE TCP	
BootP/DHCP, SNMP agent, SMTP client, NTP client, FTP		DHCP, DNS, SNMP agent, SMTP client, NTP client, FTP	
Protection by IP address filtering and password		Protection by IP address filtering and password + Tunnels VPN & encryption of the datas.	
HTTP and FTP server, 8 Mb memory available for user, hosting of user Web pages and documents (Doc, Pdf, Excel)		HTTP and FTP server, 32 Mb memory available for user Web pages, memory extension using Compact Flash cards 1 Gb max., hosting of user Web pages and documents (Doc, Pdf, Excel)	
Via Web Designer software or predefined Web pages			
Diagnostics of serial devices via predefined Web pages		Network diagnostics, diagnostics of serial devices and Ethernet via predefined Web pages	
Monitoring of devices and application via data tables (read/write variables)			
Via E-mail		Via E-mail/SMS	
Graphic monitoring via animated views (integrated graphic editor)			
-			
Graphic monitoring via animated Web pages created by the user			
-		Arithmetic and logical scripts	
Alarm notification by E-mail		Alarm notification by E-mail/SMS	
-		Data logging in the module with time stamping (CSV files)	
-		Direct recording in SQL, Oracle, MySQL database servers	
-		Dynamic HTML report management	
-		Management of "Recipe" data (storage and revad locally or on remote database)	
-		-	

Web Designer

Supplied with each module



TSXETG1000	TSXETG1010	TSXETG3000	TSXETG3010 (Modem RTC)	TSXETG3021 Modem GSM/GPRS (Bands 900/1800MHz) TSXETG3022 Modem GSM/GPRS (Bands 850/1900 MHz)
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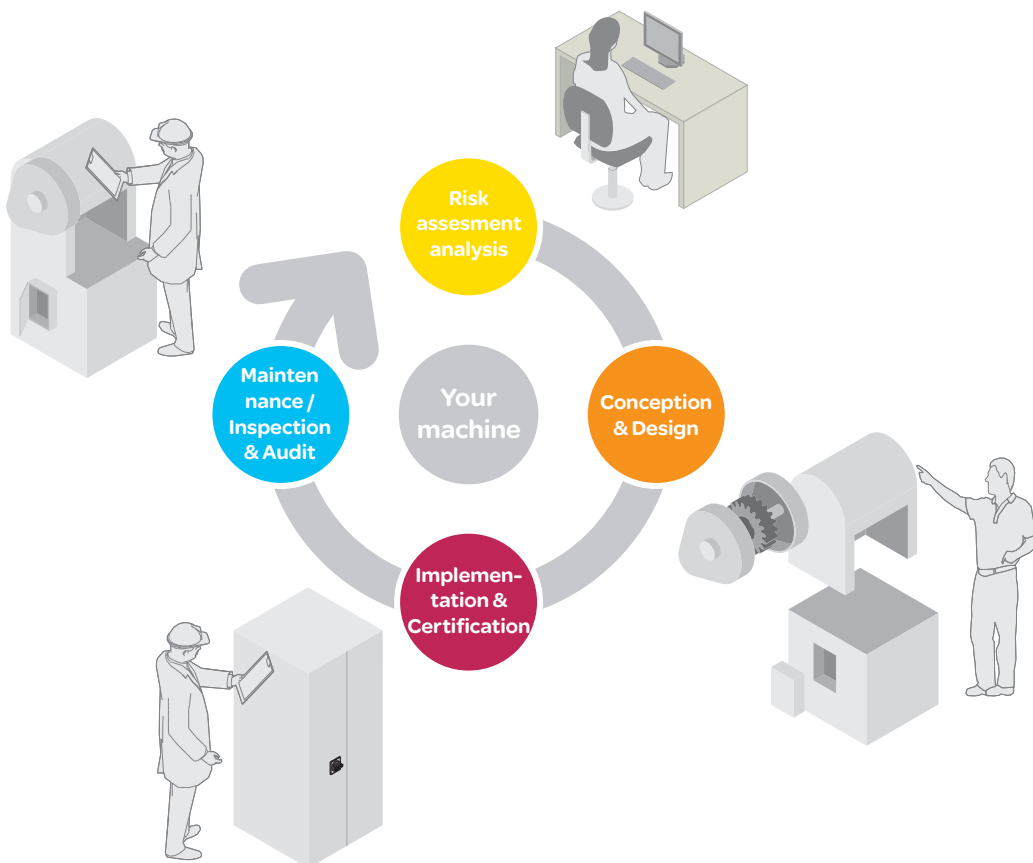
Preventa

The Preventa range enhances safety throughout a machine's entire life cycle from design, manufacture, installation, adjustment, operation and servicing right through to decommissioning.

9

In addition to moral obligation and economic consequences, the law requires that machinery is safe in the interests of accident prevention. Preventa offers an extensive range of safety products, compliant with international standards, designed to provide the most comprehensive protection for personnel and equipment.

Preventa, the safety attitude around your machine life cycle



9 | Machine safety



Safety standards 9/2 to 9/11

Automation 9/12 to 9/17

- Safety PLCs
- Safety controllers and modules

AS-Interface Safety at work 9/18 and 9/19

- Safety monitors and interfaces

Detection 9/20 to 9/27

- Safety switches
- Safety limit switches
- Coded magnetic technology
- Safety mats
- Safety light curtains

Operator dialogue 9/28 to 9/32

- Emergency stops
- Foot switches
- Control units
- Products for explosive atmospheres (*see chapter 10 "Explosive Atmospheres"*)

Motor control 9/33 to 9/35

- Switch disconnectors
- TeSys motor starters

> New machines - the Machinery Directive

The Machinery Directive 98/37/EC is to compel manufacturers to guarantee a minimum safety level for machinery and equipment sold within the European Union.

From 29 December 2009, the new European Machinery Directive 2006/42/EC is effective. Machines have to comply with the Essential Health and Safety Requirements (EHSRs) listed in Annex I of the Directive, thus setting a common minimum level of protection across the EEA (European Economic Area).

Machine manufacturers, or their authorised representatives within the EU, must ensure that the machine is compliant, the Technical File can be made available to the enforcing authorities on request, the CE marking is affixed, and a Declaration of Conformity has been signed, before the machine may be placed on the market within the EU.

Functional safety

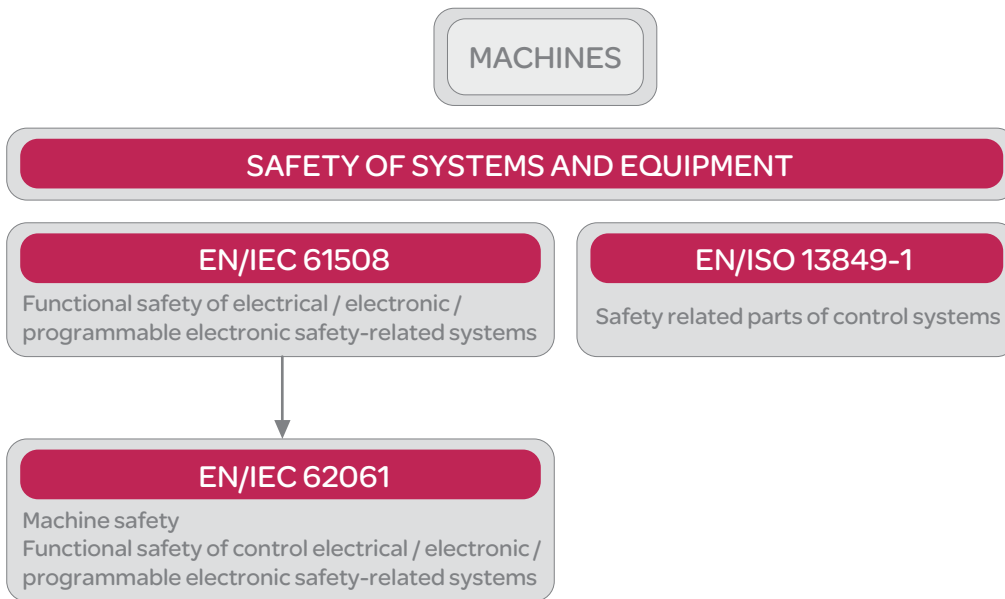


«Helping you to reach easily your safety machinery and standard level required»

Thanks to directives and standards as guidelines.

Functional safety

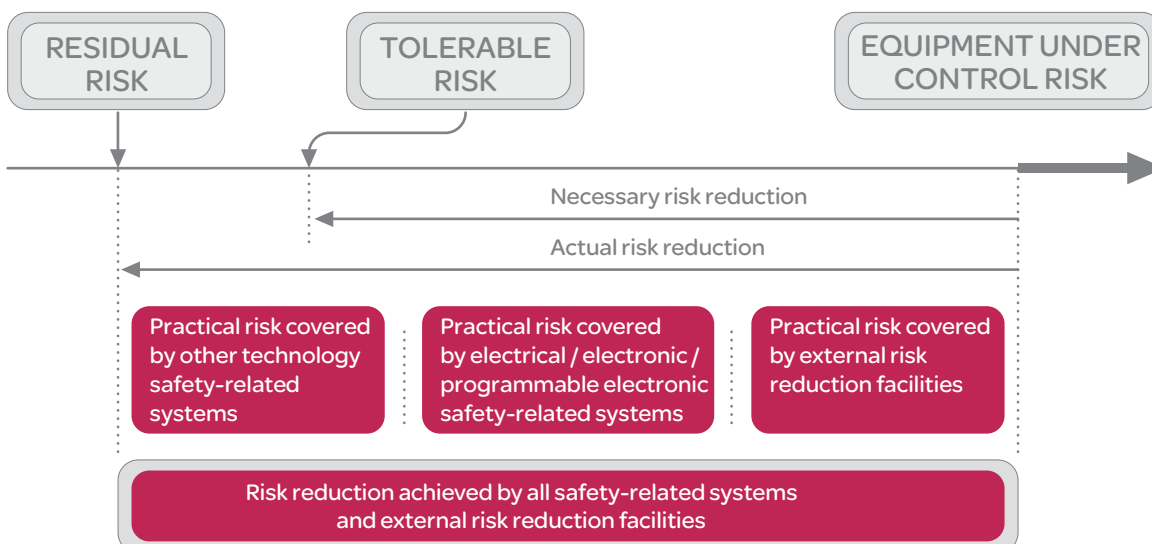
> Safety integrity level (SIL), Performance level (PL)



Risk reduction according to EN/IEC 61508 and EN/ISO 13849-1

- **Safety** is achieved by risk reduction (for those hazards that cannot be designed-out).
- **Residual risk** is the risk remaining after protective measures have been taken.
- **Protective measures** realised by E/E/PE* safety related systems contribute to risk reduction.

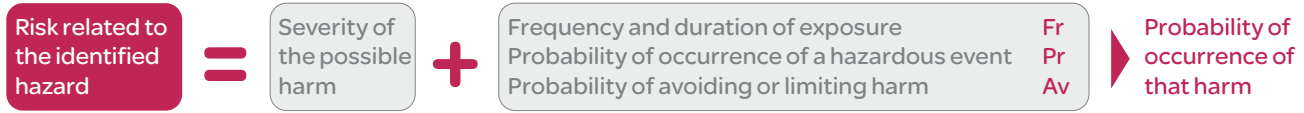
* Electric / Electronic / Programmable electronic



Functional safety of machinery

> Approach according to EN/IEC 62061

Risk estimation for SIL assignment



Example of SIL assignment

This assignment should be carried by determining the risk parameters that are shown below in an example.

Consequences		Severity (Se)
Irreversible: death, losing an eye or arm		4
Irreversible: broken limb(s), losing a finger(s)		3
Reversible: requiring attention from a medical practitioner		2
Reversible: requiring first aid		1

Frequency and duration of exposure (Fr)		Probability of occurrence	Probability (Pr)
Frequency of exposure	> 10 min	Very high	5
1 h	5	Likely	4
> 1 h to 1 day	5	Possible	3
> 1 day to 2 weeks	4	Rarely	2
> 2 weeks to 1 year	3	Negligible	1
> 1 year	2		

Probability of a voiding or limiting harm (Av)	
Impossible	5
Rarely	3
Probable	1

Serial no.	Hazard	Se	Fr	Pr	Av	CI
1	Hazard X	4	5 +	4 +	3 =	12
2						

Consequences	(Se)	Class CI					Frequency and duration		Probability of hzd. Event		Avoidance	
		3-4	5-7	8-10	11-13	14-15	Fr	Pr	Pr	Av	Av	
Death, losing an eye or arm	4	SIL 2	SIL 2	SIL 2	SIL 3	SIL 3	<= 1 hour	5	Common	5		
Permanent, losing fingers	3		OM	SIL 1	SIL 2	SIL 3	> 1 h to <= 1 day	5	Likely	4		
Reversible, medical attention	2			OM	SIL 1	SIL 2	> 1 day to <= 2 wks	4	Possible	3	Impossible	5
Reversible, first aid	1				OM	SIL 1	2 wks to <= 1 year	3	Rarely	2	Possible	3
							> 1 year	2	Negligible	1	Likely	1

In this example the SIL 3 must be achieved by the safety-related control function intended to reduce the risk related to the identified hazard.

Determination of the SIL level achieved by the Safety-related control function (SRCF)

According to standard EN/IEC 62061 for each safety related control function, the SIL level is linked to:

- a target failure value for the probability of dangerous failure by hour of the SRCF: PFHD
- architectural constraints (hardware fault tolerance, diagnosis)
- a set of requirements related to the lifecycle of the safety related electrical control system

Safety integrity level (SIL)	Probability of a dangerous Failure per Hour PFHD
3	>10 ⁻⁸ to <10 ⁻⁷
2	>10 ⁻⁷ to <10 ⁻⁶
1	>10 ⁻⁶ to <10 ⁻⁵

λ_s = rate of safe failures,
 λ_{dd} = rate of detected dangerous failures,
 λ_{du} = rate of undetected dangerous failures
 $\lambda_d = \lambda_{dd} + \lambda_{du}$

In practice, detected dangerous failure are dealt with by fault

- The rate of failures λ can be expressed as follows: $\lambda = \lambda_s + \lambda_{dd} + \lambda_{du}$
- The calculation of the PFHD for a system or subsystem depends on several parameters:
 - the dangerous failure rate (λ_d) of the subsystem elements
 - the fault tolerance (e.g. redundancy) of the system
 - the diagnostic test interval (T2)
 - the proof test interval (T1) or lifetime whichever is smaller
 - the susceptibility to common cause failures (β)
- For each of the four different logical architectures A to D there is a different formula to calculate the PFHD. (see EN/IEC 62061)
- For a simple system without redundancy and without diagnostic: $PFHD = \lambda_d \times 1/h$

> Approach according to EN/ISO 13849-1

Determination of the Performance Level requested (PLr)

Done using the risk graphic opposite

S = Severity of injury

S1 = Slight (normally reversible injury)

S2 = Serious (normally irreversible) injury including death

F = Frequency and/or exposure time to the hazard

F1 = Seldom to less often and/or the exposure time is short

F2 = Frequent to continuous and/or the exposure time is long

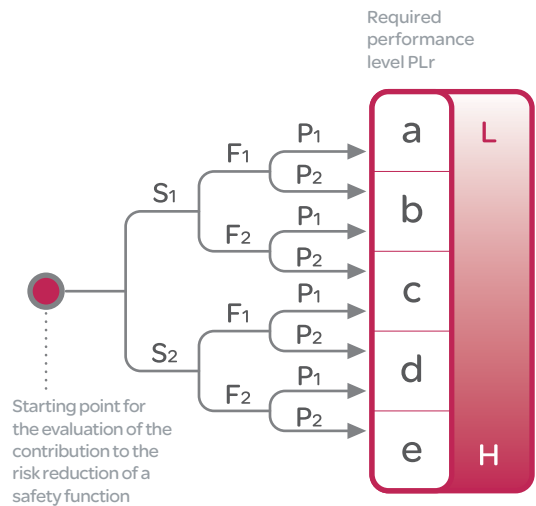
P = Possibility of avoiding the hazard or limiting the harm

P1 = Possible under specific conditions

P2 = Scarcely possible

L = Low contribution to risk reduction

H = High contribution to risk reduction



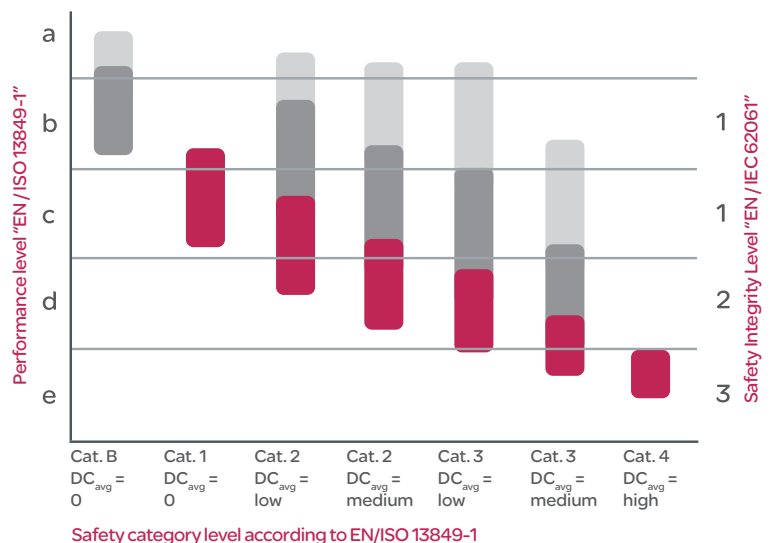
Determination of the PL achieved by the Safety-related parts of control systems (SRP/CS)

According to standard EN/ISO 13849-1, the Performance level (PL) is linked to a target failure value of probability of dangerous failure per hour for each safety related control function.

Performance level (PL)	Probability of a dangerous Failure per Hour
a	$10^{-5} \dots < 10^{-4}$
b	$3 \times 10^{-6} \dots < 10^{-5}$
c	$10^{-6} \dots < 3 \times 10^{-6}$
d	$10^{-7} \dots < 10^{-6}$
e	$10^{-8} \dots < 10^{-7}$

For a SRP/CS (or a combination of SRP/CS) designed according to the requirements of the article 6, the PL could be estimated with the figure below after estimation of several factors such as system structure (categories), mechanism of failures detection [Diagnosis Coverage (DC)], components reliability [mean time to dangerous failure (MTTFd), Common Cause Failure (CCF)]...

- MTTF_d of each channel = low
- MTTF_d of each channel = medium
- MTTF_d of each channel = high



Functional safety and manufacturer reliability data of electromechanical components according to EN/ISO 13849-1 and EN/IEC 62061

Preventa, Harmony, Tesys -

B10d values of electromechanical components. The following values apply to high or continuous demand mode of operations used in machinery applications.

The B10d value is given to a lifetime of 20 years, but is mainly limited by mechanical or contact wear.

Electromechanical components	B10 _d
Emergency stop push-button Ø22 mm XB4 & XB5 (mushroom head)	1500 000
Emergency stop trip wire switches XY2 C	50 000
Pushbutton Ø22 mm XB4 & XB5	25 000 000
Safety Limit switches with plunger or roller lever head XSC	50 000 000
Safety switches with key (guard switches) XCS	5 000 000
Safety switches with key (electromagnet guard switches) XCS	5 000 000
Safety switches with rotary opening head XCS	5 000 000
Safety coded magnetic switches XCS DMC/DMP/DMR at 10mA	50 000 000
contactors with nominal load	1300 000
contactors with mechanical load	20 000 000

For more information on reliability data, please refer to the website www.schneider-electric.com

Certified solutions for the safety circuit, designed for you by one of the leading automation companies!

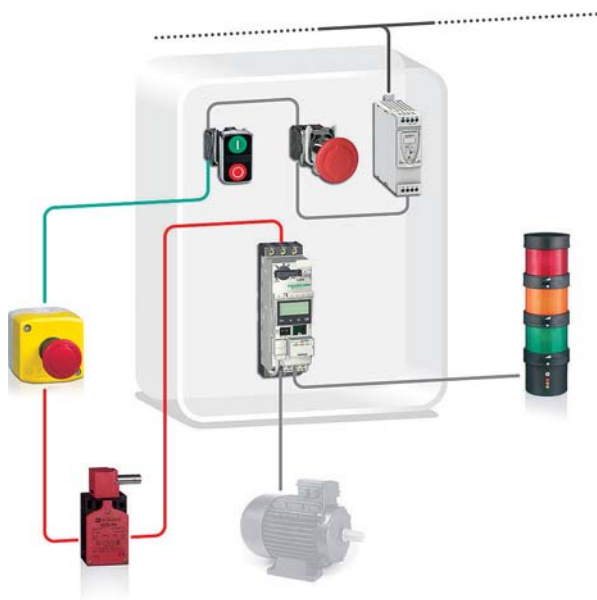
The concept:

Providing certified safety functions, on the basis of an approved combination of products and simplified schematic, to save time, reduce costs and obtain certification in accordance with the new European Machinery Directive.

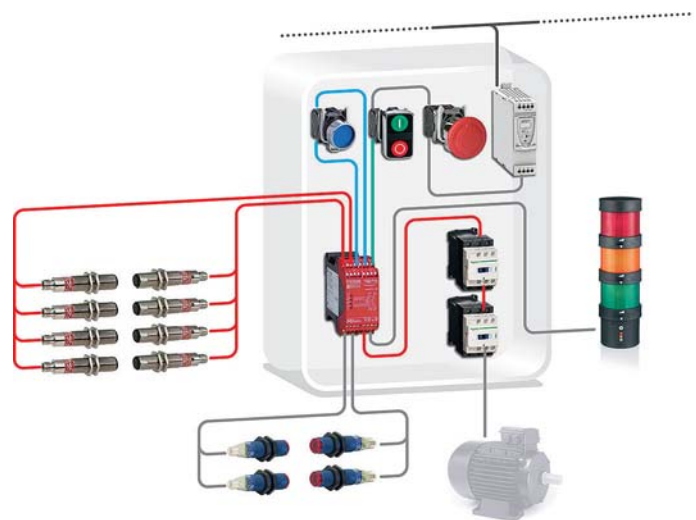
Its are made by:

- > Layout of solution indicating performance level (PL) and safety integrity level (SIL)
- > Bill of materials and the system description file
- > Example description of the PL and SIL calculation for the safety function
- > Safety conceptual principle diagram
- > Certification of all the product combination from a notify body

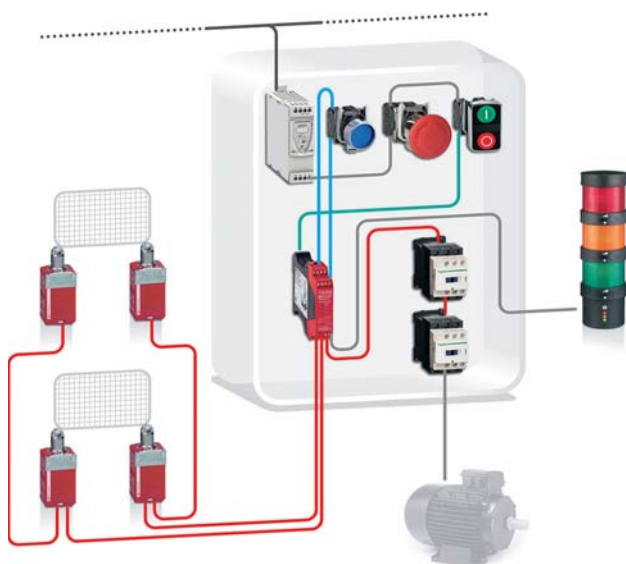
Safe torque off (PL c, SIL 1)



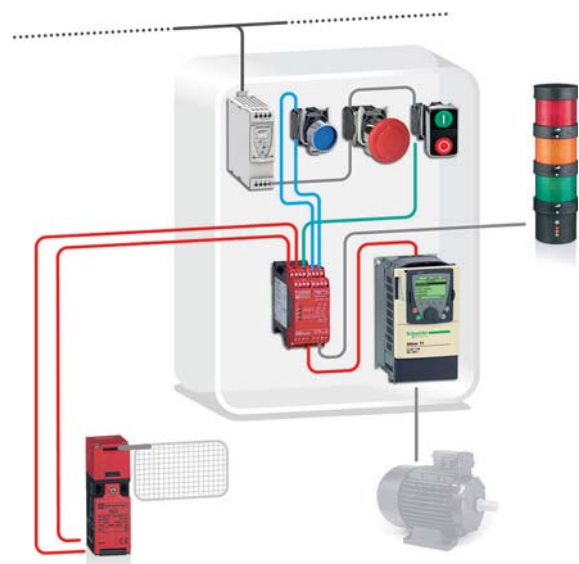
Light curtain (PL c, SIL 1)



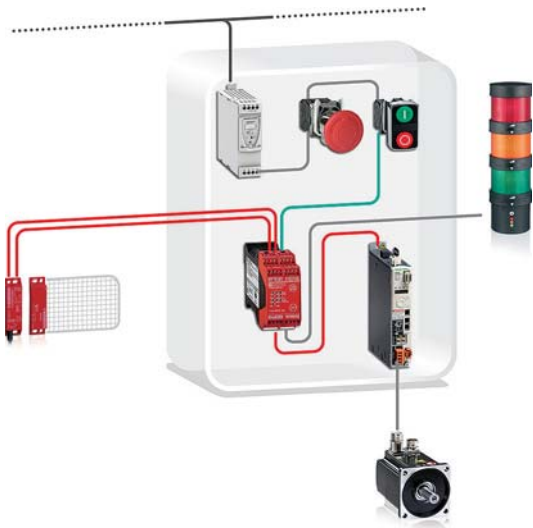
Safe stop 0 (PL d, SIL 2)



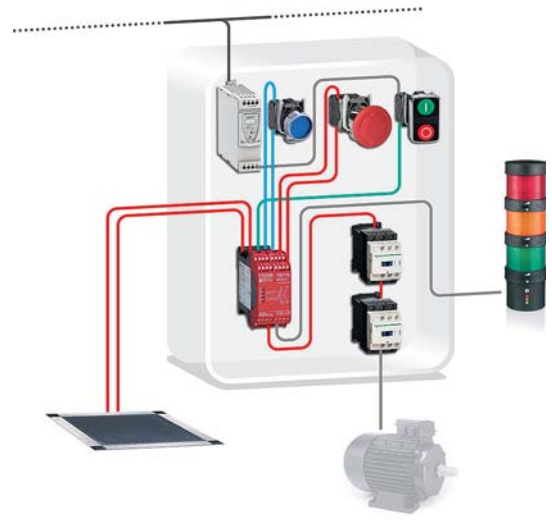
Safe stop 1 (PL d, SIL 2)



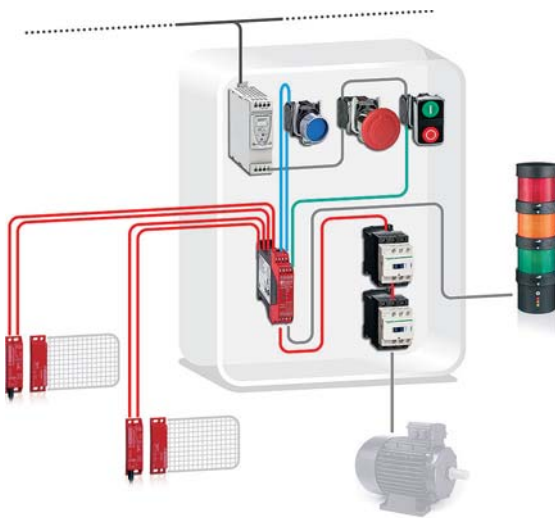
Safe Stop 1 (PL e, SIL 3)



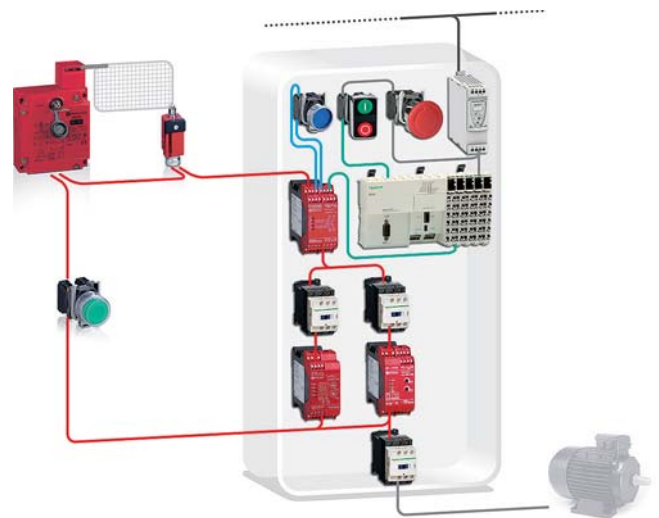
Safety Mat (PL d, SIL 2)



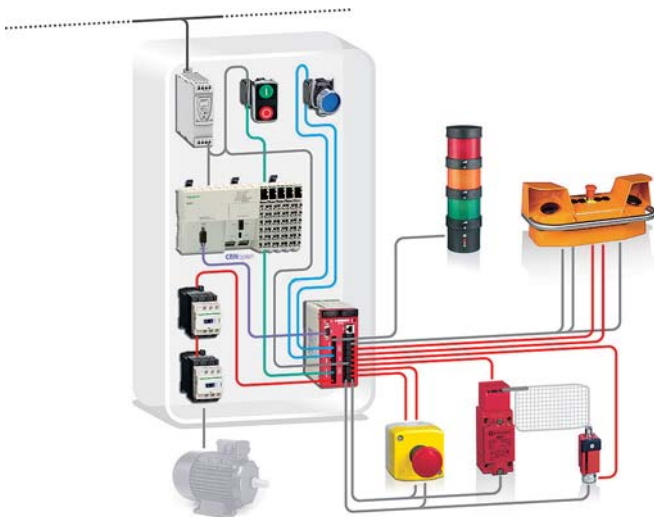
Magnetic switches (PL e, SIL 3)



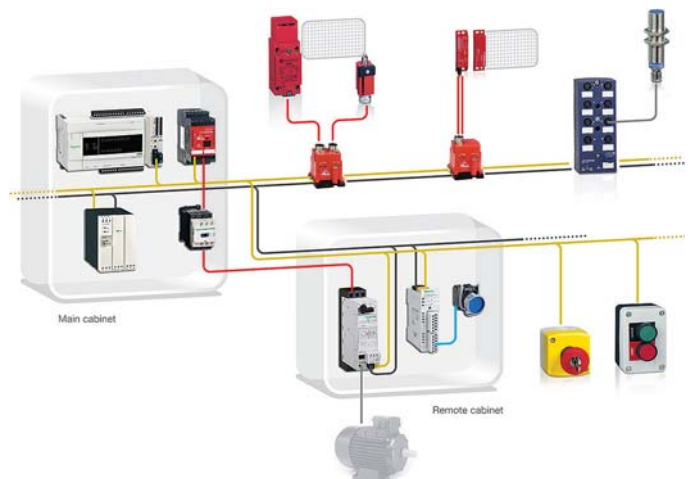
Zero speed detection (PL e, SIL 3)



Multifunction (PL e, SIL 3)



AS-i safety (PL e, SIL 3)



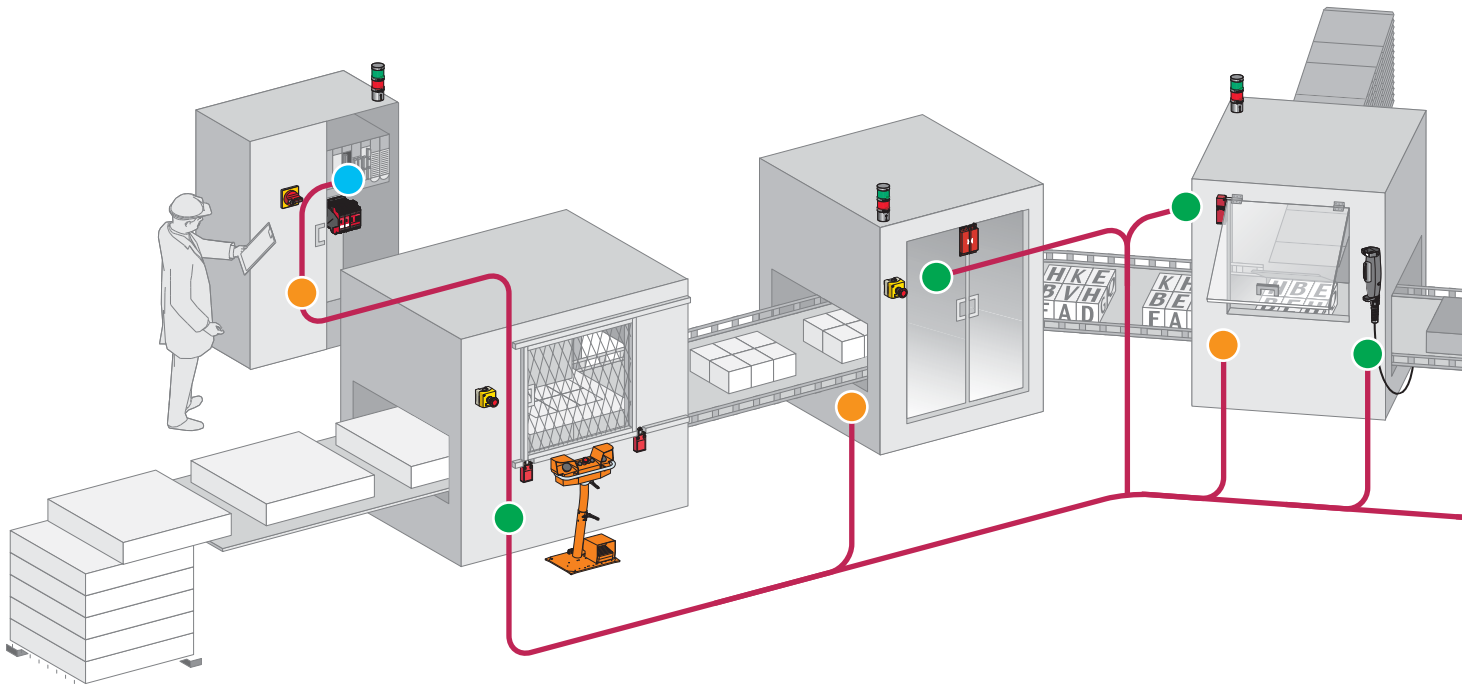
Be confident by using certified safety chain solutions provided by an automation leader

- > Save cost by avoiding external safety experts engineering
- > Reduce design time by our examples of calculation of the safety level for each safety function



Approved
Safety chain solutions to achieve the safety level required

Save cost and time with our Preventa offer...



Safe signal transmission

Acquire the information:

- > Monitoring devices used in protection systems to control access to hazardous areas.
- > Light curtains and safety mats for detecting intrusion into hazardous areas.
- > Two hand control stations and enabling switches for starting and enabling of dangerous movements.
- > Generic protective measures - Emergency stop.



Monitoring devices

Monitor and processing:

- > Safety modules for controlling input signals provenance from monitoring devices and acting as an interface with contactors and variable speed drives used to stop the machine.
- > Safety controller: Configurable safety device capable of centralising a number of safety functions.
- > Safety PLCs: programmable electronic systems to carry out safety or non-safety related tasks for machinery and equipment.
- > «As-i safety at work»: fieldbus network certified to work with monitoring devices in order to provide safety functions.



Light curtains



Safety mats



Two hand control stations and enabling switches



Emergency stop



Tripwire switch



Safety relays



Safety Controller

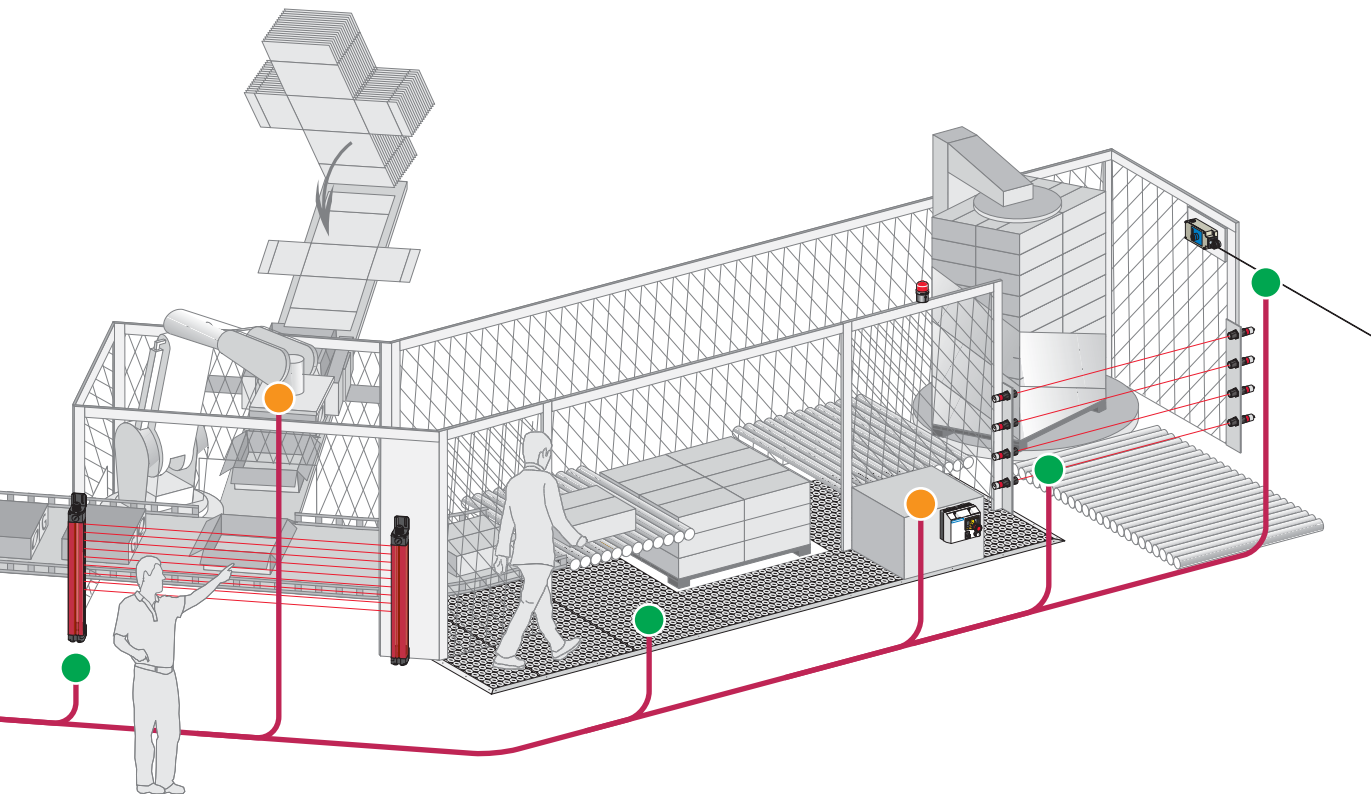


Safety PLCs



AS-i safety at work

9



Stop the machine:

- > Contactors with mirror-type auxiliary contacts: mechanically linked to switch off the motor power supply and provide the feedback loop for the diagnostics via the safety modules.
- > Variable Speed Drives and Servodrives controlled stopping of the dangerous movement by safety power removal function integrated.
- > Disconnect switches with rotary handle: perform an emergency stop by switching off the power supply directly and isolating all devices.



Variable Speed Drives



Servodrives



Contactors



Rotary switch disconnectors

1 Complete & upgraded safety offer:

Improve safety level requirement

Reduce installation time by easy and quick wiring

Up to 50% of space optimization

Save money and optimise space in enclosures.

Save up to 30% on installation time

Using the spring terminal option included in our new range of products.

The Protect Area Design software



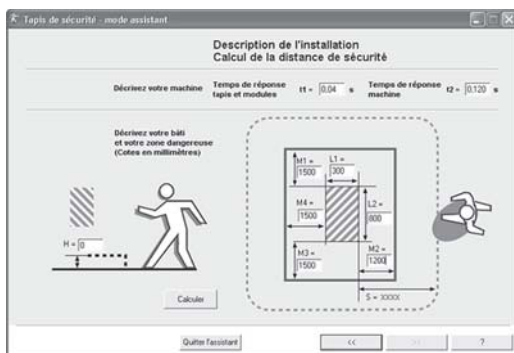
Protect Area Design software is a configurator that enables selection of the zone protection device like sensing mats required for safety applications.

This software enables the user, via a graphic interface, to create, test or modify a safe working area in the vicinity of a potentially dangerous machine.

Having established the predefined fields (safety level of the control system, dimensions of the machine, etc.), the Protect Area Design software calculates the safety distance in relation to the reaction time of the machine and the approach direction to the hazardous zone. It then displays a recommended safety protection solution and creates the list of products (references, quantities and accessories to be used). Protect Area Design software is user-friendly and compatible with Windows 98, NT, 2000 and XP.

Protect Area Design

Safety mats configuration software



The Protect Area Design software enables determination of the shape to be covered and optimisation of the use of mats using proposed solutions such as “Coverage of the zone to be protected” or “Optimised coverage of the zone to be protected”.

■ For configuration in “Assisted procedure” mode the software enables access to the following menus:

- description of the installation: description of the machine, reaction time,
- description of the structure and access to the hazardous zone,
- selection of configuration according to the zone to be covered,
- calculation.

■ For configuration in “Unassisted procedure” mode the software enables access to the following menus:

- replacement of an existing installation,
- selection of surface to cover and measurements.

Before using the configurator, it is necessary to perform the following 2 procedures:

risk assessment and risk reduction in accordance with EN/ISO 12100-1, in order to decide the contribution of the risk from safety mat and to select the appropriate control system category.

Notes

For all XPSMF PLCs

- Maximum category of the solution **Category 4**
(EN 954-1)
- Max performance level for the solution **PL e**
(EN ISO 13849-1)
- Max safety integrity level for the solution **SIL 3**
(EN IEC 62061)



Safety PLC type		Compact					
Number of inputs/outputs	Digital (configurable with XPSMFWIN software)	24					
	Pulsed (1)	2x4					
Memory capacity	Application	250 Kb					
	Data	250 Kb					
Supply		External 24 VDC supply (with separate protection conforming to IEC 61131-2)					
Communication	On Ethernet network with safe Ethernet protocol	Integrated (2xRJ45)	Integrated (2xRJ45)	Integrated (2xRJ45)	Integrated (2xRJ45)	Integrated (2xRJ45)	Integrated (2xRJ45)
	On Modbus TCP/IP	–	Integrated (2xRJ45)	–	Integrated (2xRJ45)	–	Integrated (2xRJ45)
	On Modbus (Serial link)	–	–	Integrated (1xRJ45)	Integrated (1xRJ45)	–	–
	On Profibus DP	–	–	–	–	Integrated (SUB-D9)	Integrated (SUB-D9)
Input/output connections		Removable screw terminal blocks or removable cage clamp terminal blocks coded with locating device					
References		XPSMF4000	XPSMF4002	XPSMF4020	XPSMF4022	XPSMF4040	XPSMF4042

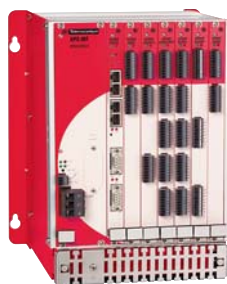
(1) They outputs are not safety outputs.

Compact



Safety PLC type		Compact				
Number of inputs	Digital	20	20	24	24	24
	Analogue	–	–	8	8	8
	Counting	–	–	2	2	2
Number of outputs	Digital	8	8	8	8	8
	Analogue	–	–	–	–	–
	Relay	–	–	–	–	–
Memory capacity	Application	250 Kb				
	Data	250 Kb				
Supply		External 24 VDC supply (with separate protection conforming to IEC 61131-2)				
Communication	On Ethernet network (Modbus TCP/IP)	Integrated (4xRJ45)	Integrated (4xRJ45)	Integrated (4xRJ45)	Integrated (4xRJ45)	Integrated (4xRJ45)
	On Modbus (Serial link)	Integrated (SUB-D9)	–	–	Integrated (SUB-D9)	–
	On Profibus DP	–	–	–	–	Integrated (SUB-D9)
Input/output connections		Removable screw terminal blocks, coded with locating device				
References (2)		XPSMF3022	XPSMF31222	XPSMF3502	XPSMF3522	XPSMF3542

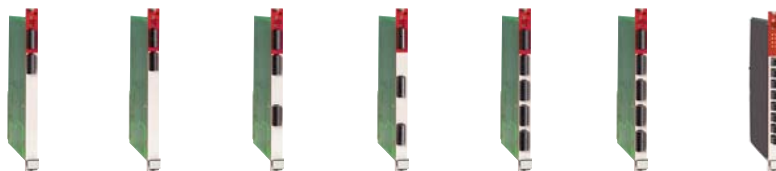
(2) Products referenced XPSMF30/MF31/MF35 are marked Himatrix F30, F31 and F35.



For all XPSMF PLCs

- Maximum category of the solution **Category 4**
(EN 954-1)
- Max performance level for the solution **PL e**
(EN ISO 13849-1)
- Max safety integrity level for the solution **SIL 3**
(EN IEC 62061)

Type		CPU	Power supply module	Rack with 6 slots	Software
Memory capacity	Application	500 Kb	–	–	For XPSMF PLCs
	Data	500 Kb	–	–	
Supply		–	External 24 VDC, integrated	–	
Communication	On Ethernet network (Modbus TCP/IP)	Integrated (4xRJ45)	–	–	Complete version
	On Modbus bus (Serial link)	Integrated (SUB-D9)	–	–	SSV1XPSMFWIN
Power connections		Screw terminal blocks	Screw terminal blocks	–	(1)
Dimensions W x D x H		–	–	257 x 239 x 310 mm	Update version
References		XPSMFCPU22	XPSMFP01	XPSMFGEH01	SSVXPSMFWINUP



I/O module type		For modular safety PLC						Relay
		Analogue		Digital				
Number of inputs	Digital	–	–	–	24	32	24	–
	Analogue	8	–	–	–	–	–	–
	Counting	–	–	2	–	–	–	–
Number of outputs	Digital	–	–	4	–	–	16	–
	Analogue	–	8	–	–	–	–	–
	Relay	–	–	–	–	–	–	8
Supply		Removable screw terminal blocks, coded with locating device						
References		XPSMFAI801	XPSMFAO801	XPSMFCIO2401	XPSMFDI2401	XPSMFDI3201	XPSMFDIO241601	XPSMFD0801

Decentralised safety I/O modules



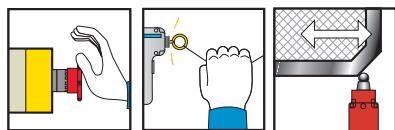
Module type		Inputs/Ouputs Digital			
Number of inputs	Digital	16	8+2	16	20
Number of outputs	Digital	–	8	8	8
	Pulsed	4	2	2	–
Supply		External 24 VDC supply (with separate protection conforming to IEC 61131-2)			
Communication	On Safe Ethernet network (Modbus TCP/IP)	Integrated (2xRJ45)			
Input/output connections		Removable screw terminal blocks, coded with locating device			
References (2)		XPSMF1DIO1601	XPSMF3DIO8801	XPSMF3DIO16801	XPSMF3DIO20802



I/O module type		Inputs/Outputs Analogue	Outputs Digital		Relay	
Number of inputs	Analogue	8	–	–	–	
Number of outputs	Digital	–	4	16	–	
	Analogue (not safety)	4	–	–	–	
	Relay	–	–	–	8	16
Supply		External 24 VDC supply (with separate protection conforming to IEC 61131-2)				
Communication	On Safe Ethernet network (Modbus TCP/IP)	Integrated (2xRJ45)				
Input/output connections		Removable screw terminal blocks, coded with locating device				
References (2)		XPSMF3AIO8401	XPSMF2DO401	XPSMF2DO1601	XPSMF2DO801	XPSMF2DO1602

(1) To be ordered only if the previous version of have been already installed.

(2) Products referenced **XPSMF1/MF2/MF3** are marked **Himatrix F1, F2 and F3**.



Universal



Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3		
Number of circuits	Safety	2 x 2N/O + 6 solid-state		2 x 3N/O per function
	Additional	–		3 solid-state
Display (number of LEDs)		30		12
Width of housing		74 mm		45 mm
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

Supply voltage	24 VDC	XPSMC32Z (1) (2)	XPSMC32ZC (1) (2)	XPSMC32ZP (1) (2)	XPSMP11123P (3)
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coded magnetic switches enabling switch



Universal



Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3		
For monitoring		magnetic switches and enabling switch		
Number of circuits	Safety	2 x 2N/O + 6 solid-state		2 x 3N/O per function
	Additional	–		3 solid-state
Display (number of LEDs)		30		12
Width of housing		74 mm		45 mm
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

Supply voltage	24 VDC	XPSMC32Z (1)(2)	XPSMC32ZC (1)(2)	XPSMC32ZP (1)(2)	XPSMP11123P (3)
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safety mats and edging



Universal



Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL d / Cat. 3, SILCL 2		
Number of circuits	Safety	2 x 2N/O + 6 solid-state		2 x 3N/O per function
	Additional	–		3 solid-state
Display (number of LEDs)		30		12
Width of housing		74 mm		45 mm
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

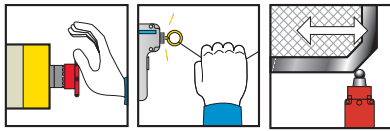
Supply voltage	24 VDC	XPSMC32Z (1)(2)	XPSMC32ZC (1)(2)	XPSMC32ZP (1)(2)	XPSMP11123P (3)
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(1) Version with 32 inputs. For version with 16 inputs, replace 32 in the reference by 16 (example: XPSMC32Z becomes XPSMC16Z).

(2) Configuration software XPSMCWIN (complete version) or SSVXPSMCWINUP (update version), connecting cable, adaptor and set of screw terminal plug-in connectors XPSMCTS16 and XPSMCTS32 or set of spring clip terminal plug-in connectors XPSMCTC16 and XPSMCTC32 to be ordered separately.

(3) For fixed connector version, delete the letter P from the end of the reference (example: XPSMP11123P becomes XPSMP11123).

Safety modules for monitoring emergency stops and limit switches



New



New

Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3							
Number of circuits	Safety	3 N/O	3N/O	3 N/O	3 N/O	7 N/O	3N/O + 3N/O time del.	2N/O + 1N/O time del.	2N/O + 3N/O time del.
	Additional	1 solid-state	1 N/C	–	1 N/C + 4 solid-state	2 N/C + 4 solid-state	3 solid-state	–	4 solid-state
Display (number of LEDs)		2	2	3	4	4	11	3	4
Width of housing		22.5 mm	22.5 mm	22.5 mm	45 mm	90 mm	45 mm	22.5 mm	45 mm

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage (1)	24 VDC	–	–	–	–	–	XPSAV1113P	XPSABV11330P (2)	–
	24 VAC/DC	XPSAC5121P	XPSAXE5120P (2)	XPSAF5130P	XPSAK311144P	XPSAR311144P	–	–	XPSATE5110P
	230 VAC	–	–	–	–	–	–	–	XPSATE3710P

- (1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSAV1113P becomes XPSAV11113).
 (2) For a version with spring terminals, replace the letter P with the letter C at the end of the reference (example: XPSAXE5120P becomes XPSAXE5120C)

coded magnetic switches enabling switch



Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3		
For monitoring		2 coded magnetic switches maximum	6 coded magnetic switches maximum	enabling switch
Number of circuits	Safety	2N/O	2N/O	2N/O
	Additional	2 solid-state	2 solid-state	2 solid-state
Display (number of LEDs)		3	15	3
Width of housing		22.5 mm	45 mm	22.5 mm

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VDC	XPSDMB1132P (1)	XPSDME1132P (1)	XPSVC1132P (1)
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- (1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSDMB1132P becomes XPSDMB1132).

safety mats and edging

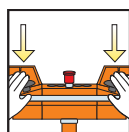


Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL d / Cat. 3, SILCL 2
Number of circuits	Safety	3N/O
	Additional	1N/C + 4 solid-state
Display (number of LEDs)		4
Width of housing		45 mm

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VAC/DC	XPSAK311144P (1)
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- (1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSAK311144P becomes XPSAK311144).



Universal

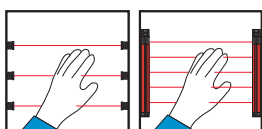


Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3		
Number of circuits	Safety	2 x 2N/O + 6 solid-state		
	Additional	-		
Display (number of LEDs)		30		
Width of housing		74 mm		
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

Supply voltage	24 VDC	XPSMC32Z (1)(2)	XPSMC32ZC (1)(2)	XPSMC32ZP (1)(2)
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light curtains



Universal



Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3			2 light curtains monitoring max.
Number of circuits	Safety	2 x 2N/O + 6 solid-state		2x3N/O per function	6 PNP solid-state
	Additional	-		3 solid-state	1 PNP + 1 NPN
Display (number of LEDs)		30		12	14 + double display units
Width of housing		74 mm		45 mm	100 mm
Integral Muting function		Yes		No	Yes
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP	-

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

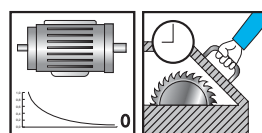
Supply voltage	24 VDC	XPSMC32Z (1)(2)	XPSMC32ZC (1)(2)	XPSMC32ZP (1)(2)	XPSMP11123P (3)	XPSLCM1150 (4)
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(1) Version with 32 inputs, for version with 16 inputs, replace 32 in the reference by 16 (example: XPSMC32Z becomes XPSMC16Z).

(3) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSMP11123P becomes XPSMP11123).

(4) Removable terminal blocks

zero speed, time delay



Universal



Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3		
For monitoring		Motor zero speed condition		
Number of circuits	Safety	2 x 2N/O + 6 solid-state		
	Additional	-		
Display (number of LEDs)		30		
Width of housing		74 mm		
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

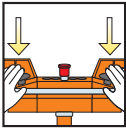
Supply voltage	24 VDC	XPSMC32Z (5) (2)	XPSMC32ZC (5) (2)	XPSMC32ZP (5) (2)
-----------------------	--------	-------------------------	--------------------------	--------------------------

(2) Configuration software XPSMCWIN (complete version) or SSVXPSMCWINUP (update version), connecting cable, adaptor and set of screw terminal plug-in connectors XPSMCTS16 and XPSMCTS32 or set of spring clip terminal plug-in connectors XPSMCTC16 and XPSMCTC32 to be ordered separately.

(5) Plug-in connector version only.

Safety modules for monitoring two-hand control

New



Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL c / Cat. 1 (type IIIA to EN 574/ISO 13851)	PL e / Cat. 4, SILCL 3 (type IIIC to EN 574/ISO 13851)	
Number of circuits	Safety	1N/O	2N/O	2N/O
	Additional	1N/C	1N/C	2 solid-state
Display (number of LEDs)		2	3	3
Width of housing		22.5 mm	22.5 mm	22.5 mm

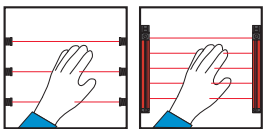
Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VDC	–	–	XPSBF1132P (1)
	24 VAC/DC	XPSBA5120	XPSBCE3110P (2)	–

(1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSBF1132P becomes XPSBF1132).

(2) For version with cage clamps removable terminal block, change the letter P for C from the end of the reference (example: XPSBCE3110P becomes XPSBCE3110C).

light curtains



Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL c / Cat. 2, SILCL 1	PL e / Cat. 4, SILCL 3	
Number of circuits	Safety	2N/O	3N/O	3N/O
	Additional	4 solid-state	–	1N/C + 4 solid-state
Display (number of LEDs)		4	3	4
Width of housing		45 mm	22.5 mm	45 mm
Integral Muting function		Yes	No	No

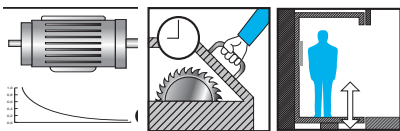
Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VDC	XPSCM1144P (1)	–	–	–
	24 VAC/DC	–	XPSAFL5130P (1)	XPSAK311144P (1)	XPSAR311144P (1)

(1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSCM1144P becomes XPSCM1144).

zero speed, time delay and lifts

New



Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL d / Cat. 3, SILCL 2		PL e / Cat. 4, SILCL 3	
For monitoring		Motor zero speed condition	Safety time delay		Lifts
Number of circuits	Safety	1N/O + 1N/C	1N/O time delay	1N/O pulse	2N/O
	Additional	2 solid-state	2N/C + 2 solid-state	2N/C + 2 solid-state	2 solid-state
Display (number of LEDs)		4	4	4	4
Width of housing		45 mm	45 mm	45 mm	22.5 mm

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VDC	XPSVNE1142P (1)	–	–	–
	24 VAC/DC	–	XPSTSA5142P (2)	XPSTSW5142P (2)	XPSEDA5142

(1) Motor frequency ≤ 60 Hz.. For frequencies ≥ 60 Hz, please refer to the "Safety solution" catalogue.

(2) Removable terminal block version only.



Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3	
Number of circuits	Safety	2N/O	2 x 2N/O
	Auxiliary	1 solid-state	2 solid-state
Display (number of LEDs)		5	8
Width of housing		45 mm	45 mm
AS-Interface profile		S.7.F	S.7.F
Master module compatibility		V1 / V2.1	V1 / V2.1
References of monitor with	enhanced functions	ASISAFEMON1B	ASISAFEMON2B
	standard functions	ASISAFEMON1	ASISAFEMON2

Configuration software, adjustment terminal and AS-Interface analyser



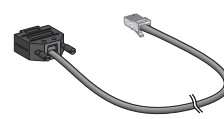
Type	Configuration software (1)	Adjustment terminal (2)	AS-Interface Analyser
Multilingual	EN / FR / DE / ES / IT / PT	–	■ Analysis and diagnostics of AS-Interface line and Safety at Work
For use with	ASISAFEMON1/2, ASISAFEMON1B/2B	–	■ Complements the diagnostic functions of the local AS-Interface master
Media	CD-ROM PC	–	■ Maintenance or validation of AS-Interface lines
Environment	Windows	–	■ Print-out of AS-Interface line tests
Degree of protection	–	IP 40	
Supply	–	4 x LR6 batteries	
Dimensions W x D x H	–	70 x 50 x 170 mm	92 x 28 x 139 mm
References	Complete version	ASISWIN2	ASISA01
	Update version (3)	SSVASISWINUP	–

(1) CD-ROM with hardware and software user guides.

(2) For addressing safety interfaces, use the infrared adaptor ASITERIR1 or the standard adaptor ASISAD1.

(3) To be ordered only if a previous version of ASISWIN have been already installed.

Accessories



Type	Adaptor for the addressing of safety interfaces	Infrared adaptor for adjustment terminal	Tap-off for AS-Interface cable	Cable for monitor parametering, RS 232	Cable for monitor to monitor transfer
Degree of protection	–	IP 67	IP 67	IP 20	IP 20
Cable length	–	1 m	2 m	2 m	0.2 m
References	ASISAD1	ASITERIR1	TCSATN01N2	ASISCP	ASISCM

Safety interfaces

For Ø 22 Emergency stop



Interface type	For mushroom head pushbuttons				Control stations	
	Metal	(1)	Plastic	(1)	Plastic	
Degree of protection	IP 20	IP 20	IP 20	IP 20	IP 65	IP 65
Dimensions W x D x H (mm)	40 x 90 x 68	40 x 80 x 40	40 x 90 x 64	40 x 90 x 40	66 x 95 x 78	66 x 95 x 78
AS-Interface profile	S.O.B.F.F	S.O.B.F.F	S.O.B.F.F	S.O.B.F.F	S.O.B.F.F	S.O.B.F.F
Consumption from AS-Interface	45 mA	45 mA	45 mA	45 mA	45 mA	45 mA
Infrared addressing	Yes	No	Yes	No	No	No
Connection on AS-Interface	IDC (2)	Connector	IDC (2)	Connector	M12 connector	M12 connector
Reference with N/C + N/C contact (head not included)	ASISSLB4	ASISSE4	ASISSLB5	ASISSE5	ASISEA1C	ASISEK1C
Reference of head (Ø40 latching mushroom head, turn to release)	ZB4BS844 (3)	ZB4BS844 (3)	ZB4AS844 (3)	ZB5AS844 (3)	Integrated (4)	Integrated (5)

(1) For installation in enclosures.

(2) IDC: Insulation Displacement Connector.

(3) Head to be ordered separately. For other heads, please refer to www.schneider-electric.com.

(4) Turn to release latching mushroom head.

(5) Key release (n° 455) latching mushroom head.

For other safety products with M12 connector outputs or ISO M16/20

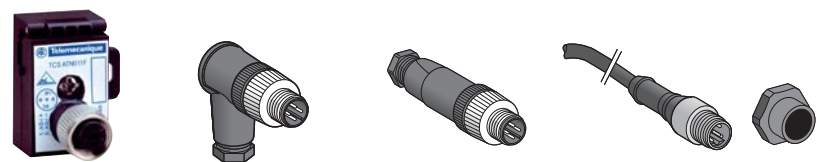


Type of entry	2 x M12 entries (6)	1 x M12 entry	1 x ISO M16 entry (7)
Degree of protection	IP 67	IP 67	IP 67
Dimensions W x D x H	40 x 40 x 58 mm	40 x 40 x 58 mm	40 x 40 x 57.5 mm
AS-Interface profile	S.O.B.F.F	S.O.B.F.F	S.O.B.F.F
Consumption from AS-Interface	45 mA	45 mA	45 mA
Infrared addressing	Yes	Yes	Yes
Connection on AS-Interface	IDC (1)	IDC (1)	IDC (1)
References	ASISSLC2	ASISSLC1	ASISLLS

(6) For connection using 2 pre-wired connectors, or 1 pre-wired connector + 1 connector.

(7) For 1 x ISO M20 entry, use adaptor shown below.

Accessories

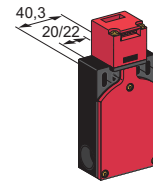
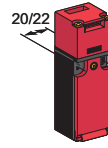
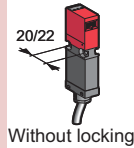
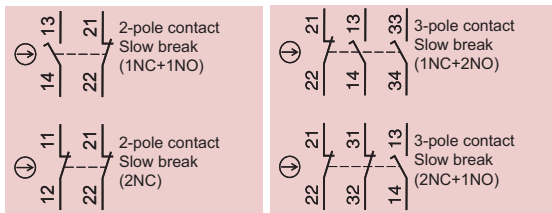


Type	Tap-off for AS-Interface cable	Connectors		Pre-wired connector	Adaptor (sold in lots of 5)
Description	M12 female, threaded	elbowed	straight	straight	ISO M16/M20
Degree of protection	IP 67	IP 67	IP 67	IP 67	IP 67
Length of cable	–	–	–	2 m	–
References	TCSATN011F	XZCC12MCM40B	XZCC12MDM40B	XZCP1541L2	DE9R12016

Detection

Illustration of contacts with the actuator inserted in the head of the switch

ISO entry (to EN 50262)



Plastic, double insulated switches	Type XCSMP pre-cabled, L = 2 m	Type XCSPA and TA 1xISO M16 entry. (2)	2xISO M16 entries. (2)	Type XSLE 3 x ISO M20 cable entries
Actuation speed (min → max)	0,05 m/s → 1,5 m/s	0,1 m/s → 0,5 m/s		0,1 m/s → 0,5 m/s
Degree of protection	IP 67	IP 67		IP 67 + IP 66
Rated operational characteristics (conforming to EN IEC 60947-5-1)	AC 15, C 300 / DC 13, Q 300	AC 15, A 300 / DC 13, Q 300		AC 15, B 300 / DC 13, Q 300
Dimensions (body + head) W x D x H	30 x 15 x 87 mm	30 x 30 x 93,5 mm	52 x 30 x 114,5 mm	43,5 x 51 x 205 mm
Solenoid supply voltage	-	-	-	24 VAC/DC
Complete switch	1NC+1NO break before make, slow break 2NC slow break 1NC+2NO break before make, slow break 1NC+2NO snap action 2NC+1NO break before make, slow break 2NC+1NO snap action	XCSMP59L2 (3) ⊕ XCSMP79L2 (3) ⊕ XCSMP70L2 (3) ⊕ - XCSMP80L2 (3) ⊕ -	XCSPA592 ⊕ XCSPA792 ⊕ XCSPA892 ⊕ - XCSPA992 ⊕ XCSPA492 ⊕	XCSTA592 ⊕ - - - XCSTA792 ⊕ -
				XCSLE2525312 ⊕ XCSLE2727312 ⊕ XCSLE3535312 ⊕ - XCSLE3737312 ⊕ -

- (1) For locking on energisation of solenoid, please refer to www.schneider-electric.com.
 (2) With entry for n° 11 (Pg 11) cable gland, replace the last digit in the reference by 1 (example: XCSPA592 becomes XCSPA591).
 (3) For other models, please refer to www.schneider-electric.com.

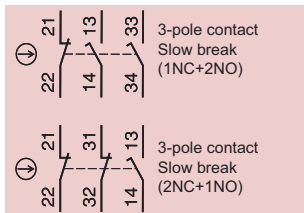
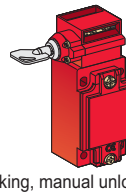
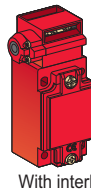
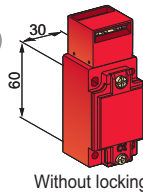


Illustration of contacts with the actuator inserted in the head of the switch

ISO entry (to EN 50262)



Available 2Q 2011

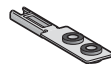


Locking on de-energisation of solenoid (1)

Metal switches	Type XCSA/B/C 1 x ISO M20 cable entry (2)			Type XCSLF 3 x ISO M20 cable entries	
Actuation speed (min → max)	0.1 m/s → 0.5 m/s			0.1 m/s → 0.5 m/s	
Degree of protection	IP 67			IP 67 + IP 66	
Rated operational characteristics (conforming to EN IEC 60947-5-1)	AC 15, A 300 / DC 13, Q 300			AC 15, B 300 / DC 13, Q 300	
Dimensions (body + head) W x D x H	40 x 44 x 113.5 mm	52 x 44 x 113.5 mm	52 x 44 x 113.5 mm	43.5 x 51 x 205 mm	
Solenoid supply voltage	-	-	-	24 VAC/DC	24 VAC/DC
Complete switch	1NC+2NO break before make, slow break 2NC+1NO break before make, slow break 1NC+1NO break before make, slow break 2NC snap break	XCSA502 ⊕ XCSA702 ⊕ - -	XCSB502 ⊕ XCSB702 ⊕ - -	XCSC502 ⊕ XCSC702 ⊕ - -	XCSLF3535312 ⊕ XCSLF3737312 ⊕ XCSLF2525312 ⊕ XCSLF2727312 ⊕
				XCSLF3535412 ⊕ (3)	XCSLF3737412 ⊕ (3)

- (1) For locking on energisation of solenoid, please refer to www.schneider-electric.com.
 (2) With entry for n° 13 (Pg 13.5) cable gland, replace the last digit in the reference by 1 (example: XCSA502 becomes XCSA501).
 (3) With mushroom head emergency release button.

Accessories



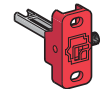
Straight actuator



Right-angled actuator



Pivoting actuator, RH door



Pivoting actuator, LH door

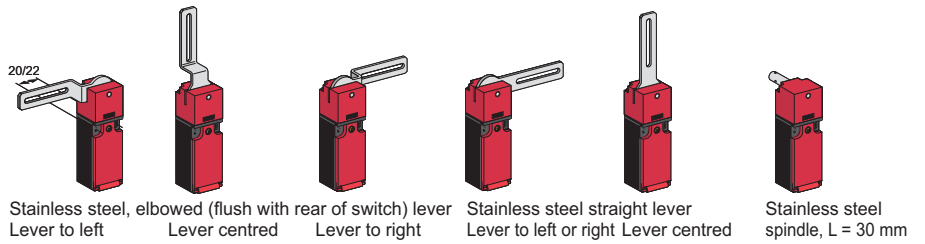
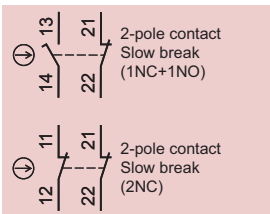
For safety switches XCSMP	Actuators				
References	XCSZ81	XCSZ84	XCSZ83	XCSZ85	
	Straight actuator	Wide actuator L=40 mm (1)	Right-angled actuator	Pivoting actuator	
				Guard/door retainer	
For safety switches XCSPA/TA/TE	Actuators				Retaining device
References	XCSZ11	XCSZ12	XCSZ14	XCSZ13	XCSZ21
	Straight actuator	Wide actuator	Pivoting actuator		

- (1) For L = 29 mm, reference = XCSZ15.

For safety switches XCSA/B/C/LE/LF	Actuators			Door lock
References	XCSZ01	XCSZ02	XCSZ03	XCSZ05
	Straight actuator	Wide actuator	Pivoting actuator	Door lock

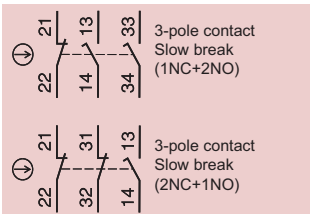
Safety switches with rotary lever or spindle

ISO entry
(to EN 50262)



Plastic switches		Type XCSP with rotary lever or XCSPR with spindle				
		1 x ISO M16 cable entry (1)				
Minimum torque (actuation / positive opening)		0,1 / 0,25 N.m				
Degree of protection		IP 67				
Rated operational characteristics		AC 15, A 300 / DC 13, Q 300 (selon EN IEC 60947-5-1)				
Dimensions (body + head) W x D x H		30 x 30 x 160 mm			30 x 30 x 96 mm	
Tripping angle		5°				
Complete switch	1NC+1NO break before make, slow break	XCSP592 (2)	XCSP582 (2)	XCSP572 (2)	XCSP562 (2)	XCSPR552 (2)
	2NC slow break	XCSP791 (2)	XCSP781 (2)	XCSP771 (2)	XCSP762 (2)	XCSPR752 (2)
	1NC+2NO break before make, slow break	-	-	-	XCSP862 (2)	-
	2NC+1NO break before make, slow break	-	XCSP981 (2)	-	XCSP962 (2)	XCSPR952 (2)

(1) With entry for n° 11 (Pg 11) cable gland, replace the last digit in the reference by 1 (example: XCSP592 becomes XCSP591).
 (2) For entry for ISO M20 cable gland, also order adaptor DE9RA1620 (sold in lots of 5).

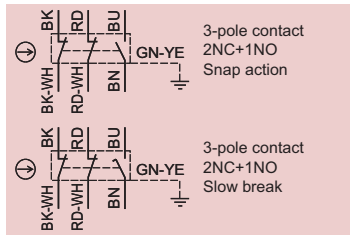


ISO entry
(to EN 50262)



Plastic switches		Type XCSTL with rotary lever or XCSTR with spindle		
		2 x ISO M16 cable entries (1)		
Minimum torque (actuation / positive opening)		0.1 / 0.45 N.m		
Degree of protection		IP 67		
Rated operational characteristics		AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)		
Dimensions (body + head) W x P x H		52 x 30 x 180 mm		52 x 30 x 117 mm
Tripping angle		5°		
Complete switch	1NC+2NO break before make, slow break	XCSTL582 (2)	XCSTL552 (2)	XCSTR552 (2)
	2NC+1NO break before make, slow break	XCSTL782 (2)	XCSTL752 (2)	XCSTR752 (2)

(1) With entry for n° 11 (Pg 11) cable gland, replace the last digit in the reference by 1 (example: XCSTL582 becomes XCSTL581).



Metal end plunger



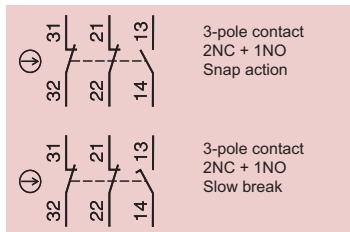
Roller plunger



Thermoplastic roller lever

Miniature switches	Type XCSM, metal pre-cabled, L = 1 m (1)		
Maximum actuation speed	0.5 m/s	0.5 m/s	1.5 m/s
Minimum force or torque (actuation / positive opening)	8.5 N / 42.5 N	7 N / 35 N	0.5 N.m / 0.1 N.m
Degree of protection	IP 66 + IP 67 + IP 68	IP 66 + IP 67 + IP 68	IP 66 + IP 67 + IP 68
Dimensions (body + head) W x D x H	30 x 16 x 60 mm	30 x 16 x 70.5 mm	30 x 32 x 92.5 mm
Complete switch	2NC+1NO snap action	XCSM3910L1 →	XCSM3902L1 →
	2NC+1NO slow break	XCSM3710L1 →	XCSM3702L1 →
			XCSM3915L1 →
			XCSM3715L1 →

(1) For a 2 m long cable, replace the last digit of the reference by 2 (example: XCSM3910L1 becomes XCSM3910L2).
For a 5 m long cable, replace the last digit of the reference by 5 (example: XCSM3910L1 becomes XCSM3910L5).



Metal end plunger



Roller plunger



Thermoplastic roller lever



Metal end plunger



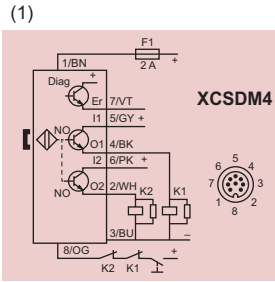
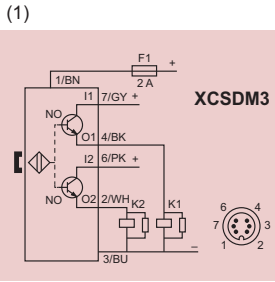
Roller plunger



Thermoplastic roller lever

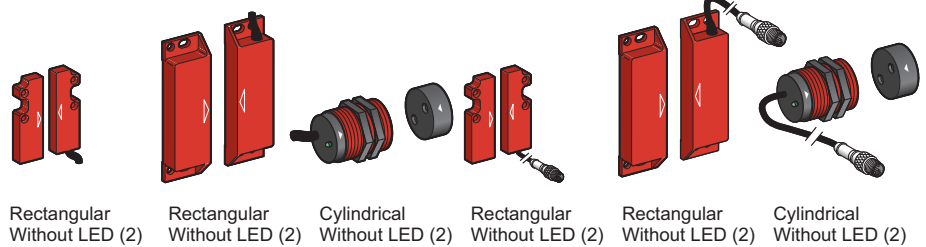
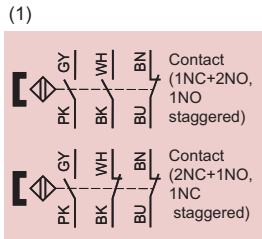
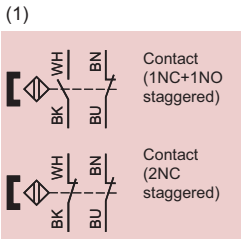
Compact switches	Type XCSD, metal 1 x ISO M20 x 1.5 cable entry (2)			Type XCSP, plastic 1 x ISO M20 x 1.5 cable entry (2)		
	Maximum actuation speed	0.5 m/s	1.5 m/s	1.5 m/s	0.5 m/s	1.5 m/s
Minimum force or torque (actuation / positive opening)	15 N / 45 N	12 N / 36 N	10 N.m / 0.1 N.m	15 N / 45 N	12 N / 36 N	10 N.m / 0.1 N.m
Degree of protection	IP 66 + IP 67			IP 66 + IP 67		
Dimensions (body + head) W x D x H (mm)	34 x 34.5 x 89	34 x 34.5 x 99.5	34 x 43 x 121.5	34 x 34.5 x 89	34 x 34.5 x 99.5	34 x 43 x 121.5
Complete switch	2NC+1NO snap action	XCSD3910P20	XCSD3902P20	XCSD3918P20	XCSP3910P20	XCSP3902P20
	2NC+1NO slow break	XCSD3710P20	XCSD3702P20	XCSD3718P20	XCSP3710P20	XCSP3702P20
						XCSP3918P20
						XCSP3718P20

(2) For Pg 13.5 and 1/2" NPT cable entries, refer to www.schneider-electric.com.



Type of system		SIL2/Category 3	SIL3/Category 4	
With integrated safety module		XCSDM3	XCSDM4	
Switches for actuation		Face to face, face to side, side to side		
Degree of protection		Pre-cabled: IP66 / IP67, IP69K, connector: IP67		
Type of contact		2 solid-state output PNP/NO, 1,5 A / 24VDC (2 A up to 60°C)		
Rated operational characteristics		U _b : 24 VDC +10% - 20%		
Dimensions W x D x H		34 x 27 x 100 mm		
Operating zone		Sao= 10 mm / Sar= 20 mm		
References	Connection	for cable L= 2m	XCSDM379102	XCSDM480102
		for cable L= 5m	XCSDM379105	XCSDM480105
		for cable L= 10m	XCSDM379110	XCSDM480110
		for connector M12	XCSDM3791M12	XCSDM4801M12

Coded magnetic



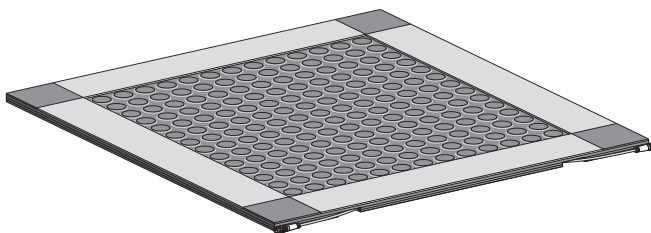
Plastic switches	Type XCSDM coded magnetic						
	Pre-cabled, L = 2 m			Connector on flying lead, L = 10 cm (3)			
Switches for actuation	Face to face, face to side, side to side			Face to face		Face to face, face to side, side to side	
Degree of protection	IP 66 + IP 67			IP 66 + IP 67			
Type of contact	REED			REED			
Rated operational characteristics	U _e = 24 VDC, I _e = 100 mA			U _e = 24 VDC, I _e = 100 mA			
Dimensions W x D x H	16 x 7 x 51 mm	25 x 13 x 88 mm	M30 x 38,5 mm	16 x 7 x 51 mm	25 x 13 x 88 mm	M30 x 38.5 mm	
Operating zone (4)	Sao = 5 / Sar = 15		Sao = 8 / Sar = 20	Sao = 5 / Sar = 15		Sao = 8 / Sar = 20	
Switch with coded magnet	1NC+1NO staggered	XCSDMC5902	XCSDMP5902	XCSDMR5902	XCSDMC590L01M8	XCSDMP590L01M12	XCSDMR590L01M12
	2NC staggered	XCSDMC7902	XCSDMP7902	XCSDMR7902	XCSDMC790L01M8	XCSDMP790L01M12	XCSDMR790L01M12
	1NC+2NO, 1NO staggered	–	XCSDMP5002	–	–	XCSDMP500L01M12	–
	2NC+1NO, 1NC staggered	–	XCSDMP7002	–	–	XCSDMP700L01M12	–

(1) Illustration of contacts with the magnet in front of the switch.

(2) For version with LED indicator, replace the last 0 in the reference by 1 (example: XCSDMC5902 becomes XCSDMC5912).

(3) For associated pre-wired female connectors, please refer to the "Safety solution" catalogue.

(4) Sao: assured operating distance. Sar: assured release distance.



Maximum safety level achieved by the solution (EN ISO 13849-1, EN/IEC 62061)	PLd/cat3, SILCL2			
Degree of protection	IP 67			
Response time (s)	Mat itself: 20 ms, with module: XPSAK ≤ 40 ms, XPSMP < 30 ms			
Sensitivity	Single mat > 20 kg / Group of mats > 35 kg			
Maximum load	2000 N/cm ²			
Connection (2)	By M8 jumper cable (1 male / 1 female), L = 100 mm			
Dimensions W x D x H	500 x 500 x 11 mm	500 x 750 x 11 mm	750 x 750 x 11 mm	750 x 1250 x 11 mm
References	XY2TP1	XY2TP2	XY2TP3	XY2TP4

(2) For associated jumper cable and pre-wired connector, please refer to www.schneider-electric.com

		Accessories								
Rails (set of 2)	Length	194 mm	394 mm	444 mm	494 mm	644 mm	694 mm	744 mm	1194 mm	1244 mm
References		XY2TZ10	XY2TZ20	XY2TZ30	XY2TZ40	XY2TZ50	XY2TZ60	XY2TZ70	XY2TZ80	XY2TZ90

Corners and rail connectors	External corners (set of 4)	Internal corner + external corner	Rail connectors, L = 56 mm with outlet for cable (set of 2)	Rail connectors, L = 6 mm (set of 2)
References	XY2TZ4	XY2TZ5	XY2TZ1	XY2TZ2

Selection guidance software



		Protect Area Design	
For safety mats	XY2TP		
Reference	Downloadable on Schneider-Electric.com		

Light curtains

Type 2 conforming to IEC 61496-2



Light curtain functions

- Auto/Manual,
- Monitoring of external switching devices (EDM: External Devices Monitoring),
- LED display of operating modes

Maximum safety level achieved by the solution (EN ISO 13849-1)		PLc/cat2	
Type		Multi-beam, infrared transmission	
Slim range		Manual starting	Automatic starting
Nominal sensing distance (Sn)		0.3...15 m	
Detection capacity		30 mm "hand"	
Number of safety circuits		2 solid-state PNP	
Response time (depending on model)		14...24 ms	
Connection		M12 Connector	
Height protected (mm)	150	XUSLNG5D0150	XUSLNG5C0150
	300	XUSLNG5D0300	XUSLNG5C0300
	450	XUSLNG5D0450	XUSLNG5C0450
	600	XUSLNG5D0600	XUSLNG5C0600
	750	XUSLNG5D0750	XUSLNG5C0750
	900	XUSLNG5D0900	XUSLNG5C0900
	1050	XUSLNG5D1050	XUSLNG5C1050
	1200	XUSLNG5D1200	XUSLNG5C1200
	1350	XUSLNG5D1350	XUSLNG5C1350
1500	XUSLNG5D1500	XUSLNG5C1500	

		Accessories		
Cable length		3 m	10 m	30 m
Pre-wired connector for XUSLNG (screened cable)	For receiver	XSZNCR03	XSZNCR10	XSZNCR30
	For transmitter	XSZNCT03	XSZNCT10	XSZNCT30

Type 2 conforming to IEC 61496-1 et 2



Light curtain functions

- Auto/Manual,
- Monitoring of external switching devices (EDM: External Devices Monitoring),
- LED display of operating modes
- Integral muting function.

Maximum safety level achieved by the solution (EN ISO 13849-1, EN/IEC 62061)		PLc/cat2, SILCL1	
Type		Single-beam with infrared emission	
Height protected (conforming to prEN 999)		750...1200 mm (1 to 4 beams)	
Nominal sensing distance (Sn)		8 m	
Number of circuits	Safety	2N/O	
	Additional	4 solid-state	
Response time		< 25 ms	
Modules (integral muting function)	24 VDC	XPSCM1144P (1)	
Thru-beam pairs, axially aligned	Pre-cabled, L = 5m	PNP	XU2S18PP340L5 (2)
	M12 connector	PNP	XU2S18PP340D (2)

(1) For version with non removable terminal block, delete the letter P from the end of the reference. Example: XPSCM1144P becomes XPSCM1144.

(2) For alignment at 90° to the mounting axes, insert the letter W in the reference before the last letter. Example: XU2S18PP340L5 becomes XU2S18PP340WL5).



Functions accessible by cabling alone

- Automatic start
- Auxiliary output (PNP, status signalling)
- Alignment aid by display of each light beam broken
- LED display of operating modes and faults

Maximum safety level achieved by the solution (EN ISO 13849-1, EN/IEC 62061)		PLe/cat4, SILCL3					
Type		Multi-beam, infrared transmission Light curtains		Cascadable light curtains			
Nominal sensing distance (Sn)		0,3...7 or 3 m with PDM Box (2)	0,3...8 or 20 m with PDM Box (2)	0,3...7 or 3 m with PDM Box (2)	0,3...20 or 8 m with PDM Box (2)		
Detection capacity		14 mm "finger"	30 mm "hand"	14 mm "finger"	30 mm "hand"		
Number of circuits	Safety	2 solid-state PNP		2 solid-state PNP			
	Auxiliary (alarm)	1 solid-state PNP		1 solid-state PNP or NPN			
Response time (depending on model)		23...41 ms	23...32 ms	23...41 ms	23...32 ms		
Connection		M12 connector					
Functions accessible via programming and diagnostic module		<ul style="list-style-type: none"> ■ Auto/Manual ■ Monitoring of external switching devices (EDM: External Device Monitoring) ■ Test (MTS : Monitoring Test Signal), ■ Light beam coding (A or B) ■ Sensing distance (short, long) ■ Programming and downloading of configuration settings, via programming and diagnostic module (PDM) ■ Display of operating modes and faults by LED and/or PDM (2) 		<ul style="list-style-type: none"> ■ Auto/Manual, manual 1st cycle ■ Monitoring of external switching devices (EDM: External Device Monitoring) ■ Test (MTS : Monitoring Test Signal), ■ Blanking (ECS/B), Monitored Blanking, Floating Blanking (FB) ■ Reduction of resolution ■ Response time (normal, slow) ■ Light beam coding (A or B) ■ Sensing distance (short, long) ■ Auxiliary output (alarm or status signalling, PNP or NPN) ■ Start button (N/O or N/C, 0 V or 24 V) ■ Muting ■ Display of operating modes and faults by LED and/or PDM (2) 			
Transmitter + receiver	(1) Height protected (mm)	280	XUSLBQ6A0280	–	XUSLDMQ6A0280	–	
		320	–	–	XUSLDMQ6A0320	–	
		360	XUSLBQ6A0360	XUSLBR5A0360	–	XUSLDMY5A0360	–
		440	XUSLBQ6A0440	–	XUSLDMQ6A0440	–	–
		520	XUSLBQ6A0520	XUSLBR5A0520	XUSLDMQ6A0520	XUSLDMY5A0520	–
		600	XUSLBQ6A0600	–	XUSLDMQ6A0600	–	–
		680	–	XUSLBR5A0680	–	XUSLDMY5A0680	–
		720	XUSLBQ6A0720	–	XUSLDMQ6A0720	–	–
		880	XUSLBQ6A0880	XUSLBR5A0880	XUSLDMQ6A0880	XUSLDMY5A0880	–
		1040	–	XUSLBR5A1040	–	XUSLDMY5A1040	–
		1200	–	XUSLBR5A1200	–	–	–
		1400	–	XUSLBR5A1400	–	XUSLDMY5A1400	–
		1560	–	XUSLBR5A1560	–	XUSLDMY5A1560	–

(1) Other height protected, see catalog:

"Preventa safety Solutions"

(2) PDM module : Programming and Diagnostic Module, see following page.

Type		Segments for cascadable light curtains	
Detection capacity		14 mm "finger"	30 mm "hand"
Transmitter + receiver	Height protected (mm)	280	XUSLDSQ6A0280
		320	XUSLDSQ6A0320
		360	–
		440	XUSLDSY5A0360
		520	XUSLDSQ6A0440
		520	XUSLDSY5A0520
		600	XUSLDSQ6A0520
		600	–
		680	XUSLDSY5A0680
		720	XUSLDSQ6A0720
		720	–
		880	XUSLDSY5A0880
		1040	XUSLDSY5A1040
1400	XUSLDSY5A1400		
1560	XUSLDSY5A1560		

Type 4 conforming to IEC 61496-2



Light curtain functions

- Auto/Manual/Manual 1st cycle
- Monitoring of external switching devices (EDM: External Devices Monitoring),
- Test input (MTS: Monitoring Test Signal),
- Alignment aid by LED display of each light beam broken,
- LED display of operating modes and alarms,
- Coding of the beams

Maximum safety level achieved by the solution (EN ISO 13849-1, EN/IEC 62061)			PLe/cat4, SILCL3			
Type			Single-beam and multi-beam, infrared transmission			
Compact range			Transmitter/receiver	Transmitter/passive receiver		
Nominal sensing distance (Sn)			0.8...20 ou 70 m (according to config)	0.8...8 m		
Detection capacity			Body			
Number of circuits	Safety		2 solid-state PNP			
	Auxiliary (alarm or following)		1 solid-state PNP			
Response time (depending on model)			16...24 ms			
Connection			M12 Connector (1)	M12 Connector		
Beam	Interval	Number				
			–	1	XUSLPZ1AM	–
	300 mm			4	XUSLPZ4A300M	–
				5	XUSLPZ5A300M	–
				6	XUSLPZ6A300M	–
					XUSLPZ3A400M	–
	400 mm			3	XUSLPZ3A400M	–
					XUSLPZ2A500M	XUSLPB2A500M
	500 mm			2	XUSLPZ2A500M	XUSLPB2A500M
				3	XUSLPZ3A500M	–
600 mm			2	XUSLPZ2A600M	XUSLPB2A600M	

(1) Light curtain with M12 connector output, for terminal block output, replace **M** from the end of the reference by **B**. Example : XUSLPZ1AM becomes XUSLPZ1AB

Cabling accessories

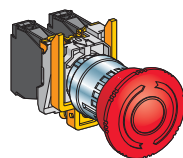
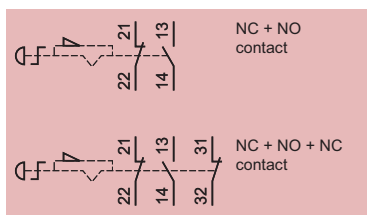
Type			Prolongateurs			
Longueur			5 m	10 m	15 m	30 m
Pre-wired connector for (screened cable)	XUSLB/XUSLDM	For receiver	XSZBCR05	XSZBCR10	XSZBCR15	XSZBCR30
		For transmitter	XSZBCT05	XSZBCT10	XSZBCT15	XSZBCT30
	XUSLP	For receiver	XSZPCR05	XSZPCR10	XSZPCR15	XSZPCR30
		For transmitter	XSZPCT05	XSZPCT10	XSZPCT15	XSZPCT30

Type			Jumper cables for segments XUS LDS						
Cable length			0,3 m	0,5 m	1 m	2 m	2 m	5 m	10 m
Reference	For receiver		XSZDCR003	XSZDCR005	XSZDCR010	XSZDCR020	XSZDCR030	XSZDCR050	XSZDCR100
	For transmitter		XSZDCT003	XSZDCT005	XSZDCT010	XSZDCT020	XSZDCT030	XSZDCT050	XSZDCT100

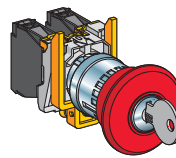
Setting-up accessories



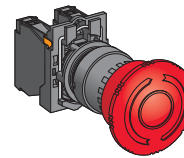
Type			Programming and Diagnostic Module	Laser alignment tool
For light curtains			XUSLB / XUSLDM	All type XUSL
Reference			XUSLPDM	XUSLAT1



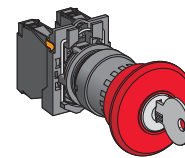
Turn to release



Key release
(key n° 455)



Turn to release

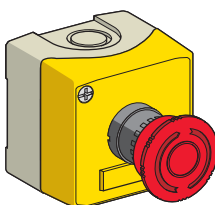
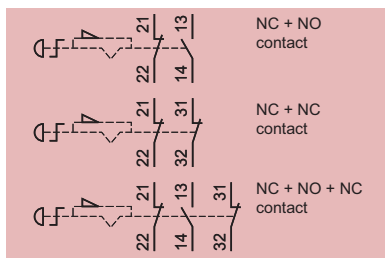


Key release
(key n° 455)

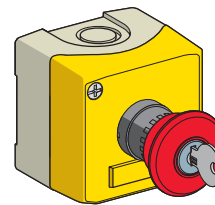
Pushbuttons	Metal		Plastic	
Mechanical life (millions of operating cycles)	0.3		0.3	
Shock / vibration resistance	10 gn / 5 gn		10 gn / 5 gn	
Degree of protection	IP 65		IP 65	
Rated operational characteristics	AC 15, A 600 / DC 13, Q 600 (conforming to EN IEC 60947-5-1)			
Dimensions Ø x Depth	Ø 40 x 82 mm	Ø 40 x 104 mm	Ø 40 x 81.5 mm	Ø 40 x 103 mm
Contact	NC + NO	XB4BS8445	XB5AS8445	XB5AS9445
	2 NC + 1 NO	XB4BS8441	ZB4BS9444+ZB4BZ141	ZB5AS844 + ZB5AZ141 / ZB5AS944+ZB5AZ141



Ø 22 trigger action latching pushbutton stations



Turn to release



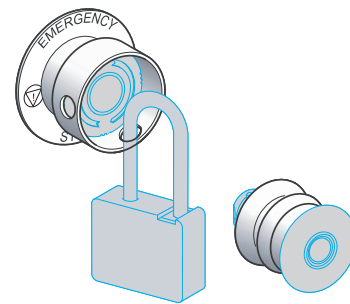
Key release (key n° 455)

Enclosure	Plastic	
	2 x ISO M20 cable entries or n° 13 (Pg 13.5) cable gland	
Mechanical life (millions of operating cycles)	0.1	0.1
Shock / vibration resistance	10 gn / 5 gn	10 gn / 5 gn
Degree of protection	IP 65	IP 65
Rated operational characteristics	AC 15, A 600 / DC 13, Q 600 (conforming to EN IEC 60947-5-1)	
Dimensions W x D x H	68 x 91 x 68 mm	68 x 113 x 68 mm
Contact	NC + NO	XALK178E
	NC + NC	XALK178F
	2 NC + 1 NO	–
		XALK188E
		XALK188F
		XALK188G

Accessories



With legend holder



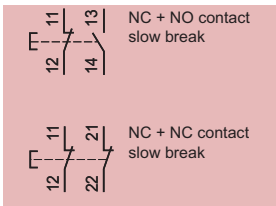
Type	Étiquettes		Padlocking kit	Bellows seals	
Colour	Red with white lettering	Yellow with black lettering	Yellow	Red Silicone	Black EPDM
Dimensions	30 x 40 mm (1)	Ø 60 mm			
Références	Marking: "Emergency stop"	ZBY2130	ZBY9130	–	–
	"Arrêt d'urgence"	ZBY2330	ZBY9330	–	–
	"Not Halt"	ZBY2230	ZBY9230	–	–
		–	ZBZ3605	ZBZ48	ZBZ28

(1) circular appearance

Emergency stops

Cable (tripwire) operated

ISO entry
(to EN 50262)

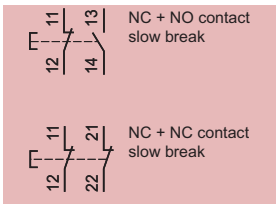


Booted pushbutton reset

Key release pushbutton reset (key n° 421)

For operating cable length ≤ 15 m	Latching, without indicator light		with indicator light
	1 x ISO M20 cable entry (1)		
Mechanical life (millions of operating cycles)	0.01		
Shock / vibration resistance	50 gn / 10 gn		
Degree of protection	IP 65		
Rated operational characteristics	AC-15, A300 / DC-13, Q300 (conforming to EN IEC 60947-5-1)		
Dimensions W x D x H	201 x 71 x 68 mm		
Operating cable length	≤ 15 m		
Operating cable anchoring point	To right or to left		
Contact	1 NC + NO slow break	XY2CH13250H29	XY2CH13450H29
	1 NC + NC slow break	XY2CH13270H29	XY2CH13470H29
			XY2CH13253
			XY2CH13273

(1) With entry for n° 13 (Pg 13.5) cable gland, delete H29 from the end of the reference (example: XY2-CH13250H29 becomes XY2-CH13250).



Booted pusbutton reset

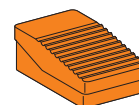
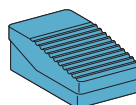
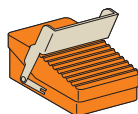


Key release pushbutton reset (key n° 421)

For operating cable length ≤ 50 m	Latching, without indicator light			
	3 x ISO M20 cable entries or n° 13 (Pg 13.5) cable gland			
Mechanical life (millions of operating cycles)	0.01		0.01	
Shock / vibration resistance	50 gn / 10 gn		50 gn / 10 gn	
Degree of protection	IP 65		IP 65	
Rated operational characteristics	AC-15, A300 / DC-13, Q300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H	229 x 82 x 142 mm		229 x 82 x 142 mm	
Operating cable length	≤ 50 m		≤ 50 m	
Operating cable anchoring point	To left	To right	To left	To right
Contact	1 NC + NO slow break	XY2CE2A250	XY2CE1A250	XY2CE2A450
	1 NC + NC slow break	XY2CE2A270	XY2CE1A270	XY2CE2A470
	2 NC + NO slow break	XY2CE2A290 (2)	XY2CE1A290 (2)	XY2CE2A490 (2)
				XY2CE1A290 (2)

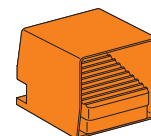
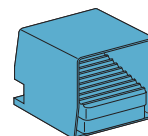
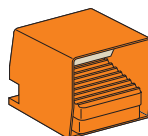
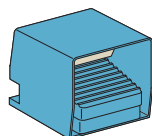
(2) With 24V, 48 V, 130 V pilot lights, BA9S bulb not included, add 6 at the end of the reference. (example : XY2CE1A290 becomes XY2CE1A296).

With 230 V pilot lights, BA9S bulb included, add 7 at the end of the reference. (example : XY2CE1A290 becomes XY2CE1A297).



Type		Foot switches without protective cover			
		2 cable entries for n° 16 (Pg 16) cable gland (1)			
Trigger mechanism		With (positive operating action reqd.)		Without	
Colour		Orange		Blue Orange	
Mechanical life (millions of operating cycles)		15			
Degree of protection		IP 66			
Shock resistance		100 joules			
Rated operational characteristics		AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H		104 x 172 x 59 mm			
Contact operation	1 step	1 NC + NO	XPER810	XPEM110	XPER110
		2 NC + NO	XPER811	XPEM111	XPER111
	2 step	2 NC + NO	XPER911	XPEM211	XPER211
	Analogue output	2 NC + NO	XPER929	–	XPER229

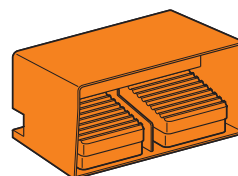
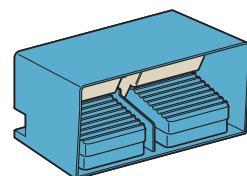
(1) For entry for ISO M20 cable gland, also order adaptor DE9RA1620 (sold in lots of 5).



Type		Foot switches without protective cover			
		2 cable entries for n° 16 (Pg 16) cable gland (1)			
Trigger mechanism		With (positive operating action reqd.)		Without	
Colour		Blue Orange		Blue Orange	
Mechanical life (millions of operating cycles)		15			
Degree of protection		IP 66			
Shock resistance		100 joules			
Rated operational characteristics		AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H		160 x 186 x 152 mm			
Contact operation	1 step	1 NC + NO	XPEM510	XPER510	XPEM310 XPER310
		2 NC + NO	XPEM511	XPER511	XPEM311 XPER311
	1 step latching	1 NC + NO	–	–	XPEM410 XPER410
	2 step	2 NC + NO	XPEM711	XPER711	XPEM611 XPER611
	Analogue output	2 NC + NO	XPEM529	XPER529	XPEM329 –

(1) For entry for ISO M20 cable gland, also order adaptor DE9RA1620 (sold in lots of 5).

Double pedal switches



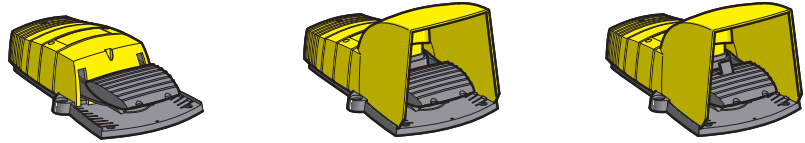
Type		Foot switches without protective cover			
		2 cable entries for n° 16 (Pg 16) cable gland (1)			
Trigger mechanism		With (positive operating action reqd.)		Without	
Colour		Blue Orange		Blue Orange	
Mechanical life (millions of operating cycles)		15			
Degree of protection		IP 66			
Shock resistance		100 joules			
Rated operational characteristics		AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H		295 x 190 x 155 mm			
Contact operation	1 step	2 x 1 NC + NO	XPEM5100D	XPER510D	XPEM3100D XPER3100D
		2 x 2 NC + NO	XPEM5110D	XPER5110D	XPEM3110D XPER3110D

(1) For entry for ISO M20 cable gland, also order adaptor DE9RA1620 (sold in lots of 5).

Foot switches - plastic

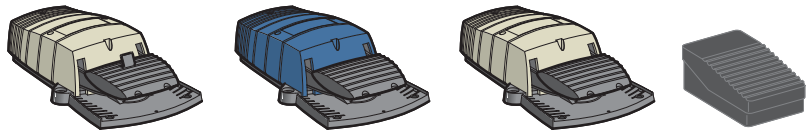
Single pedal switches

ISO entry
(to EN 50262)



Type			Without protective cover		With protective cover	
			2 cable entries for ISO M20 cable gland			
Trigger mechanism			Without		With (positive operating action reqd.)	
Colour			Yellow		Yellow	
Mechanical life (millions of operating cycles)			5			
Degree of protection			IP 55			
Shock resistance			30 joules			
Rated operational characteristics			AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H			160 x 280 x 70 mm		160 x 280 x 162 mm	
Contact operation	1 step	1 NC + NO	XPEY110	XPEY310	XPEY510	
		2 NC + NO	–	XPEY311	XPEY511	
	2 step	2 NC + NO	XPEY211	XPEY611	XPEY711	

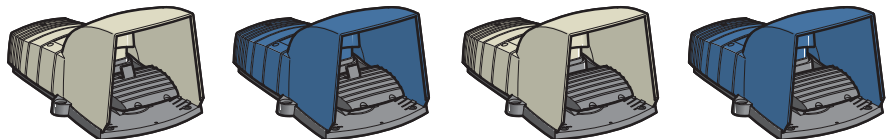
ISO entry
(to EN 50262)



Type			Foot switches without protective cover			1 entry (1)
			2 cable entries for ISO M20 cable gland			
Trigger mechanism			With (positive operating action reqd.)		Without	
Colour			Grey+		Blue Grey	
Mechanical life (millions of operating cycles)			10			2
Degree of protection			IP 66			IP 43
Shock resistance			100 joules			
Rated operational characteristics			AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H			160 x 280 x 70 mm			94 x 161 x 54 mm
Contact operation	1 step	1 NC + NO	XPEG810	XPEB110	XPEG110	XPEA110
		2 NC + NO	–	XPEB111	XPEG111	XPEA111
	2 step	2 NC + NO	XPEG911	XPEB211	XPEG211	–

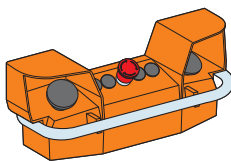
(1) Cable entry for ISO M16 or n° 9 (Pg 9) cable gland and for ISO M20 or n° 13 (Pg 13.5) cable gland.

ISO entry
(to EN 50262)

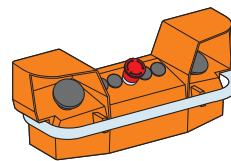


Type			Foot switches with protective cover			
			2 cable entries for ISO M20 cable gland			
Trigger mechanism			With (positive operating action reqd.)		Without	
Colour			Grey		Blue Grey Blue	
Mechanical life (millions of operating cycles)			10			
Degree of protection			IP 66			
Shock resistance			100 joules			
Rated operational characteristics			AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H			180 x 280 x 162 mm			
Contact operation	1 step	1 NC + NO	XPEG510	XPEB510	XPEG310	XPEB310
		2 NC + NO	XPEG511	XPEB511	XPEG311	XPEB311
	2 step	2 NC + NO	XPEG711	XPEB711	XPEG611	XPEB611

ISO entry
(to EN 50262)



2 control pushbuttons and 1 mushroom head Emergency stop or Lock out pushbutton



2 control pushbuttons and 1 mushroom head Emergency stop or Lock out pushbutton, with pre-wired terminal block

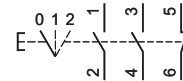
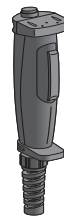
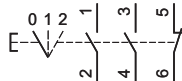
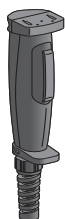
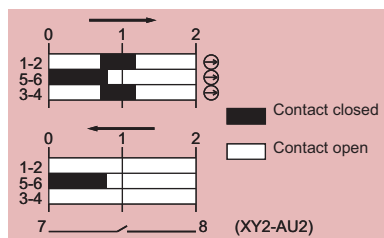
Type	Two-hand control stations	
	2 cable entries for ISO M20 or n° 13 (Pg 13.5) cable gland, 1 cable entry for n° 21 (Pg 21) cable gland (2)	
Mechanical life (millions of operating cycles)	1	1
Degree of protection	IP 65	IP 65
Rated operational characteristics	AC 15, A 600 / DC 13, Q 600 (conforming to EN IEC 60947-5-1)	
Dimensions W x D x H	455 x 170 x 188.5 mm	
Red emergency stop (NC + NC slow break)	XY2SB71 (1)	XY2SB72 (1)
Yellow lock out (NC + NO break before make)	XY2SB75	XY2SB76

(1) To order a two-hand control station with pedestal XY2SB90, add 4 to the end of the reference (example: XY2SB71 becomes XY2SB714).

(2) For entry for ISO M25 cable gland, also order adaptor DE9RA2125 + fixing nut DE9EC21 (sold in lots of 5).

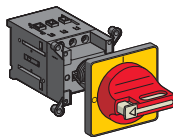
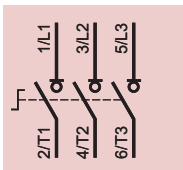
Enabling switch

Contact states

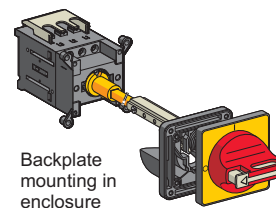


Type	Plastic grip	
	Entry for Ø 7 to 13 mm cable	
Number of contacts	3	3
Type of contacts	2 NO + 1 NC	2 NO + 1 NC 1 NO auxiliary
Description	3 positions	3 positions with button for NO contact (auxiliary)
Shock / vibration resistance	10 gn / 6 gn	
Degree of protection	IP 66	IP 65
Rated operational characteristics	AC 15, C300 / DC 13, R300 (conforming to EN IEC 60947-5-1)	
Dimensions W x D x H	46 x 58 x 261 mm	46 x 58 x 269 mm
References	XY2AU1	XY2AU2

For fixing accessories, please refer to www.schneider-electric.com.

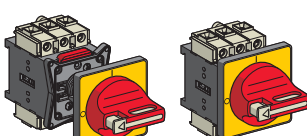
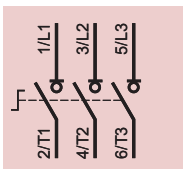


Door mounting

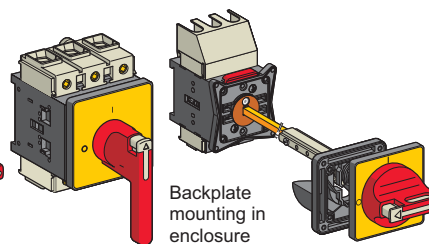


Backplate mounting in enclosure

Type	Mini-Vario for standard applications	
Front plate dimensions (mm)	60 x 60	60 x 60
Fixing	Ø 22.5 mm	Ø 22.5 mm
Degree of protection	IP 20	IP 20
Rated operational voltage (Ue)	690 V	690 V
Thermal current in open air (Ith)	12 A	VCDN12
	20 A	VCDN20



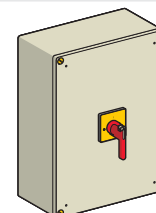
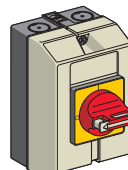
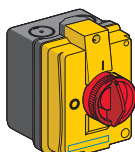
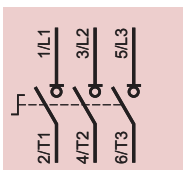
Door mounting



Backplate mounting in enclosure

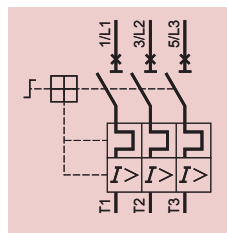
Type	Vario for high performance applications					
Front plate dimensions (mm)	60 x 60	60 x 60	90 x 90	60 x 60	60 x 60	90 x 90
Fixing	Ø 22.5 mm	4 screws	4 screws	Ø 22.5 mm	4 screws	4 screws
Degree of protection	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Rated operational voltage (Ue)	690 V	690 V	690 V	690 V	690 V	690 V
Thermal current in open air (Ith)	12 A	VCD02	VCF02	–	VCCD02	VCCF02
	20 A	VCD01	VCF01	–	VCCD01	VCCF01
	25 A	VCD0	VCF0	–	VCCD0	VCCF0
	32 A	VCD1	VCF1	–	VCCD1	VCCF1
	40 A	VCD2	VCF2	–	VCCD2	VCCF2
	63 A	–	VCF3	–	–	VCCF3
	80 A	–	VCF4	–	–	VCCF4
	125 A	–	–	VCF5	–	–
	175 A	–	–	VCF6	–	–

Enclosed



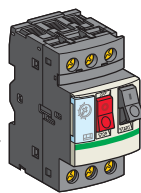
Type	Mini-Vario	Vario	
Front plate dimensions (mm)	60 x 60	60 x 60	90 x 90
Dimensions W x D x H	82.5 x 106 x 131 mm	90 x 131 x 146 mm	241 x 191 x 291 mm
Degree of protection	IP 55	IP 65	IP 65
Rated operational voltage (Ue)	690 V	690 V	690 V
Thermal current in enclosure (Ithe)	10 A	VCFN12GE	VCF02GE
	16 A	VCFN20GE	VCF01GE
	20 A	VCFN25GE	VCF0GE
	25 A	VCFN32GE	VCF1GE
	32 A	VCFN40GE	VCF2GE
	50 A	–	VCF3GE (1)
	63 A	–	VCF4GE (1)
	100 A	–	VCF5GEN
	140 A	–	VCF6GEN

(1) Dimensions W x D x H: 150 x 152 x 170 mm.



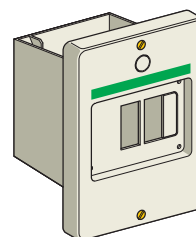
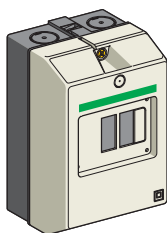
Complete circuit-breaker: circuit-breaker + enclosure + safety device.

Ex.: GV2ME01 + GV2MC02 + GV2K04.



Type	Thermal-magnetic motor circuit-breakers					
Motor power	kW (on 400 V)	–	0.06	0.09	0.12...0.18	0.25...0.37
Setting range	A	0.1...0.16	0.16...0.25	0.25...0.40	0.40...0.63	0.63...1
Current I _d ± 20%	A	1.5	2.4	5	8	13
Current I _{the} (in enclosure)	A	0.16	0.25	0.40	0.63	1
Reference		GV2ME01	GV2ME02	GV2ME03	GV2ME04	GV2ME05
Motor power	kW (on 400 V)	0.37...0.55	0.75	1.1...1.5	2.2	3...4
Setting range	A	1...1.6	1.6...2.5	2.5...4	4...6.3	6...10
Current I _d ± 20%	A	22.5	33.5	51	78	138
Current I _{the} (in enclosure)	A	1.6	2.5	4	6.3	9
Reference		GV2ME06	GV2ME07	GV2ME08	GV2ME10	GV2ME14
Motor power	kW (on 400 V)	5.5	7.5	9...11	11	15
Setting range	A	9...14	13...18	17...23	20...25	24...32
Current I _d ± 20%	A	170	223	327	327	416
Current I _{the} (in enclosure)	A	13	17	21	23	24
Reference		GV2ME16	GV2ME20	GV2ME21	GV2ME22	GV2ME32

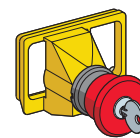
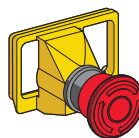
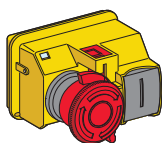
Enclosure



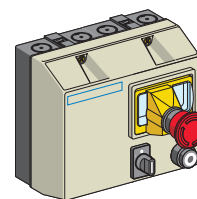
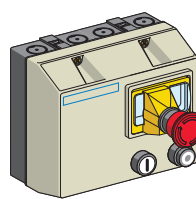
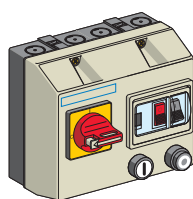
Type	Empty enclosure	
Mounting	Surface mounting	Flush mounting
Degree of protection	IP 55	IP 55 (front face)
Dimensions W x D x H (1)	93 x 145.5 x 147 mm	93 x 55 x 126 mm
References	GV2MC02	GV2MP02

(1) Dimensions with safety device GV2K04 fitted.

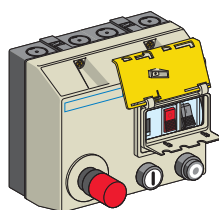
Safety device



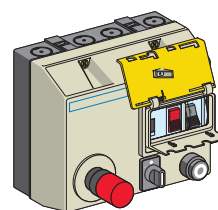
Type	Safety devices		
With red mushroom head	Turn to release Padlockable in "Off" position	Turn to release	Key release (key n° 455)
References	GV2K04	GV2K031	GV2K021



Type				Non reversing		Reversing
Degree of protection				IP 657		IP 657
Standard motor power ratings (kW), category AC3				Basic reference, to be completed by code indicating voltage (1)		
220/230 V	400/415 V	440 V	lth setting range (A)			
–	0.06	0.06	0.16...0.25	LG1K065●●02	LG7K06●●02	LG8K06●●02
0.06	0.09	0.12	0.25...0.40	LG1K065●●03	LG7K06●●03	LG8K06●●03
–	0.18	0.18	0.40...0.63	LG1K065●●04	LG7K06●●04	LG8K06●●04
0.12	0.25	0.25	0.63...1	LG1K065●●05	LG7K06●●05	LG8K06●●05
0.25	0.55	0.55	1...1.6	LG1K065●●06	LG7K06●●06	LG8K06●●06
0.37	0.75	1.1	1.6...2.5	LG1K065●●07	LG7K06●●07	LG8K06●●07
0.75	1.5	1.5	2.5...4	LG1K065●●08	LG7K06●●08	LG8K06●●08
1.1	2.2	3	4...6.3	LG1K065●●10	LG7K06●●10	LG8K06●●10
1.5	4	4	6...10	LG1K095●●14	LG7K09●●14	LG8K09●●14
3	5.5	5.5	9...14	LG1D122●●16	LG7D12●●16	LG8K12●●16
4	7.5	9	13...18	LG1D182●●20	LG7D18●●20	–
4	9	9	17...23	LG1D182●●21	LG7D18●●21	–



With integral control transformer, 400/24 V



With integral control transformer, 400/24 V

Type		Non reversing	Reversing
Degree of protection		IP 657	
Standard motor power ratings (kW), category AC3		Basic references	
380/400 V	lth setting range (A)	(The code Q7 (380/400 V) designates the power supply voltage to which the starter will be connected)	
0.06	0.16...0.25	LJ7K06Q702	LJ8K06Q702
0.09	0.25...0.40	LJ7K06Q703	LJ8K06Q703
0.18	0.40...0.63	LJ7K06Q704	LJ8K06Q704
0.25	0.63...1	LJ7K06Q705	LJ8K06Q705
0.55	1...1.6	LJ7K06Q706	LJ8K06Q706
0.75	1.6...2.5	LJ7K06Q707	LJ8K06Q707
1.5	2.5...4	LJ7K06Q708	LJ8K06Q708
2.2	4...6.3	LJ7K06Q710	LJ8K06Q710
4	6...10	LJ7K09Q714	LJ8K09Q714

Control circuit voltages available

Volts 50/60 Hz	24 V	230 V	400 V	415 V
(1) Voltage code	B7	P7	V7	N7

The control circuit must be cabled by the user.



A reference for installations in ATEX Dust explosive atmospheres.

What is an explosive atmosphere according to the Directive?

It is the mixing with air, in atmospheric conditions, of flammable substances in the form of gas, vapour, mist or dust which, in the event of combustion, spreads throughout the non burning mix.

10

A selection of certified products, conforming to the European Directive ATEX94/9/EC, to ensure maximum safety for your installations in a zone where the risk of explosion or fire is high.

The products in this catalog are certified by a European Union Commission notified body.

Implementation of European Directives

> Directive 99/92/EC

This requires that a risk analysis be performed for all industrial processes. If there is any risk of an explosion:

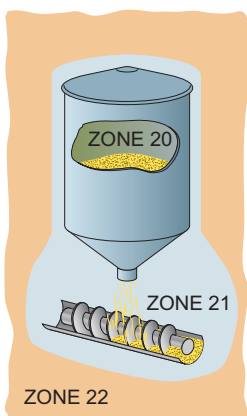
- the zones are defined and physically identified,
- the installation is classified by governing bodies.

> Directive 94/9/EC

This requires certification of the products in accordance with the classification of the zones of use

> Dust zones

- Zone 20: area where an explosive atmosphere exists in the form of combustible clouds of dust in the air, either permanently, for long periods or frequently.
- Zone 21: area where an explosive atmosphere exists in the form of combustible clouds of dust in the air during normal operation occasionally.
- Zone 22: area where an explosive atmosphere in the form of combustible clouds of dust in the air is unlikely to occur during normal operation but, if it does occur, it is only for a short period.



10 | Explosive atmospheres



Detection

Inductive proximity sensors OsiSense XS	10/2 to 10/4
Discrete	10/2
Rotation monitoring	10/3
Namur.....	10/4
Intrinsically safe enclosures	10/5
Processing module, NY3	
Limit switches OsiSense XC	10/6 to 10/9
Miniature, XCM	
Compact, XCKD	
Classic, XCKM	
Applications: Hoisting, Handling and Conveying	
Pressure and vacuum switches OsiSense XM	10/10 and 10/11
Adjustable differential, XMLB	

Operator dialog

Control and signalling units	
Pushbuttons and mushroom heads Ø 22, Harmony XB4	10/12
Selector switches and key switches Ø 22, Harmony XB4	10/13
Illuminated pushbuttons and pilot lights Ø 22, Harmony XB4	10/14
Control stations, Harmony XAW	10/15
Human/Machine Interface	
Small Panels and Advanced Panels, Magelis XBT N, R, RT, GT	10/16 to 10/19

Machine safety

Tripwire operated Emergency stops, Preventa XY2	10/20
Foot switches, Preventa XPE	10/20
Safety switches, Preventa XCS	10/21

Automation

Weighing system, Modicon Premium	10/22
I/O modules, Modicon Quantum	10/22



OsiSense XS

Inductive proximity sensors Discrete, metal case



Sensor type	3-wire DC PNP, flush mountable in metal		
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1		
Zone D (dust)	21 - 22		
EC type examination certificate number / marking	INERIS 04ATEX0022X / D-Ex tD A21 IP68 T90°C		
Nominal sensing distance Sn	4 mm	8 mm	15 mm
Operating zone	0...3.2 mm	0...6.4 mm	0...12 mm
Temperature range	- 20...+ 60°C		
Degree of protection (conforming to IEC 60529)	IP68		
Connection	Pre-cabled, PvR, L = 10 m		
Dimensions	M12 x 50 mm	M18 x 60 mm	M30 x 60 mm
Supply voltage (including ripple)	10...58 VDC		
Maximum switching capacity	200 mA		
Overload and short-circuit protection	Yes		
LED output state indicator	Yes		
Voltage drop, closed state, at I nominal	≤ 2 V		
Switching frequency	2500 Hz	1000 Hz	500 Hz
References	NO function XS612B1PAL10EX	XS618B1PAL10EX	XS630B1PAL10EX
	NC function XS612B1PBL10EX	XS618B1PBL10EX	XS630B1PBL10EX

Analog, metal case




Sensor type	Analogue, 2-wire AC/DC, flush mountable in metal		
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1		
Zone D (dust)	21 - 22		
EC type examination certificate number / marking	INERIS 04ATEX0022X / D-Ex tD A21 IP67 T90°C		
Nominal sensing distance Sn	2 mm	5 mm	10 mm
Operating zone	0.2...2 mm	0.5...5 mm	1...10 mm
Temperature range	- 20...+ 60°C		
Degree of protection (conforming to IEC 60529)	IP67		
Connection	Pre-cabled, PvR, L = 2 m		
Dimensions	M12 x 50 mm	M18 x 60 mm	M30 x 60 mm
Supply voltage (including ripple)	10...38 VAC/DC		
Linearity error	10%		
Operating frequency	1500 Hz	500 Hz	300 Hz
References	4...20 mA output XS1M12AB120EX	XS1M18AB120EX	XS1M30AB120EX

Inductive Proximity sensors

Rotation monitoring, metal case



M30

Sensor type	3-wire DC PNP, flush mountable in metal	
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1	
Zone D (dust)	21 - 22	
EC type examination certificate number / marking	INERIS 04ATEX0022X /  II2 D-Ex tD A21 IP67 T90°C	
Nominal sensing distance Sn	10 mm	
Operating zone	0...8 mm	
Temperature range	- 20...+ 60°C	
Degree of protection (conforming to IEC 60529)	IP67	
Connection	Pre-cabled, PvR, L = 2 m	
Dimensions	M30 x 81 mm	
Supply voltage (including ripple)	10...58 VDC	
Maximum switching capacity	200 mA	
Overload and short-circuit protection	Yes	
LED output state indicator	Yes	
Voltage drop, closed state, at I nominal	≤ 2 V	
Version	Slow	Fast
Maximum speed of passing object	6000 impulses/minute	48,000 impulses/minute
Adjustable frequency range	6...150 impulses/minute	120...3000 impulses/minute
References	NC function	
	XSAV11373EX	XSAV12373EX



OsiSense XS

Namur inductive sensors Metal or plastic case



Sensor type	2-wire DC, flush mountable in metal					
Case type	Metal			Plastic		
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, EN 50020, EN 50284, pr IEC 61241-0, pr IEC 61241-1					
Zone D (dust)	20 (to be used in conjunction with intrinsically safe enclosures, see page 5)					
EC type examination certificate number / marking	INERIS 04ATEX0016X / D-Ex iaD 20 IP66/67 T85°C					
Nominal sensing distance Sn	0.8 mm	1.5 mm	2 mm	5 mm	10 mm	
Operating zone	0...0.6 mm	0...0.8 mm	0...1.2 mm	0...1.6 mm	0...4 mm	0...8 mm
Temperature range	-20...+60°C					
Degree of protection (conforming to IEC 60529)	IP67					
Connection	Pre-cabled, PvR, L = 2 m					
Dimensions	M5 x 30 mm	M8 x 26.5 mm		M12 x 38.5 mm	M18 x 41 mm	M30 x 43.5 mm
Supply voltage (including ripple)	7...12 VDC					
Maximum switching capacity	≤ 1 mA					
Overload and short-circuit protection	Yes					
Residual current, open state	≥ 3 mA					
Switching frequency	1500 Hz		1000 Hz	800 Hz	500 Hz	300 Hz
References	NC function	XSMN08122EX	XSAN01122EX	XSPN01122EX	XSPN02122EX	XSPN05122EX
				XSPN10122EX		

Plastic case



Sensor type	2-wire DC, non flush mountable in metal			
Case type	Plastic			
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, EN 50020, EN 50284, pr IEC 61241-0, pr IEC 61241-1			
Zone D (dust)	20			
EC type examination certificate number / marking	INERIS 04ATEX0016X / D-Ex iaD 20 IP66/67 T85°C			
Nominal sensing distance Sn	4 mm	8 mm	15 mm	40 mm
Operating zone	0...3.2 mm	0...6.4 mm	0...12 mm	0...32 mm
Temperature range	-20...+60°C			
Degree of protection (conforming to IEC 60529)	IP67			
Connection	Pre-cabled, PvR, L = 2 m			
Dimensions	M12 x 38.5 mm	M18 x 41 mm	M30 x 43.5 mm	100 x 80 x 40 mm
Supply voltage (including ripple)	7...12 VDC			
Maximum switching capacity	≤ 1 mA			
Overload and short-circuit protection	Yes			
LED output state indicator	Yes			
Residual current, open state	≥ 3 mA			
Switching frequency	400 Hz	300 Hz	200 Hz	25 Hz
References	NC function	XSPN04122EX	XSPN08122EX	XSPN15122EX
				XSDN401229EX

(1) Flush mountable in metal

10

Other characteristics: please refer to the "Detection for OsiSense automation solutions" catalog



Other versions: please consult our Customer Care Centre.



Intrinsically safe module

Processing module



Module type		Discrete					
		Inputs		Relay inputs/outputs			
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50020, EN 50021-1&2, EN 50082-1&2					
Zone D (dust)		Mounted outside zone (to be used in conjunction with products for zone 20, 21 or 22)					
EC type examination certificate number / marking		LCIE 00ATEX6034X / II(1) G/D-[EEx ia] IIC					
Zone 20	Number of input channels	2	4	2	2		
	Number of output channels	–		1	1		
	Type of output channel, load excitation	–		Low consumption solenoid valve, < 7 mA	High consumption solenoid valve, < 40 mA		
Outside zone	Number of recopying channels	2	4	2	2		
	Switching voltage	5...230 VAC; 5...24 VDC					
	Switching current	10 mA...0.5 A (AC); 10 mA...0.5 A, L/R 48 ms (DC)					
Temperature range		– 20...+ 60°C					
Connection		Removable screw terminal blocks					
Mounting		On 35 mm DIN rail					
Dimensions, W x D x H		29.5 x 120 x 90 mm					
Supply voltage (including ripple)		24 VDC (0.95...1.1 Un)					
Consumption		5 W					
References		NY320N2RB1	NY340N4RB1	NY321L2RB1	NY321L1RB1	NY321H2RB1	NY321H1RB1



Module type		Discrete			
		Load excitation outputs			
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50020, EN 50021-1&2, EN 50082-1&2			
Zone D (dust)		Mounted outside zone (to be used in conjunction with products for zone 20, 21 or 22)			
EC type examination certificate number / marking		LCIE 00ATEX6034X / II(1) G/D-[EEx ia] IIC			
Zone 20	Number of load excitation channels	2		4	
	Maximum current	< 7 mA	< 40 mA	< 7 mA	< 40 mA
Outside zone	Control voltage	24 VDC ± 10%			
	Control current	State 1 = 6.5 < I < 9 mA and 21.6 < U < 26.4 V; State 0 = I ≤ 0.4 mA and U ≤ 1.2 V			
Temperature range		– 20...+ 60°C			
Connection		Removable screw terminal blocks			
Mounting		On 35 mm DIN rail			
Dimensions, W x D x H		29.5 x 120 x 90 mm			
Supply voltage (including ripple)		24 VDC (0.95...1.1 Un)			
Consumption		5 W			
References		NY302L0NB1	NY302H0NB1	NY304L0NB1	NY304H0NB1



OsiSense XC

Limit switches Miniature, fixing by the body



Limit switch type	XCMD metal, pre-cabled			
With head for movement	Linear (plunger)			
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1			
Zone D (dust)	21 - 22			
EC type examination certificate number / marking	INERIS 04ATEX0014X / II2 D-Ex tD A21 IP66/67 T85°C			
Type of operator	Metal end plunger	Metal end plunger with elastomer boot	Steel roller plunger	Retractable steel roller lever plunger
Mechanical durability (millions of operating cycles)	10			
Actuation speed	0.5 m/s			
Switches conforming to standard IEC 947-5-1 section 3	⊕			
Temperature range	- 20...+ 60°C			
Degree of protection (conforming to IEC 60529)	IP66 and IP67			
Rated operational characteristics	AC15; C300 (Ue = 240 V, Ie = 0.75 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)			
Short-circuit protection	By 6 A cartridge fuse type gG (gl)			
Cable entry	Pre-cabled, adjustable direction, length = 5 m			
Fixing centres	20 mm			
Body dimensions, W x D x H	30 x 16 x 50 mm			
References	2NC+2NO snap action	XCMD4110L5EX	XCMD4111L5EX	XCMD4102L5EX XCMD4124L5EX

Compact, fixing by the body



Limit switch type	XCKD metal conforming to standard EN 500047				
With head for movement	Linear (plunger)				
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1				
Zone D (dust)	21 - 22				
EC type examination certificate number / marking	INERIS 04ATEX0014X / II2/D-Ex tD A21 IP66/67 T85°C				
Type of operator	Metal end plunger	Metal end plunger with elastomer boot	Steel roller plunger	Thermoplastic roller lever plunger, horiz. actuation in 1 direct.	Thermoplastic roller lever plunger, vert. actuation in 1 direct.
Mechanical durability (millions of operating cycles)	15		10	15	
Actuation speed	0.5 m/s			1 m/s	
Switches conforming to standard IEC 947-5-1 section 3	⊕				
Temperature range	- 20...+ 60°C				
Degree of protection (conforming to IEC 60529)	IP66 and IP67				
Rated operational characteristics	AC15; B300 (Ue = 240 V, Ie = 1.5 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)				
Short-circuit protection	By 6 A cartridge fuse type gG (gl)				
Cable entry	1 entry fitted with ISO M16 cable gland				
Fixing centres	20 mm				
Body dimensions, W x D x H	31 x 30 x 65 mm				
References	2NC+1NO snap action	XCKD3910P16EX	XCKD3911P16EX	XCKD3902P16EX XCKD3921P16EX XCKD3927P16EX	

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Other characteristics: please refer to the "Detection for OsiSense automation solutions" catalog



Other versions: please consult our Customer Care Centre.

Miniature, fixing by the head



XCMD metal, pre-cabled				Linear (plunger)		
Rotary (lever)						
Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1						
21 - 22						
INERIS 04ATEX0014X / II2 D-Ex tD A21 IP66/67 T85°C						
Steel roller lever	Thermoplastic roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	M12 with metal end plunger	M16 with metal end plunger with elastomer boot	M12 with steel roller plunger
10						
1.5 m/s				0.5 m/s		0.1 m/s
- 20...+ 60°C						
IP66 and IP67						
AC15; C300 (Ue = 240 V, Ie = 0.75 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)						
By 6 A cartridge fuse type gG (gl)						
Pre-cabled, adjustable direction, length = 5 m						
20 mm				M12 x 1	M16 x 1	M12 x 1
30 x 16 x 50 mm						
XCMD4116L5EX	XCMD4115L5EX	XCMD4117L5EX	XCMD4145L5EX	XCMD41F0L5EX	XCMD41G1L5EX	XCMD41F2L5EX

Compact, fixing by the head



XCKD metal conforming to standard EN 500047				Multi-directional		Linear (plunger)	
Linear (plunger)		Rotary (lever)					
Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1							
21 - 22							
INERIS 04ATEX0014X / II2 D-Ex tD A21 IP66/67 T85°C							
Thermoplastic roller lever plunger, horiz. or vert. actuation in 1 dir.	Thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable length thermoplastic roller lever	Variable length thermoplastic roller lever, Ø 50 mm	"Cat's whisker"	M18 with metal end plunger	M18 with steel roller plunger
15	10				5	10	
1 m/s	1.5 m/s				1 m/s	0.5 m/s	
					-		
- 20...+ 60°C							
IP66 and IP67							
AC15; B300 (Ue = 240 V, Ie = 1.5 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)							
By 6 A cartridge fuse type gG (gl)							
1 entry fitted with ISO M16 cable gland							
20 mm						M18 x 1	
30 x 16 x 50 mm							
XCKD3928P16EX	XCKD3918P16EX	XCKD3939P16EX	XCKD3945P16EX	XCKD3949P16EX	XCKD3906P16EX	XCKD39H0P16EX	XCKD39H2P16EX



OsiSense XC

Limit switches

Classic, fixing by the body



Limit switch type	XCKM metal, 3 cable entries				
With head for movement	Linear (plunger)		Rotary (lever)	Multi-directional	
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1				
Zone D (dust)	21 - 22				
EC type examination certificate number / marking	INERIS 04ATEX0014X / D-Ex tD A21 IP66/67 T85°C				
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horiz. actuation in 1 direct.	Thermoplastic roller lever	"Cat's whisker"
Mechanical durability (millions of operating cycles)	20			10	
Actuation speed	0.5 m/s		1.5 m/s		0.5 m/s
Switches conforming to standard IEC 947-5-1 section 3	☉			-	
Temperature range	- 20...+ 60°C				
Degree of protection (conforming to IEC 60529)	IP66				
Rated operational characteristics	AC15; B300 (Ue = 240 V, Ie = 1.5 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)				
Short-circuit protection	By 6 A cartridge fuse type gG (gl)				
Cable entry	3 tapped entries for ISO M20 cable gland (1)				
Fixing centres	41 mm				
Body dimensions, W x D x H	63 x 30 x 64 mm				
References	2NC+1NO snap action	XCKM3910H29EX	XCKM3902H29EX	XCKM3921H29EX	XCKM3915H29EX XCKM3906H29EX

(1) 2 entries fitted with blanking plugs, 1 entry fitted with ISO M20 cable gland

Application - hoisting, handling, conveying



Limit switch type	XCKMR metal, 3 cable entries	
With head for movement	Rotary (lever)	
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1	
Zone D (dust)	21 - 22	
EC type examination certificate number / marking	INERIS 04ATEX0014X / D-Ex tD A21 IP66/67 T85°C	
Type of operator	Metal rod levers, "crossed"	Metal rod levers, "crossed" reversed head
Mechanical durability (millions of operating cycles)	2	
Actuation speed	1.5 m/s	
Switches conforming to standard IEC 947-5-1 section 3	☉	
Temperature range	- 20...+ 60°C	
Degree of protection (conforming to IEC 60529)	IP66	
Rated operational characteristics	AC15; A300 (Ue = 240 V, Ie = 3 A)/DC13; Q300 (Ue = 125 V, Ie = 0.55 A)	
Short-circuit protection	By 10 A cartridge fuse type gG (gl)	
Cable entry	3 tapped entries for ISO M20 cable gland (1)	
Fixing centres	61.5 mm	
Body dimensions, W x D x H	118 x 59 x 77 mm	
2 (NC+NC) staggered, slow break contacts	XCKMR54D1H29EX	XCKMR54D2H29EX
2 (NC+NO) snap action contacts, both actuated in each direction	-	
2 (NC+NO) snap action contacts, 1 actuated in each direction	-	
2 CO staggered snap action contacts	-	

(1) 2 entries fitted with blanking plugs, 1 entry fitted with ISO M20 cable gland

Other characteristics: please refer to the "Detection for OsiSense automation solutions" catalog.

Other versions: please consult our Customer Care Centre.



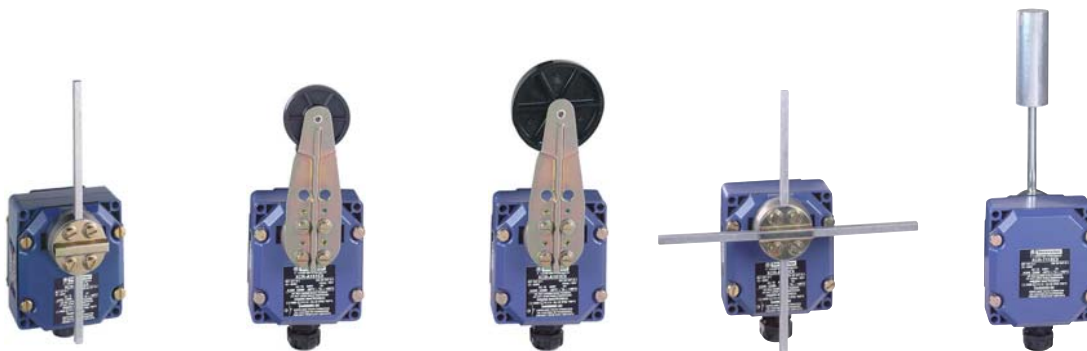
XCKJ metal, fixed body, conforming to standard EN 50041
 Linear (plunger) | Rotary (lever)

Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1

21 - 22

INERIS 04ATEX0014X / II2 D-Ex tD A21 IP66/67 T85°C

Metal end plunger	Steel roller plunger	Steel roller lever	Thermoplastic roller lever	Variable length thermoplastic roller lever	Polyamide rod lever, Ø 6 x 200 mm
30	25	30		20	
0.5 m/s	1 m/s	1.5 m/s			
⊖				-	
- 20...+ 60°C					
IP66					
AC15; B300 (Ue = 240 V, Ie = 1.5 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)					
By 6 A cartridge fuse type gG (gl)					
1 entry fitted with ISO M20 cable gland					
30 x 60 mm					
40 x 44 x 77 mm					
XCKJ3961H29EX	XCKJ3967H29EX	XCKJ390513H29EX	XCKJ390511H29EX	XCKJ390541H29EX	XCKJ390559H29EX



XCR metal
 Rotary (lever)

Conveyor belt shift monitoring switches

Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1

21 - 22

INERIS 04ATEX0024X / II2 D-Ex tD A21 IP65 T85°C

Square (6 mm) rod lever, spring return to off position	Thermoplastic roller (Ø 30 mm) lever, spring return to off position	Large thermoplastic roller (Ø 50 mm) lever, spring return to off position	Metal rod levers, "crossed", stay put	Galvanised steel operating lever	Stainless steel operating lever
10				0.3	
1.5 m/s					
⊖				-	
- 20...+ 60°C					
IP65					
AC15; A300 (Ue = 240 V, Ie = 3 A)/DC13; Q300 (Ue = 250 V, Ie = 0.27 A)					
By 10 A cartridge fuse type gG (gl)					
1 entry fitted with n° 13 cable gland					
85 x 75 mm					
85 x 75 x 95 mm					
-					
XCRA111EX	XCRA121EX	XCRA151EX	XCRA181EX (2)	-	
XCRB111EX	XCRB121EX	XCRB151EX	XCRF171EX (3)	-	
-				XCRT115EX	XCRT215EX

(2) "Crossed" rods (3) "T" rods



OsiSense XM

Electromechanical pressure & vacuum switches

Adjustable differential, regulation between 2 thresholds



Type		Vacuum switches and vacu-pressure switches with setting scale		
Size		- 1 bar	- 0.2 bar	5 bar
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1		
Zone D (dust)		21 - 22		
EC type examination certificate number / marking		INERIS 04ATEX0058 / II 2 D-Ex tD A21 IP66 T85°C		
Fluid connection		1/4" BSP female		
Electrical connection		Screw terminals, 1 entry fitted with ISO M20 cable gland		
Temperature range		- 20...+ 60°C		
Degree of protection		IP66		
Rated operational characteristics		AC15; B300 (Ue = 240 V, Ie = 1.5 A; Ue = 120 V, Ie = 3 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)		
Short-circuit protection		By 10 A cartridge fuse type gG (gl)		
Setting range of upper limit (PH)		-0.14...-1 bar	-0.02...-0.2 bar	-0.5...5 bar
Body dimensions, W x D x H		55 x 77.5 x 158 mm	150 x 155.5 x 145 mm	113 x 35 x 75 mm
Fluids controlled		Oil, water, air, up to +70°C	Oil, air, up to +160°C	Oil, water, air, up to +70°C
Possible differential (subtract from PH to give PB) (1)	Min. at low setting	0.13 bar	0.018 bar	0.5 bar
	Min. at high setting	0.13 bar	0.018 bar	0.5 bar
	Max. at high setting	0.8 bar	0.18 bar	6 bar
1 CO single pole, snap action contact		XMLBM02V2S12EX	XMLBM03R2S12EX	XMLBM05A2S12EX

(1) For XMLBM02V2S12EX and XMLBM03R2S12EX vacuum switches add to PB to give PH



Type		Pressure switches with setting scale		
Size		10 bar	20 bar	35 bar
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1		
Zone D (dust)		21 - 22		
EC type examination certificate number / marking		INERIS 04ATEX0058 / II 2 D-Ex tD A21 IP66 T85°C		
Fluid connection		1/4" BSP female		
Electrical connection		Screw terminals, 1 entry fitted with ISO M20 cable gland		
Temperature range		- 20...+ 60°C		
Degree of protection		IP66		
Rated operational characteristics		AC15; B300 (Ue = 240 V, Ie = 1.5 A; Ue = 120 V, Ie = 3 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)		
Short-circuit protection		By 10 A cartridge fuse type gG (gl)		
Setting range of upper limit (PH)		0.7...10 bar	1.3...20 bar	3.5...35 bar
Body dimensions, W x D x H		35 x 75 x 113 mm		
Fluids controlled		Oil, water, air, up to +70°C		
Possible differential (subtract from PH to give PB)	Min. at low setting	0.57 bar	1 bar	1.7 bar
	Min. at high setting	0.85 bar	1.6 bar	2.55 bar
	Max. at high setting	7.5 bar	11 bar	20 bar
1 CO single pole, snap action contact		XMLB010A2S12EX	XMLB020A2S12EX	XMLB035A2S12EX

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Other characteristics: please refer to the "Detection for OsiSense automation solutions" catalog.

Other versions: please consult our Customer Care Centre.




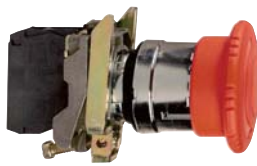
Pressure switches with setting scale				
0.05 bar	0.35 bar	1 bar	2.5 bar	4 bar
Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1				
21 - 22				
INERIS 04ATEX0058 / II2 D-Ex tD A21 IP66 T85°C				
1/4" BSP female				
Screw terminals, 1 entry fitted with ISO M20 cable gland				
- 20...+ 60°C				
IP66				
AC15; B300 (Ue = 240 V, Ie = 1.5 A; Ue = 120 V, Ie = 3 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)				
By 10 A cartridge fuse type gG (gl)				
0.026...0.05 bar	0.045...0.35 bar	0.05...1 bar	0.3...2.5 bar	0.25...4 bar
200 x 204 x 145 mm	110 x 110 x 162 mm		55 x 77.5 x 158 mm	55 x 77.5 x 158 mm
Oil, air, up to +160°C			Oil, water, air, up to +70°C	
0.0014 bar	0.042 bar	0.04 bar	0.16 bar	0.2 bar
0.004 bar	0.05 bar	0.06 bar	0.21 bar	0.25 bar
0.04 bar	0.3 bar	0.75 bar	1.75 bar	2.4 bar
XMLBL05R2S12EX	XMLBL35R2S12EX	XMLB001R2S12EX	XMLB002A2S12EX	XMLB004A2S12EX




Pressure switches with setting scale			
70 bar	160 bar	300 bar	500 bar
Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1			
21 - 22			
INERIS 04ATEX0058 / II2 D-Ex tD A21 IP66 T85°C			
1/4" BSP female			
Screw terminals, 1 entry fitted with ISO M20 cable gland			
- 20...+ 60°C			
IP66			
AC15; B300 (Ue = 240 V, Ie = 1.5 A; Ue = 120 V, Ie = 3 A)/DC13; R300 (Ue = 250 V, Ie = 0.1 A)			
By 10 A cartridge fuse type gG (gl)			
7...70 bar	10...160 bar	22...300 bar	30...500 bar
35 x 75 x 113 mm			
Oil, up to +160°C			
4.7 bar	9.3 bar	19.4 bar	23 bar
8.8 bar	20.8 bar	37 bar	52.6 bar
50 bar	100 bar	200 bar	300 bar
XMLB070D2S12EX	XMLB160D2S12EX	XMLB300D2S12EX	XMLB500D2S12EX



Type		Ø 22 pushbuttons with metal bezel					
Conformity		Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1					
Zone D (dust)		21 - 22					
EC type examination certificate number / marking		INERIS 04ATEX9004U /  II 2 D-Ex tD A21 IP65/66					
Mechanical durability (millions of operating cycles)		5					
Temperature range		- 20...+ 60°C					
Degree of protection		IP65 and IP66					
Mounting	Panel cut-out	Ø 22.5 mm (22.4 ^{+0.4} recommended)					
	Mounting centres	30 x 40 mm					
Depth below head		43 mm					
Connection		Screw clamp terminals					
Rated operational characteristics		AC15; A600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)					
Short-circuit protection		By 10 A cartridge fuse type gG (gl)					
Pushbutton type		Flush with transparent silicone boot					
Contact		NO		NC		NO	
Colour of push		● white	● black	● green	● red	● yellow	● blue
References	Insertion of legend not possible	–	XB4BP21EX	XB4BP31EX	XB4BP42EX	XB4BP51EX	XB4BP61EX
	Insertion of legend possible	XB4BP181EX	–	XB4BP381EX	XB4BP482EX	XB4BP581EX	XB4BP681EX
Pushbutton type		Flush with coloured silicone boot					
Contact		NO		NC		NO	
Colour of silicone boot		● white	● black	● green	● red	● yellow	● blue
References		XB4BPS11EX	XB4BPS21EX	XB4BPS31EX	XB4BPS42EX	XB4BPS51EX	XB4BPS61EX
Ø 40 mushroom head pushbutton type		Spring return					
Contact		NO		NC		NO	
Colour of push		● black	● green	● red	● yellow	● blue	
References		XB4BC21EX	XB4BC31EX	XB4BC42EX	XB4BC51EX	XB4BC61EX	




Type		Ø 40 mushroom head Emergency stop pushbuttons		
Conformity		Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1, IEC/EN 60947-5-5		
Zone D (dust)		21 - 22		
EC type examination certificate number / marking		INERIS 04ATEX9004U /  II 2 D-Ex tD A21 IP65/66		
Mechanical durability (millions of operating cycles)		0.3		
Temperature range		- 20...+ 60°C		
Degree of protection		IP65		
Mounting	Panel cut-out	Ø 22.5 mm (22.4 ^{+0.4} recommended)		
	Mounting centres	30 x 40 mm		
Depth below head		43 mm		
Connection		Screw clamp terminals		
Rated operational characteristics		AC15; A600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)		
Short-circuit protection		By 10 A cartridge fuse type gG (gl)		
Ø 40 latching mushroom head pushbutton type		Push-pull with trigger action	Key release (n° 455)	Turn to release
Contact(s)		NC+NO	NC	NC
Colour of push		● red	● red	● red
References		XB4BT845EX	XB4BS142EX	XB4BS542EX


Selector switches and key switches

Contact functions




Type	Ø 22 selector switches and key switches with metal bezel	
Conformity	Directive ATEX D 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1	
Zone D (dust)	21 - 22	
EC type examination certificate number / marking	INERIS 04ATEX9004U /  II 2 D-Ex tD A21 IP65/66	
Mechanical durability (millions of operating cycles)	3	
Temperature range	- 20...+ 60°C	
Degree of protection	IP65	
Mounting	Panel cut-out	Ø 22.5 mm (22.4 ^{+0.4} recommended)
	Mounting centres	30 x 40 mm
Depth below head	43 mm	
Connection	Screw clamp terminals	
Rated operational characteristics	AC15; A600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A) DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)	
Short-circuit protection	By 10 A cartridge fuse type gG (gl)	
Selector switch type	Standard handle	
Contacts	NC+NO	NO+NO
Colour	● black	● black
References	2 position stay put 3 position stay put 3 position spring return to centre	– XB4BD33EX XB4BD53EX
Selector switch type	Long handle	
Contact(s)	NO	NO+NO
Colour	● black	● black
References	2 position stay put 3 position stay put 3 position spring return to centre	– XB4BJ33EX XB4BJ53EX
Key switch type	Key n° 455	
Contact(s)	NO	NO+NO
Colour	● black	● black
References	2 position stay put, key withdrawal in LH position 2 position stay put, key withdrawal in both positions 2 position spring return, key withdrawal in LH position 3 position stay put, key withdrawal in centre position 3 position stay put, key withdrawal in all 3 positions	– – – XB4BG33EX XB4BG03EX



Type		Ø 22 illuminated pushbuttons with metal bezel					
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1					
Zone D (dust)		21 - 22					
EC type examination certificate number / marking		INERIS 04ATEX9004U /  II 2 D-Ex tD A21 IP65/66					
Mechanical durability (millions of operating cycles)		5					
Service life		100,000 hours at ambient temperature					
Temperature range		– 20...+ 60°C					
Degree of protection		IP65					
Mounting	Panel cut-out	Ø 22.5 mm (22.4 ^{+0.4} ₀ recommended)					
	Mounting centres	30 x 40 mm					
Depth below head		43 mm					
Connection		Screw clamp terminals					
Rated operational characteristics		AC15; A600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)					
Short-circuit protection		By 10 A cartridge fuse type gG (gl)					
Light source		Integral LED					
Illuminated pushbutton type, with integral LED		Flush with transparent silicone boot					
Contact		NO		NC		NO	
Colour of push		● white	● green	● red	● yellow	● blue	
References	LED voltage 24 VAC/DC	110...120 VAC	XB4BP183B5EX	XB4BP383B5EX	XB4BP483B5EX	XB4BP583B5EX	XB4BP683B5EX
		240 VAC	XB4BP183G5EX	XB4BP383G5EX	XB4BP483G5EX	XB4BP583G5EX	XB4BP683G5EX
		24...120 VAC/DC	XB4BP183M5EX	XB4BP383M5EX	XB4BP483M5EX	XB4BP583M5EX	XB4BP683M5EX
		24...120 VAC/DC	XB4BP183BG5EX	XB4BP383BG5EX	XB4BP483BG5EX	XB4BP583BG5EX	XB4BP683BG5EX



Type		Ø 22 pilot lights with metal bezel					
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1					
Zone D (dust)		21 - 22					
EC type examination certificate number / marking		INERIS 04ATEX9004U /  II 2 D-Ex tD A21 IP65/66					
Service life		100,000 hours at ambient temperature					
Temperature range		– 20...+ 60°C					
Degree of protection		IP65					
Mounting	Panel cut-out	Ø 22.5 mm (22.4 ^{+0.4} ₀ recommended)					
	Mounting centres	30 x 40 mm					
Depth below head		43 mm					
Connection		Screw clamp terminals					
Rated operational characteristics		AC15; A600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)					
Short-circuit protection		By 10 A cartridge fuse type gG (gl)					
Light source		Integral LED					
Pilot light type		Pilot lights with integral LED, plain lens					
Colour of LED		● white	● green	● red	● yellow	● blue	
References	LED voltage 24 VAC/DC	110...120 VAC	XB4BVB1EX	XB4BVB3EX	XB4BVB4EX	XB4BVB5EX	XB4BVB6EX
		240 VAC	XB4BVG1EX	XB4BVG3EX	XB4BVG4EX	XB4BVG5EX	XB4BVG6EX
		24...120 VAC/DC	XB4BVM1EX	XB4BVM3EX	XB4BVM4EX	XB4BVM5EX	XB4BVM6EX
		24...120 VAC/DC	XB4BVBG1EX	XB4BVBG3EX	XB4BVBG4EX	XB4BVBG5EX	XB4BVBG6EX

Control stations

Complete stations, metal or plastic



Type		Complete control stations			
Type of operators		Ø 22 flush pushbuttons			
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1			
Zone D (dust)		21 - 22			
EC type examination certificate number / marking		INERIS 04ATEX0023 / II2 D-Ex tD A21 IP65 T85°C			
Temperature range		- 20...+ 60°C			
Degree of protection		IP65			
Connection		1 entry fitted with ISO M20 cable gland			
Rated operational characteristics of contact blocks		AC15; A600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A) DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)			
Short-circuit protection		By 10 A cartridge fuse type gG (gl)			
Function		1 function, Start or Stop	2 functions, Start - Stop	3 functions	
Composition		1 spring return pushbutton	2 spring ret. pushbuttons	3 spring ret. pushbuttons	
Contact(s)		NO	NC	NO+NC	NO+NC+NO
Colour of pushbutton(s)		● green	● red	● green + ● red	● green + ● red + ● black
Metal control stations	Dimensions, W x D x H	80 x 77 x 80 mm		80 x 77 x 130 mm	80 x 77 x 175 mm
	Fixings: 4 x Ø 5.6 mm, centres	50 x 65 mm		50 x 115 mm	50 x 160 mm
References		XAWF100EX	XAWF110EX	XAWF210EX	XAWF310EX
Plastic control stations	Dimensions, W x D x H	85 x 70 x 146 mm		85 x 70 x 226 mm	
	Fixings: 4 x Ø 5.6 mm, centres	70 x 105 mm		70 x 108 mm	
References		XAWG100EX	XAWG110EX	XAWG210EX	XAWG310EX




Type		Complete control stations				
Type of operator		Ø 22 selector switch or key switch with metal bezel		Ø 40 mushroom head Emergency stop		
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1				
Zone D (dust)		21 - 22				
EC type examination certificate number / marking		INERIS 04ATEX0023 / II2 D-Ex tD A21 IP65 T85°C				
Temperature range		- 20...+ 60°C				
Degree of protection		IP65				
Connection		1 entry fitted with ISO M20 cable gland				
Rated operational characteristics of contact blocks		AC15; A600 (Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A) DC13; Q600 (Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A)				
Short-circuit protection		By 10 A cartridge fuse type gG (gl)				
Function		1 function, Start/Stop		Emergency stop		
Composition		1 selector switch (1) standard black handle	1 key switch (1) key n° 455	1 Ø 40 mushroom head turn to release	1 Ø 40 mushroom head key release	1 push/pull Ø 40 with trigger action
Contact		NO+NC	NO+NC	NC+NC	NC+NC	NC+NC
Colour of operator		● black	● black	● red	● red	● red
Metal control stations	Dimensions, W x D x H	80 x 77 x 80 mm				
	Fixings: 4 x Ø 5.6 mm, centres	50 x 65 mm				
References		XAWF130EX	XAWF140EX	XAWF174EX	XAWF184EX	XAWF198EX
Plastic control stations	Dimensions, W x D x H	80 x 70 x 146 mm				
	Fixings: 4 x Ø 5.6 mm, centres	70 x 105 mm				
References		XAWG130EX	XAWG140EX	XAWG174EX	XAWG184EX	XAWG198EX

(1) 2 position stay put

Other characteristics: please refer to the "Human-Machine Interface components" catalog



Type		Characteristics				
Conformity		Directive ATEX 94/9/CE, EN 60079-15, EN 50281-1-1 + A1, IEC 61241-0, EN 61241-1				
Zone D (dust)		22				
EC type examination certificate number / marking		INERIS 05ATEX3016X /  II 3 G D EEx nA nC IIC T5 - Ex tD A22 IP65 T100°C				
Display	Capacity	2 lines, 20 characters		1 to 4 lines, 5 to 20 characters		
	Type	Back-lit LCD green		Back-lit LCD 3 colours green, orange, red	Back-lit LCD green	
Data entry		Via keypad with 8 keys (4 customizable keys)				
Function	Representation of variables	Alphanumeric				
	Alarm log	No	Yes	Yes	Yes	Yes
Communication	Serial link	1 RJ45 (RS 232 - RS 485)		1 Sub-D25 (RS 232 - RS 485)		
Downloadable protocols		Uni-TE, Modbus Master		Uni-TE, Modbus Master, Siemens, Rockwell, Omron, Mitsubishi		Modbus
Development software		Vijeo Designer Lite (on Windows 2000 and XP)				
Dimensions W x D x H		132 x 37 x 74 mm				
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon M340		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon Momentum, Modicon M340		Motor starter Tesys Model U
Supply voltages		5 VDC or PLC power supply		24 VDC		
References		XBTN200	XBTN400	XBTN410	XBTN401	XBTNU400

(1) Except XBTN200: alphanumeric screen.

Small Panel Magelis XBT R with matrix screen



Type		Characteristics		
Conformity		Directive ATEX 94/9/CE, EN 60079-15, EN 50281-1-1 + A1, IEC 61241-0, EN 61241-1		
Zone D (dust)		22		
EC type examination certificate number / marking		INERIS 05ATEX3016X / II 3 G D EEx nA nC IIC T5 - Ex tD A22 IP65 T100°C		
Display	Capacity	4 lines, 20 characters		
	Type	Back-lit LCD green	Back-lit LCD, 3 colours green, orange, red	
Data entry		Via keypad with 20 keys (12 customizable keys)		
Function	Representation of variables	Alphanumeric		
	Alarm log	Yes	Yes	Yes
Communication	Serial link	1 RJ45 (RS 232 - RS 485)	1 Sub-D25 (RS 232 - RS 485)	
Downloadable protocols		Uni-TE, Modbus Master	Uni-TE, Modbus Master/Slave (1), Siemens, Rockwell, Omron, Mitsubishi	
Development software		Vijeo Designer Lite (on Windows 2000 and XP)		
Dimensions W x D x H		137 x 37 x 118 mm		
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon M340	Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon Momentum, Modicon M340	
Supply voltages		5 VDC or PLC power supply	24 VDC	
References		XBTR400	XBTR410	XBTR411


(1) for XBTR411 only

Magelis XBT RT with semi-graphic and touchscreen



Type		Characteristics		
Conformity		Directive ATEX 94/9/CE, EN 60079-0, EN 60079-15, EN 61241-0, EN 61241-1		
Zone D (dust)		22		
EC type examination certificate number / marking		INERIS 07ATEX3019X / II 3 G D Ex nA nC IIC T6 - Ex tD A22 IP64 T85°C		
Display	Capacity	10 lines, 33 characters		
	Type	Back-lit LCD green	Back-lit LCD green, orange, red	
Data entry		Via keypad with 12 keys (10 customizable keys)	Via keypad with 12 customizable keys	
Functions	Representation of variables	Alphanumeric, bargraph, curves, button and light		
	Alarm log	Yes	Yes	
Communication	Serial link	1 RJ45 (RS 232 - RS 485)	1 RJ45 (RS 232 - RS 485)	
Downloadable protocols		Uni-TE, Modbus Master, Siemens, Rockwell, Omron, Mitsubishi		
Development software		Vijeo Designer Lite (on Windows 2000 and XP)		
Dimensions W x D x H		137 x 37 x 118 mm		
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon M340, Modicon Quantum		
Supply voltages		5 VDC or PLC power supply	24 VDC	
References		XBTRT500	XBTRT511	




Type		Characteristics				
Conformity		Directive ATEX 94/9/CE, EN 60079-15, EN 61241-0, EN 61241-1, EN 60079-0 (1)				
Zone D (dust)		22				
EC type examination certificate number / marking		INERIS 06ATEX3024X / INERIS 08ATEX3024X / INERIS 06ATEX3024X / INERIS 08ATEX3024X / INERIS 08ATEX3024X /  II 3 G D EEx nA nC IIC T4 - Ex tD A22 IP64 T135°C				
Display	LCD screen size	3.8"				
	Type	STN monochrome, amber or red			TFT colour	
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad				
	Curves / Alarm logs	Yes, with log / Yes, incorporated				
Communication	Serial link	1 RJ45 (RS 232 - RS 485)				
	Networks	-		Ethernet, IEEE 802.3 10 BASE-T, RJ45	Ethernet, IEEE 802.3 10/100 BASE-T, RJ45	
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic) Uni-TE, Modbus, Modbus TCP				
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows Vista, XP and 2000)				
Dimensions W x D x H		130x41x104mm				
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340				
«Compact Flash» card slot		No				
USB port		-	1	-	1	1
Built-in Ethernet TCP/IP		No		Yes		
Supply voltage		24 VDC				
References		XBTGT1100	XBTGT1105	XBTGT1130	XBTGT1135	XBTGT1335

(1) Does not take effect for XBTGT1100 and XBTGT1130

Magelis XBT GT with 5.7" touchscreen



Type		Characteristics				
Conformity		Directive ATEX 94/9/CE, EN 60079-15, EN 61241-0, EN 61241-1				
Zone D (dust)		22				
EC type examination certificate number / marking		INERIS 06ATEX3024X /  II 3 G D EEx nA nC IIB T3 - Ex tD A22 IP64 T200°C				
Display	LCD screen size	5.7"				
	Type	Back-lit STN, monochrome blue black and white		STN, colour 4096 colours	TFT, colour 65536 colours	
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad				
	Curves / Alarm logs	Yes, with log / Yes, incorporated				
Communication	Serial link	1 Sub-D9 (RS 232/RS 422 - RS 485) + 1 RJ45 (RS 485)				
	Networks	-		Ethernet, IEEE 802.3 10/100 BASE-T, RJ45	Ethernet, IEEE 802.3 10/100 BASE-T, RJ45	
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic) Uni-TE, Modbus, Modbus TCP/IP				
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows Vista, XP and 2000)				
Dimensions W x D x H		167.5x60x135mm				
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340, Modicon Momentum				
«Compact Flash» card slot		No	Yes			
USB port		1				
Video in		No				
Built-in Ethernet TCP/IP		No	No	Yes	No	Yes
Supply voltage		24 VDC				
References		XBTGT2110	XBTGT2120	XBTGT2130	XBTGT2220	XBTGT2330

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Advanced Panel

Magelis XBT GT

with 7.5", 10.4", 12.1", 15" touchscreen



Type		Characteristics									
Conformity		Directive ATEX 94/9/CE, EN 60079-15, EN 61241-0, EN 61241-1									
Zone D (dust)		22									
EC type examination certificate number / marking		INERIS 06ATEX3024X / II 3 G D EEx nA nC IIB T4 - Ex tD A22 IP64 T135°C					INERIS 06ATEX3024X / II 3 D Ex tD A22 IP64 T135°C				
Display	LCD screen size	7.5"				10.4"			12.1"		15"
	Type (colour)	STN	TFT	TFT	STN	TFT	TFT	TFT	TFT	TFT	
	Number of colours	4096	65536	65536	4096	65536	65536	65536	65536	65536	
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad									
	Curves / Alarm logs	Yes, with log / Yes, incorporated									
Communication	Serial link	1 Sub-D9 (RS 232/RS 422 - RS 485) + 1 RJ45 (RS 485)									
	Networks	Ethernet, IEEE 802.3 10/100 BASE-T, RJ 45									
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic) Uni-TE, Modbus, Modbus TCP/IP									
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows Vista, XP and 2000)									
Dimensions W x D x H (mm)		215x60x170			313x56x239		271x57x213		313x56x239		395x60x294
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340									
«Compact Flash» card slot		Yes									
USB port		1	1	1	2	2	2	2	2	2	
Video in		No	No	Yes	No	No	Yes	No	Yes	Yes	
Built-in Ethernet TCP/IP		Yes									
Supply voltage		24 VDC									
References		XBTGT4230	XBTGT4330	XBTGT4340	XBTGT5230	XBTGT5330	XBTGT5340	XBTGT6330	XBTGT6340	XBTGT7340	



Preventa

Emergency stops and foot switches Cable (tripwire) operated Emergency stops



For operating cable up to 50 m long		Latching, without indicator light			
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1			
Zone D (dust)		21 - 22			
EC type examination certificate number / marking		INERIS 04ATEX0015 / II2 D-Ex tD A21 IP65 T85°C			
Mechanical durability (millions of operating cycles)		0.01			
Temperature range		- 20...+ 60°C			
Degree of protection		IP65			
Connection		3 entries for ISO M20 cable gland			
Rated operational characteristics		AC15; A300 (Ue = 240 V, Ie = 3A)/DC13; Q300 (Ue = 250 V, Ie = 0.27 A)			
Short-circuit protection		By 10 A cartridge fuse type gG (gl)			
Dimensions, W x D x H		229 x 82 x 142 mm		229 x 105 x 142 mm	
Reset		By booted pushbutton		By key release pushbutton (key n° 421)	
Operating cable length		≤ 50 m		≤ 50 m	
Operating cable anchoring point		To left	To right	To left	To right
References	NC+NO slow break	XY2CE2A250EX	XY2CE1A250EX	XY2CE2A450EX	XY2CE1A450EX
	NC+NC slow break	XY2CE2A270EX	XY2CE1A270EX	XY2CE2A470EX	XY2CE1A470EX

Foot switches, metal



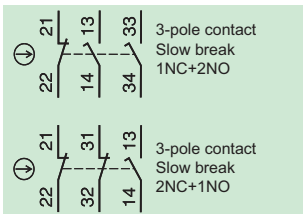
Type		Single pedal switches			
Conformity		Directive ATEX 94/9/EC, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1			
Zone D (dust)		21 - 22			
EC type examination certificate number / marking		INERIS 04ATEX0025 / II2 D-Ex tD A21 IP65 T85°C			
Mechanical durability (millions of operating cycles)		5			
Temperature range		- 20...+ 60°C			
Degree of protection		IP66			
Connection		2 entries for n° 16 (Pg 16) cable gland (1)			
Rated operational characteristics		AC15; A300 (Ue = 240 V, Ie = 3 A)/DC13; Q300 (Ue = 250 V, Ie = 0.27 A)			
Short-circuit protection		By 10 A cartridge fuse type gG (gl)			
Dimensions, W x D x H		104 x 172 x 59 mm			
Colour		Blue		Orange	
Contact operation		1 step	2 step	1 step	2 step
References	1 NC+NO	XPEM110EX	–	XPER110EX	–
	2 NC+NO	XPEM111EX	XPEM211EX	XPER111EX	XPER211EX

(1) 1 entry fitted with blanking plug, 1 entry fitted with n° 16 (Pg 16) cable gland



Preventa

Safety switches and actuators



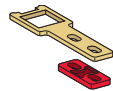
ISO entry (to EN 50262)

Position of the contact when the actuator is in the head of the switch



Metal switches type		XCSA/B/C, 1 x ISO M20 cable entry		
With head		Without locking	Interlocking, unlocking by button	Interlocking, unlocking by key lock
Conformity		Directive ATEX 94/9/CE, EN 50014, EN 50281-1-1, pr IEC 61241-0, pr IEC 61241-1		
Zone D (dust)		21 - 22		
EC type examination certificate number / marking		INERIS 04ATEX0014X / D-Ex tD A21 IP67 T85°C		
Actuation speed (min → max)		0,1 m/s → 0,5 m/s		
Degree of protection		IP 67		
Rated operational characteristics (conforming to EN IEC 60947-5-1)		AC 15, A 300 / DC 13, Q 300		
Temperature range		-20...+60°C		
Dimensions (body+head) W x D x H		40 x 44 x 113.5 mm	52 x 44 x 113.5 mm	52 x 44 x 113.5 mm
Short-circuit protection		By 10 A cartridge fuse type gG (gl)		
Complete switch	1NC+2NO	XCSA502EX →	XCSB502EX →	XCSC502EX →
	2NC+1NO	XCSA702EX →	XCSB702EX →	XCSC702EX →

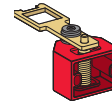
Accessories



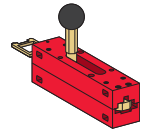
Straight actuator



Wide actuator



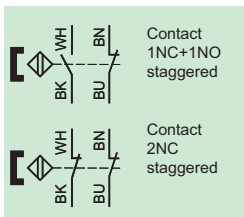
Pivoting actuator



Door lock

For safety switches XCSA/B/C/E	Actuators			Door lock
References	XCSZ01	XCSZ02	XCSZ03	XCSZ05

Coded magnetic



Contact states shown are whilst the magnet is in front of the switch



Plastic switches type		XCSDM coded magnetic, Pre-cabled, L = 2 m		
		Rectangular without LED		
Conformity		Directive Atex 94/9/CE, EN 50281-1.1 & 1.2, EN/IEC 61241-0, EN/IEC 61241-1, EN/IEC 60304, EN 1088, EN954-1		
Zone D (dust)		0-1-2/20-21-22*(according to protection mode, mD or ia).		
EC type examination certificate number / marking		INERIS 04ATEX0036 / GD-Ex tD A21 IP67 T135°C		
Switches for actuation		Face to face, face to side, side to side		
Degree of protection		IP 66 + IP 67		
Type of contact		REED		
Rated operational characteristics		Ue = 24 VDC, Ie = 100 mA		
Temperature range		-20...+60°C		
Dimensions W x D x H		16 x 7 x 51 mm		
Operating zone (4)		Sao = 5 / Sar = 15		
Short-circuit protection		By 10 A cartridge fuse type gG (gl)		
Switch with coded magnet	1NC+1NO staggered	XCSDMC5902EX		
	2NC staggered	XCSDMC7902EX		



Automation platform

Weighing system for Modicon Premium



Module type	ISP Plus Supplied calibrated	
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50020, EN 50039, EN 50284, EN 50281-1-1	
Zone D (dust)	Mounted outside zone (to be used in conjunction with products for zone 21 or 22)	
EC type examination certificate number / marking	LCIE 03ATEX6399X / SYST GD-EEx ib IIC T6 or IIB T6	
Connection	By connectors: Sub-D 15-way male for sensors and Sub-D 9-way male for transfer of weights	
Load cell inputs	50 measurements (for 1 to 8 load cells)	
Outputs	2 discrete and 1 RS 485 for display	
References	Without display	TSXISPY101
	With display TSXXBTH100	TSXISPY111

Intrinsically safe I/O modules for Modicon Quantum



Module type	Inputs/outputs				
	Discrete		Analogue		
Conformity	Directive ATEX 94/9/EC, EN 50014, EN 50020, EN 50284, EN 50281-1-1				
Zone D (dust)	Mounted outside zone (to be used in conjunction with products for zone 20, 21 or 22)				
EC type examination certificate number / marking	SIRA 02ATEX2345X / GD-[EEx ia] IIC; Ta = - 20...+ 60 °C				
Connection	By screw terminal block 140XTS33200 (to be ordered separately)				
Number of inputs	8	–	8	–	–
Number of outputs	–	8	–	–	8
Signal inputs	–	–	Thermal probes	0...25/20 mA	–
			Thermocouple (1)	4...25 mA	–
Resolution			12 bits + sign	0...25,000 points	15 bits
References	140DII33000	140DIO33000	140AII33000	140AII33010	140AIO33000

(1) Type J, K, E, T, S, R, B, mV



Notes

A large area for taking notes, consisting of a solid green header bar at the top, followed by a series of horizontal green and light green stripes, and a solid green footer bar at the bottom right.

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