

MV secondary distribution range

Hi-reliability

The reliability and quality of electrical power supply represents a major economical and environmental stake.

With 40 years experience, Schneider Electric, with the underground MV secondary distribution range, has at your disposal equipment that is always safe, reliable and easy to use.

Today, 4,000,000 installed functions supply and protect several billion people and goods.

It is the largest installed base around the world.

The underground MV secondary distribution range has been designed, manufactured and implemented to durably ensure the highest service continuity level.

For you, this hi-reliability is a continuous source of competitiveness, safety and convenience.



> RM6

Taking advantage of the reference.

> Ringmaster

Ensuring hi-reliability in the toughest conditions.

> SM6 Range

Extending your possibilities.

PE66012



RM6 switchgear comprises 1 to 4 integrated, low dimension functional units. This self-contained, totally insulated unit comprises:

- a stainless steel, gas-tight metal enclosure, sealed for life, which groups together the live parts, switch-disconnector, earthing switch, fuse switch or the circuit breaker
- one to four cable compartments with interfaces for connection to the network or to the transformer
- a low voltage cabinet
- an electrical operating mechanism cabinet
- a fuse chamber compartment for fused switch-disconnectors or fuse switches.

The performance characteristics obtained by the RM6 meet the definition of a "sealed pressure system" laid down in the IEC recommendations. The switch-disconnector and the earthing switch offer the operator all necessary usage guarantees:

Tightness

The enclosure is filled with SF6 at a 0.2 bar gauge pressure. It is sealed for life after filling. Its tightness, which is systematically checked at the factory, gives the switchgear an expected lifetime of 30 years. No maintenance of live parts is necessary with the RM6 breaking.

Switch disconnector

Electrical arc extinction is obtained using the SF6 puffer technique.

Circuit breaker

Electrical arc extinction is obtained using the rotating arc technique plus SF6 auto-expansion, allowing breaking of all currents up to the short-circuit current.

PE66013



A range that is extensible on site

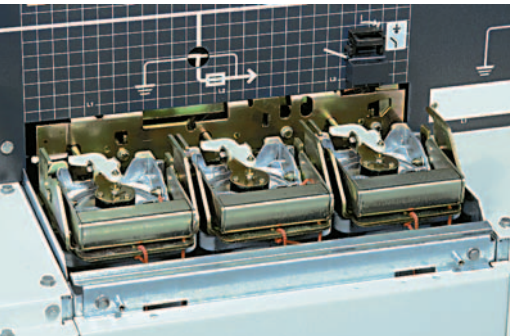
When harsh climatic conditions or environmental restrictions make it necessary to use compact switchgear, but the foreseeable evolution of the power distribution network makes it necessary to provide for future changes, RM6 offers a range of extensible switchgear.

The addition of one or more functional units can be carried out by simply adding modules that are connected to each other at busbar level by directed field bushings. This very simple operation can be carried out on-site:

- without handling any gas
- without any special tooling
- without any particular preparation of the floor.

The only technical limitation to the evolution of an extensible RM6 switchboard is therefore the rated current acceptable by the busbar: 630 A at 40°C.

055749



Insensitivity to the environment

Complete insulation

- **A metal enclosure** made of stainless steel, which is unpainted and gas-tight (IP67), contains the live parts of the switchgear and the busbars.
- **Three sealed fuse chambers**, which are disconnectable and metallized on the outside, insulate the fuses from dust, humidity...
- **Metallization of the fuse chambers and directed field terminal connectors** confines the electrical field in the solid insulation.

Taken together, the above elements provide the **RM6 with genuine total insulation** which makes the switchgear completely insensitive to environmental conditions, dust, extreme humidity, temporary soaking.

(IP67: immersion for 30 minutes, as laid down in IEC standard 60529, § 14.2.7).

Electrical characteristics

Rated voltage	Ur	kV	12	17.5	24
Insulation level					
Industrial frequency	Ud	50 Hz 1 min. (kV rms)	28	38	50
Impulse	Up	1.2/50 μ s (kV peak)	75	95	125
Tank internal arc withstand	20 kA 1s				

Climatic conditions

		°C	40	45	50	55	60
Busbars 630 A	Ir	A	630	575	515	460	425
Busbars 400 A	Ir	A	400	400	400	355	
Functions: I, O, B (with bushing type C)	A		630	575	515	460	425
Function D (with bushing type B or C)	A		200	200	200	200	200
Function Q	A		(1)	(2)	(2)	(2)	

(1) depends on fuse selection.

(2) consult us.

Global options

- Manometer or pressure switch
- Additional earth busbar in cable compartment
- Internal arc cable box 20 kA 1 s for I, D or B functions.

Option for operation

Voltage indicator:

- VPIS
- VDS.

Accessories

- Raising plinth
- Set of 3 MV fuses Fusarc CF
- Phase comparator
- Test box for circuit breaker relay (VAP6)
- Additional operating handle.

Additional instructions:

Installation and civil Engineering instructions.

Connectors and adaptaters for RM6

- Connectors for 630 A (1 set = 1 function)
- Connectors for 400 A (1 set = 1 function)
- Connectors for 250 A (1 set = 1 function).

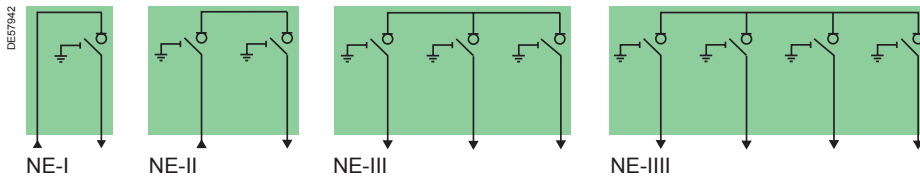
Protection index

IP3X on front face.

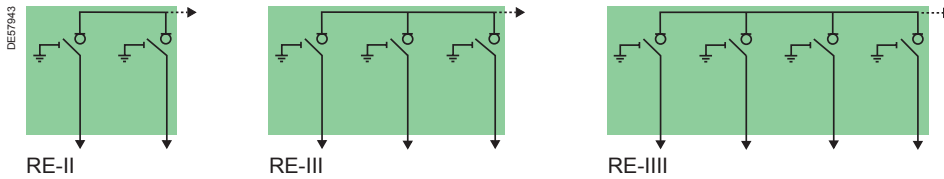
Network points with switch disconnecter (I function)

Rated voltage	Ur	(kV)	12	17.5	24	24	24	24
Short-time withstand current	Ik	(kA rms)	25	21	12.5	16	16	20
	tk	Duration (s)	1	1 or 3	1	1	1	1 or 3
Rated current busbars	Ir	(A)	630	630	400	400	630	630
Network switch (I function)								
Rated current		(A)	630	630	400	400	630	630
Breaking capacity (A)	Charging current		630	630	400	400	630	630
	Earth leakage fault		95	95	95	95	95	95
	No-load cable		30	30	30	30	30	30
Making capacity of switch and earthing switches		(kA peak)	62.5	52.5	31.25	40	40	50
Bushing			C	C	B or C	B or C	C	C

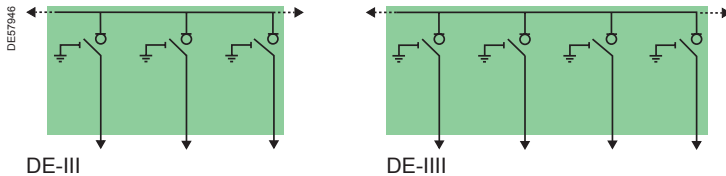
Non-extensible switchgear



Extensible switchgear to the right



Double extensible switchgear



Accessories and options (I function)

Remote operation

Motor mechanism and auxiliary contacts LBSw 2 NO - 2 NC and ESw 1 O/C.

Auxiliary contacts alone

For main switch position indication LBSw 2 NO - 2 NC and ESw 1 O/C (this option is included in remote operation option).

Front door of cable connection compartment

- Bolted
- Removable with ESw interlocking
- Removable with ESw interlocking and LBSw interlocking.

Self-powered fault passage and load current indicators

- Flair 21D
- Flair 21DT
- Flair 22D
- Amp 21D.

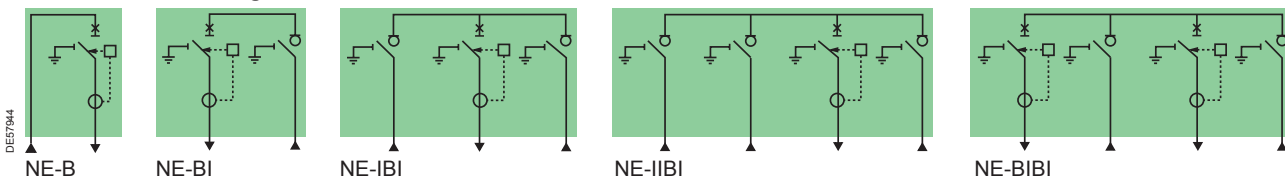
Key locking devices

- Type R1
- Type R2.

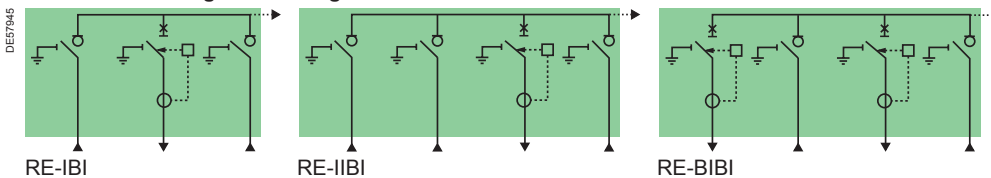
Network points with 630 A circuit breaker (B function)

Rated voltage	Ur (kV)	12	17.5	24	24
Short-time withstand current	Ik (kA rms)	25	21	16	20
	tk Duration (s)	1	1 or 3	1	1 or 3
Rated current busbars	Ir (A)	630	630	630	630
Network switch (I function)					
Rated current	(A)	630	630	630	630
Breaking capacity (A)	Charging current	630	630	630	630
	Earth leakage fault	95	95	95	95
	No-load cable	30	30	30	30
Making capacity of switch and earthing switches	(kA peak)	62.5	52.5	40	50
Bushing		C	C	C	C
Line protection feeder (B function)					
Rated current	(A)	630	630	630	630
Short-circuit breaking capacity	(kA)	25	21	16	20
Making capacity	(kA peak)	62.5	52.5	40	50
Bushing		C	C	C	C

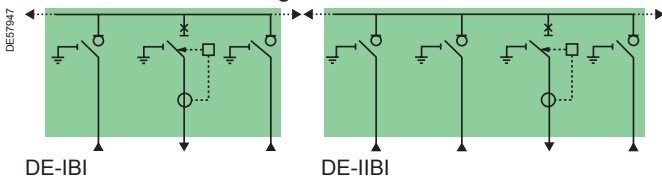
Non-extensible switchgear



Extensible switchgear to the right



Double extensible switchgear



Accessories and options (B function)

Remote operation

Motor mechanism and auxiliary contacts circuit breaker
 CB 2 NO - 2 NC and ESw 1 O/C
 (including shunt trip coil)

Auxiliary contacts alone

For circuit breaker position indication CB 2 NO - 2 NC and ESw 1 O/C
 (this option is included in remote operation option).

Front door of cable connection compartment

- Bolted
- Removable with ESw interlocking
- Removable with ESw interlocking and CB interlocking.

Shunt trip coil for external tripping

- 24 Vdc
- 48/60 Vdc
- 120 Vac
- 110/125 Vdc - 220 Vac
- 220 Vdc/380 Vac.

Undervoltage coil

- 24 Vdc
- 48 Vdc
- 125 Vdc
- 110-230 Vac.

Protection relay for CB transformer protection
 (VIP 300 or Sepam series 10)

Forbidden closing under fault 1 NC

Auxiliary contact D or B tripping

Key locking devices

- Type R1
- Type R2.

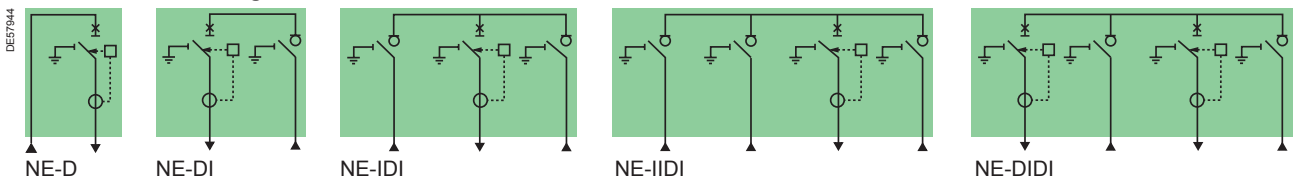
Transformer feeder 200 A with circuit breaker (D function)

Rated voltage	Ur (kV)	12	17.5	24	24	24	24	24
Short-time withstand current	Ik (kA rms)	25	21	12.5	16	12.5	16	20
	tk Duration (s)	1	1 or 3	1	1	1	1	1 or 3
Rated current busbars	Ir (A)	630	630	400	400	630	630	630
Network switch (I function)								
Rated current	(A)	630	630	400	400	630	630	630
Breaking capacity (A)	Charging current	630	630	400	400	630	630	630
	Earth leakage fault	95	95	95	95	95	95	95
	No-load cable	30	30	30	30	30	30	30
Making capacity of switch and earthing switches	(kA peak)	62.5	52.5	31.25	40	31.25	40	50
Bushing		C	C	B or C	B or C	C	C	C

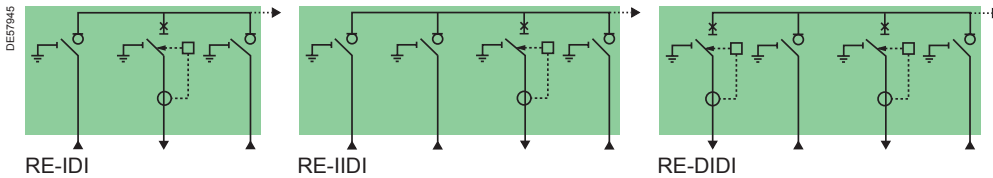
Transformer feeder by circuit breaker (D function)

Rated current	(A)	200	200	200	200	200	200	200
Off-load transformer laking capacity	(A)	16	16	16	16	16	16	16
Short-circuit breaking capacity	(kA)	25	21	12.5	16	12.5	16	20
Making capacity	(kA peak)	62.5	52.5	31.25	40	31.25	40	40
Bushing		C	C	A	B or C	A	B or C	C

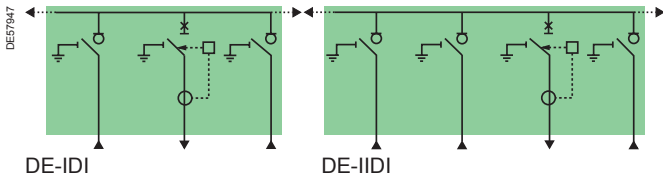
Non-extensible switchgear



Extensible switchgear to the right



Double extensible switchgear



Accessories and options (D function)

Remote operation

Motor mechanism and auxiliary contacts circuit breaker
CB 2 NO - 2 NC and ESw 1 O/C
(including shunt trip coil).

Auxiliary contacts alone

For circuit breaker position indication CB 2 NO - 2 NC and ESw 1 O/C
(this option is included in remote operation option).

Front door of cable connection compartment

- Bolted
- Removable with ESw interlocking
- Removable with ESw interlocking and CB interlocking.

Shunt trip coil for external tripping

- 24 Vdc
- 48/60 Vdc
- 120 Vac
- 110/125 Vdc - 220 Vac
- 220 Vdc/380 Vac.

Undervoltage coil

- 24 Vdc
- 48 Vdc
- 125 Vdc
- 110-230 Vac.

Protection relay for CB transformer protection
(VIP 30, 35, 300 or Sepam series 10)

Forbidden closing under fault 1 NC

Auxiliary contact D or B tripping

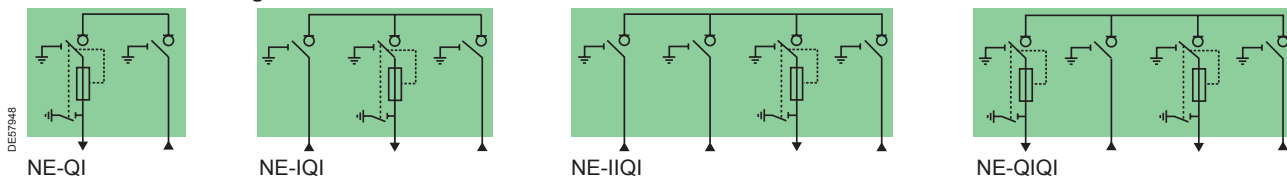
Key locking devices

- Type R6
- Type R7
- Type R8.

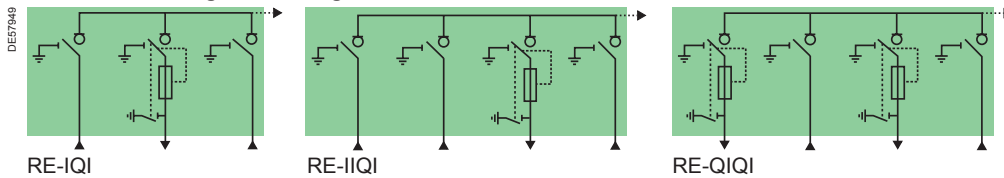
Transformer feeder with fuse-switch combinations (Q function)

Rated voltage	Ur (kV)	12	12	17.5	24	24	24	24
Rated current busbars	Ir (A)	630	630	630	400	400	630	630
Network switch (I function)								
Rated current	(A)	630	630	630	400	400	630	630
Breaking capacity (A)	Charging current	630	630	630	400	400	630	630
	Earth leakage fault	95	95	95	95	95	95	95
	No-load cable	30	30	30	30	30	30	30
Short-time withstand current	(kA rms)	21	25	21	12.5	16	16	20
	Duration (s)	1	1	1 or 3	1	1	1	1 or 3
Making capacity of switch and earthing switches	(kA peak)	52.5	62.5	52.5	31.25	40	40	50
Bushing		C	C	C	B or C	B or C	C	C
Transformer feeder with fuse-switch protection (Q function)								
Rated current	(A)	200	200	200	200	200	200	200
Off-load transformer laking capacity	(A)	16	16	16	16	16	16	16
Short-circuit breaking capacity	(kA)	21	25	21	12.5	16	16	20
Making capacity	(kA peak)	52.5	62.5	52.5	31.25	40	40	50
Bushing		A	A	A	A	A	A	A

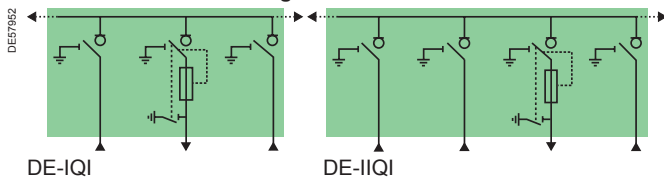
Non-extensible switchgear



Extensible switchgear to the right



Double extensible switchgear



Accessories and options (Q function)

Auxiliary contacts alone

For fuse-switch combinations position indication LBSw 2 NO - 2 NC (this option is included in remote operation option).

Auxiliary contact for fuses blown

Shunt trip coil for external tripping

- 24 Vdc
- 48/60 Vdc
- 120 Vac
- 110/125 Vdc - 220 Vac
- 220 Vdc/380 Vac.

Undervoltage coil

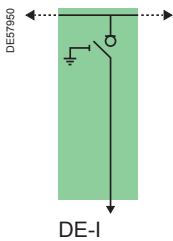
- 24 Vdc
- 48 Vdc
- 125 Vdc
- 110-230 Vac.

Key locking devices

- Type R6
- Type R7
- Type R8.

Extensible modules (DE-I function)

Rated voltage	Ur	(kV)	12	17.5	24	24	24
Short-time withstand current	Ik	(kA rms)	25	21	12.5	16	20
	tk	Duration (s)	1	1 or 3	1	1	1 or 3
Rated current busbars	Ir	(A)	630	630	630	630	630
Network switch (DE-I function)							
Rated current		(A)	630	630	400	400	630
Breaking capacity (A)	Charging current		630	630	400	400	630
	Earth leakage fault		95	95	95	95	95
	No-load cable		30	30	30	30	30
Making capacity of switch and earthing switches		(kA peak)	62.5	52.5	31.25	40	50
Bushing			C	C	B or C	B or C	C



Accessories or options

Remote operation

Motor mechanism and auxiliary contacts
LBSw 2 NO - 2 NC and ESw 1 O/C

Auxiliary contacts alone

For main switch position indication
LBSw 2 NO - 2 NC and ESw 1 O/C
(this option is included in remote operation option).

Front door of cable connection compartment

- Bolted
- Removable with ESw interlocking
- Removable with ESw interlocking and LBSw interlocking.

Self-powered fault passage and load current indicators

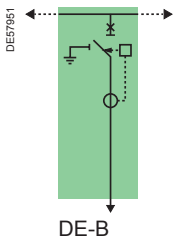
- Flair 21D
- Flair 21DT
- Flair 22D
- Amp 21D.

Key locking devices

- Type R1
- Type R2.

Network points with 630 A circuit breaker (DE-B function)

Rated voltage	Ur	(kV)	12	17.5	24	24
Short-time withstand current	Ik	(kA rms)	25	21	16	20
	tk	Duration (s)	1	1 or 3	1	1 or 3
Rated current busbars	Ir	(A)	630	630	630	630
Network circuit breaker (DE-B function)						
Rated current		(A)	630	630	630	630
Short-circuit breaking capacity		(kA)	25	21	16	20
Making capacity		(kA peak)	62.5	52.5	40	40
Bushing			C	C	C	C



Accessories and options

Remote operation

Motor mechanism and auxiliary contacts circuit breaker
CB 2 NO - 2 NC and ESw 1 O/C
(including shunt trip coil).

Auxiliary contacts alone

For circuit breaker position indication
CB 2 NO - 2 NC and ESw 1 O/C
(this option is included in remote operation option).

Front door of cable connection compartment

- Bolted
- Removable with ESw interlocking
- Removable with ESw interlocking and CB interlocking.

Shunt trip coil for external tripping

- 24 Vdc
- 48/60 Vdc
- 120 Vac
- 110/125 Vdc - 220 Vac
- 220 Vdc/380 Vac.

Undervoltage coil

- 24 Vdc
- 48 Vdc
- 125 Vdc
- 110-230 Vac.

Protection relay for CB transformer protection (VIP 300 or Sepam series 10)

Forbidden closing under fault 1 NC

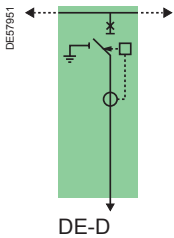
Auxiliary contact D or B tripping

Key locking devices

- Type R1
- Type R2.

Transformer feeder 200 A with circuit breaker (DE-D function)

Rated voltage	Ur	(kV)	12	17.5	24	24	24
Short-time withstand current	Ik	(kA rms)	25	21	12.5	16	20
	tk	Duration (s)	1	1 or 3	1	1	1 or 3
Rated current busbars	Ir	(A)	630	630	630	630	630
200 A circuit breaker (DE-D function)							
Rated current		(A)	200	200	200	200	200
Off-load transformer laking capacity		(A)	16	16	16	16	16
Short-circuit breaking capacity		(kA)	25	21	12,5	16	20
Making capacity		(kA peak)	62.5	52.5	31.25	40	50
Bushing			C	C	A	B or C	C



Accessories and options

Remote operation

Motor mechanism and auxiliary contacts circuit breaker CB 2 NO - 2 NC and ESw 1 O/C (including shunt trip coil).

Auxiliary contacts alone

For circuit breaker position indication CB 2 NO - 2 NC and ESw 1 O/C (this option is included in remote operation option).

Front door of cable connection compartment

- Bolted
- Removable with ESw interlocking
- Removable with ESw interlocking and CB interlocking.

Shunt trip coil for external tripping

- 24 Vdc
- 48/60 Vdc
- 120 Vac
- 110/125 Vdc - 220 Vac
- 220 Vdc/380 Vac.

Undervoltage coil

- 24 Vdc
- 48 Vdc
- 125 Vdc
- 110-230 Vac.

Protection relay for CB transformer protection (VIP 30, 35, 300 or Sepam series 10)

Forbidden closing under fault 1 NC

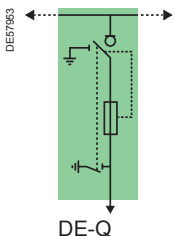
Auxiliary contact D or B tripping

Key locking devices

- Type R6
- Type R7
- Type R8.

Extensible modules (DE-Q function)

Rated voltage	Ur	(kV)	12	12	17.5	24	24	24
Rated current busbars	Ir	(A)	630	630	630	630	630	630
Fuses (DE-Q function)								
Rated current		(A)	200	200	200	200	200	200
Off-load transformer laking capacity		(A)	16	16	16	16	16	16
Short-circuit breaking capacity		(kA)	21	25	21	12.5	16	20
Making capacity		(kA peak)	52.5	62.5	52.5	31.25	40	50
Bushing			A	A	A	A	A	A



Accessories and options

Auxiliary contacts alone

For fuse-switch combinations position indication LBSw 2 NO - 2 NC (this option is included in remote operation option)

Auxiliary contact for fuses blown

Shunt trip coil for external tripping

- 24 Vdc
- 48/60 Vdc
- 120 Vac
- 110/125 Vdc - 220 Vac
- 220 Vdc/380 Vac.

Undervoltage coil

- 24 Vdc
- 48 Vdc
- 125 Vdc
- 110-230 Vac.

Key locking devices

- Type R6
- Type R7
- Type R8.