

## TeSys contactors

TeSys D contactors for motor control up to 75 kW at 400 V, in category AC-3

For connection by screw clamp terminals and lugs



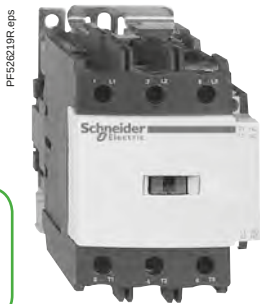
LC1 D09●●



LC1 D25●●



LC1 D80A●●



LC1 D95●●



LC1 D115●●

## 3-pole contactors

Standard power ratings of 3-phase motors  
50-60 Hz in category AC-3  
( $\theta \leq 60^\circ\text{C}$ )220 V 380 V 415 V 440 V 500 V 660 V 1000 V  
230 V 400 V 690 VRated  
operational  
current  
in AC-3  
440 V  
up toInstan-  
taneous  
auxiliary  
contactsBasic reference,  
to be completed by adding  
the control voltage code <sup>(2)</sup>Fixing <sup>(1)</sup>Weight  
<sup>(3)</sup>

kW kW kW kW kW kW kW A kg

## Connection by screw clamp terminals

|     |      |      |      |      |      |   |    |   |   |          |       |
|-----|------|------|------|------|------|---|----|---|---|----------|-------|
| 2.2 | 4    | 4    | 4    | 5.5  | 5.5  | — | 9  | 1 | 1 | LC1D09●● | 0.320 |
| 3   | 5.5  | 5.5  | 5.5  | 7.5  | 7.5  | — | 12 | 1 | 1 | LC1D12●● | 0.325 |
| 4   | 7.5  | 9    | 9    | 10   | 10   | — | 18 | 1 | 1 | LC1D18●● | 0.330 |
| 5.5 | 11   | 11   | 11   | 15   | 15   | — | 25 | 1 | 1 | LC1D25●● | 0.370 |
| 7.5 | 15   | 15   | 15   | 18.5 | 18.5 | — | 32 | 1 | 1 | LC1D32●● | 0.375 |
| 9   | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | — | 38 | 1 | 1 | LC1D38●● | 0.380 |

Power connections by EverLink® BTR screw connectors <sup>(4)</sup> and control by screw clamp terminal

|      |      |    |    |    |    |   |    |   |   |           |       |
|------|------|----|----|----|----|---|----|---|---|-----------|-------|
| 11   | 18.5 | 22 | 22 | 22 | 30 | — | 40 | 1 | 1 | LC1D40A●● | 0.850 |
| 15   | 22   | 25 | 30 | 30 | 33 | — | 50 | 1 | 1 | LC1D50A●● | 0.855 |
| 18.5 | 30   | 37 | 37 | 37 | 37 | — | 65 | 1 | 1 | LC1D65A●● | 0.860 |
| 22   | 37   | 37 | 37 | 37 | 37 | — | 66 | 1 | 1 | LC1D80A●● | 0.860 |

## Connection by screw clamp terminals or connectors

|    |    |    |    |    |     |    |     |   |   |           |       |
|----|----|----|----|----|-----|----|-----|---|---|-----------|-------|
| 22 | 37 | 45 | 45 | 55 | 45  | 45 | 80  | 1 | 1 | LC1D80●●  | 1.590 |
| 25 | 45 | 45 | 45 | 55 | 45  | 45 | 95  | 1 | 1 | LC1D95●●  | 1.610 |
| 30 | 55 | 59 | 59 | 75 | 80  | 65 | 115 | 1 | 1 | LC1D115●● | 2.500 |
| 40 | 75 | 80 | 80 | 90 | 100 | 75 | 150 | 1 | 1 | LC1D150●● | 2.500 |

## Connection by lugs or bars

In the references selected above, insert a figure 6 before the voltage code.

Example: LC1 D09●● becomes LC1 D096●●.

## Separate components

Auxiliary contact blocks and add-on modules: see pages B8/23 to B8/29.

<sup>(1)</sup> LC1 D09 to D80A: clip-on mounting on 35 mm rail AM1 DP or screw fixing.

LC1 D80 to D95 ~: clip-on mounting on 35 mm rail AM1 DP or 75 mm rail AM1 DL or screw fixing.

LC1 D80 to D95 ~: clip-on mounting on 75 mm rail AM1 DL or screw fixing.

LC1 D115 and D150: clip-on mounting on 2 x 35 mm rails AM1 DP or screw fixing.

<sup>(2)</sup> Standard control circuit voltages (for other voltages, please consult your Regional Sales Office):

## a.c. supply

| Volts                                                                                                              | 24 | 42 | 48 | 110 | 115 | 220 | 230 | 240 | 380 | 400 | 415 | 440 | 500 |
|--------------------------------------------------------------------------------------------------------------------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| LC1 D09...D150 (D115 and D150 coils with built-in suppression as standard, by bi-directional peak limiting diode). |    |    |    |     |     |     |     |     |     |     |     |     |     |
| 50/60 Hz                                                                                                           | B7 | D7 | E7 | F7  | FE7 | M7  | P7  | U7  | Q7  | V7  | N7  | R7  | S7  |
| LC1 D09...D65 (not available with "connection for lugs or bars")                                                   |    |    |    |     |     |     |     |     |     |     |     |     |     |
| 50 Hz                                                                                                              | B5 | D5 | E5 |     |     |     | P5  |     |     |     |     |     |     |
| LC1 D80...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  | —   |

## d.c. supply

| Volts                                                                                                               | 12 | 24 | 36 | 48 | 60 | 72 | 110 | 125 | 220 | 250 | 440 |
|---------------------------------------------------------------------------------------------------------------------|----|----|----|----|----|----|-----|-----|-----|-----|-----|
| LC1 D09...D38 (coils with integral suppression device fitted as standard, by bi-directional peak limiting diode)    |    |    |    |    |    |    |     |     |     |     |     |
| U 0.7...1.25 Uc                                                                                                     | JD | BD | CD | ED | ND | SD | FD  | GD  | MD  | UD  | RD  |
| LC1 D40A ...D65A (coils with integral suppression device fitted as standard, by bi-directional peak limiting diode) |    |    |    |    |    |    |     |     |     |     |     |
| U 0.75...1.25 Uc                                                                                                    | JD | BD | CD | ED | ND | SD | FD  | GD  | MD  | UD  | RD  |
| LC1 D80...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  | —   | —   |
| LC1 D115 and D150 (coil with built-in suppression device as standard)                                               |    |    |    |    |    |    |     |     |     |     |     |
| U 0.75...1.2 Uc                                                                                                     | —  | BD | —  | ED | ND | SD | FD  | GD  | MD  | UD  | RD  |

## Low consumption

| Volts                                                                                                            | 5  | 12 | 20 | 24 | 48 | 110 | 220 | 250 |
|------------------------------------------------------------------------------------------------------------------|----|----|----|----|----|-----|-----|-----|
| LC1 D09...D38 (coils with integral suppression device fitted as standard, by bi-directional peak limiting diode) |    |    |    |    |    |     |     |     |
| U 0.8...1.25 Uc                                                                                                  | AL | JL | ZL | BL | EL | FL  | ML  | UL  |

## a.c. / d.c. supply - low consumption

See TeSys D Green, page B8/13

For other voltages between 5 and 690 V, see pages B8/32 to B8/35.

<sup>(3)</sup> The weights indicated are for contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.160 kg from LC1 D09 to D38, 0.075 kg from LC1 D40A to D80A and 1 kg for LC1 D80 and D95.<sup>(4)</sup> BTR screws: hexagon socket head. In accordance with local electrical wiring regulations, a size 4 insulated Allen key must be used (reference LAD ALLEN4, see page B8/29).

## Overload relays

Thermal overload relays for TeSys D contactors - Class 10 A



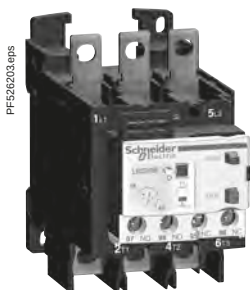
LRD01



LRD07



LRD30



LRD366

### 3-pole differential thermal overload relays for screw clamp connectors and lugs for use with fuses or magnetic circuit breakers GV2L and GV3L

- Compensated relays with manual or automatic reset
- with relay trip indicator
- for a.c. or d.c.

| Relay setting range (A)                                                                          | Fuses to be used with selected relay |        |          | For use with contactor LC1 | Reference                    | Weight kg |
|--------------------------------------------------------------------------------------------------|--------------------------------------|--------|----------|----------------------------|------------------------------|-----------|
|                                                                                                  | aM (A)                               | gG (A) | BS88 (A) |                            |                              |           |
| <b>Class 10 A <sup>(1)</sup> for connection by screw clamp terminals or connectors</b>           |                                      |        |          |                            |                              |           |
| 0.10...0.16                                                                                      | 0.25                                 | 2      | –        | D09...D38                  | <b>LRD01</b>                 | 0.124     |
| 0.16...0.25                                                                                      | 0.5                                  | 2      | –        | D09...D38                  | <b>LRD02</b>                 | 0.124     |
| 0.25...0.40                                                                                      | 1                                    | 2      | –        | D09...D38                  | <b>LRD03</b>                 | 0.124     |
| 0.40...0.63                                                                                      | 1                                    | 2      | –        | D09...D38                  | <b>LRD04</b>                 | 0.124     |
| 0.63...1                                                                                         | 2                                    | 4      | –        | D09...D38                  | <b>LRD05</b>                 | 0.124     |
| 1...1.6                                                                                          | 2                                    | 4      | 6        | D09...D38                  | <b>LRD06</b>                 | 0.124     |
| 1.6...2.5                                                                                        | 4                                    | 6      | 10       | D09...D38                  | <b>LRD07</b>                 | 0.124     |
| 2.5...4                                                                                          | 6                                    | 10     | 16       | D09...D38                  | <b>LRD08</b>                 | 0.124     |
| 4...6                                                                                            | 8                                    | 16     | 16       | D09...D38                  | <b>LRD10</b>                 | 0.124     |
| 5.5...8                                                                                          | 12                                   | 20     | 20       | D09...D38                  | <b>LRD12</b>                 | 0.124     |
| 7...10                                                                                           | 12                                   | 20     | 20       | D09...D38                  | <b>LRD14</b>                 | 0.124     |
| 9...13                                                                                           | 16                                   | 25     | 25       | D12...D38                  | <b>LRD16</b>                 | 0.124     |
| 12...18                                                                                          | 20                                   | 35     | 32       | D18...D38                  | <b>LRD21</b>                 | 0.124     |
| 16...24                                                                                          | 25                                   | 50     | 50       | D25...D38                  | <b>LRD22</b>                 | 0.124     |
| 23...32                                                                                          | 40                                   | 63     | 63       | D25...D38                  | <b>LRD32</b>                 | 0.124     |
| 30...38                                                                                          | 40                                   | 80     | 80       | D32 and D38                | <b>LRD35</b>                 | 0.124     |
| <b>Class 10 A <sup>(1)</sup> for connection by EverLink® BTR screw connectors <sup>(3)</sup></b> |                                      |        |          |                            |                              |           |
| 9...13                                                                                           | 16                                   | 25     | 25       | D40A...D65A                | <b>LRD313</b>                | 0.375     |
| 12...18                                                                                          | 20                                   | 32     | 35       | D40A...D65A                | <b>LRD318</b>                | 0.375     |
| 17...25                                                                                          | 25                                   | 50     | 50       | D40A...D65A                | <b>LRD325</b>                | 0.375     |
| 23...32                                                                                          | 40                                   | 63     | 63       | D40A...D65A                | <b>LRD332</b>                | 0.375     |
| 30...40                                                                                          | 40                                   | 80     | 80       | D40A...D65A                | <b>LRD340</b>                | 0.375     |
| 37...50                                                                                          | 63                                   | 100    | 100      | D40A...D65A                | <b>LRD350</b>                | 0.375     |
| 48...65                                                                                          | 63                                   | 100    | 100      | D50A and D65A              | <b>LRD365</b>                | 0.375     |
| 62...80                                                                                          | 80                                   | 125    | 125      | D80A                       | <b>LRD380 <sup>(4)</sup></b> | 0.375     |
| <b>Class 10 A <sup>(1)</sup> for connection by screw clamp terminals or connectors</b>           |                                      |        |          |                            |                              |           |
| 17...25                                                                                          | 25                                   | 50     | 50       | D80 and D95                | <b>LRD3322</b>               | 0.510     |
| 23...32                                                                                          | 40                                   | 63     | 63       | D80 and D95                | <b>LRD3353</b>               | 0.510     |
| 30...40                                                                                          | 40                                   | 100    | 80       | D80 and D95                | <b>LRD3355</b>               | 0.510     |
| 37...50                                                                                          | 63                                   | 100    | 100      | D80 and D95                | <b>LRD3357</b>               | 0.510     |
| 48...65                                                                                          | 63                                   | 100    | 100      | D80 and D95                | <b>LRD3359</b>               | 0.510     |
| 55...70                                                                                          | 80                                   | 125    | 125      | D80 and D95                | <b>LRD3361</b>               | 0.510     |
| 63...80                                                                                          | 80                                   | 125    | 125      | D80 and D95                | <b>LRD3363</b>               | 0.510     |
| 80...104                                                                                         | 100                                  | 160    | 160      | D80 and D95                | <b>LRD3365</b>               | 0.510     |
| 80...104                                                                                         | 125                                  | 200    | 160      | D115 and D150              | <b>LRD4365</b>               | 0.900     |
| 95...120                                                                                         | 125                                  | 200    | 200      | D115 and D150              | <b>LRD4367</b>               | 0.900     |
| 110...140                                                                                        | 160                                  | 250    | 200      | D150                       | <b>LRD4369</b>               | 0.900     |
| 80...104                                                                                         | 100                                  | 160    | 160      | <sup>(2)</sup>             | <b>LRD33656</b>              | 1.000     |
| 95...120                                                                                         | 125                                  | 200    | 200      | <sup>(2)</sup>             | <b>LRD33676</b>              | 1.000     |
| 110...140                                                                                        | 160                                  | 250    | 200      | <sup>(2)</sup>             | <b>LRD33696</b>              | 1.000     |

### Class 10 A <sup>(1)</sup> for connection by lugs

Select the appropriate 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 relays LRD313 to LRD380 <sup>(4)</sup>.

- A66 for relays LRD3322 to LRD3363.

Relays LRD4300 are suitable, as standard, for use with lug-clamps.

### Thermal overload relays for use with unbalanced loads

#### Class 10 A <sup>(1)</sup> for connection by screw clamp terminals or lugs

In the references selected above, change the prefix LRD (except LRD4300) to LR3D.

Example: **LRD01** becomes **LR3D01**.

Example with EverLink® connectors: **LRD340** becomes **LR3D340**.

Example with lugs: **LRD3406** becomes **LR3D3406**.

<sup>(1)</sup> Standard IEC 60947-4-1 specifies a tripping time for 7.2 times the setting current  $I_{Rt}$ : class 10 A: between 2 and 10 seconds.

<sup>(2)</sup> Independent mounting of the contactor.

<sup>(3)</sup> BTR screws: hexagon socket head. In accordance with local electrical wiring regulations, a size 4 insulated Allen key must be used (reference LADALLEN4, see page B8/29).

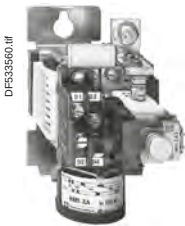
<sup>(4)</sup> LRD380 available end 2017.

Overload relays

Single-pole magnetic over current relays



RM1XA0011



RM1XA1001  
+  
ER1XA2●



RM1XA0011  
+  
RM1ZH21

| Latching with manual reset                                                                                                                                                                                                        |            |                              |                                     |           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------|-------------------------------------|-----------|
| With 1 C/O contact block, latching with manual reset                                                                                                                                                                              |            |                              |                                     |           |
| Recommended operating range (motor In)                                                                                                                                                                                            |            | Setting range (trip current) | Maximum continuous current ~ or --- | Reference |
| A                                                                                                                                                                                                                                 |            | A                            | A                                   |           |
| ~ or ---                                                                                                                                                                                                                          | 0.7...1.15 | 1.25...4                     | 1.6                                 | RM1XA0011 |
|                                                                                                                                                                                                                                   | 1.16...1.8 | 2...6.3                      | 2.5                                 | RM1XA0021 |
|                                                                                                                                                                                                                                   | 1.9...2.9  | 3.2...10                     | 4                                   | RM1XA0041 |
|                                                                                                                                                                                                                                   | 3...4.6    | 5...16                       | 6.3                                 | RM1XA0061 |
|                                                                                                                                                                                                                                   | 4.7...7.2  | 8...25                       | 10                                  | RM1XA0101 |
|                                                                                                                                                                                                                                   | 7.3...11.5 | 12.5...40                    | 16                                  | RM1XA0161 |
|                                                                                                                                                                                                                                   | 11.6...18  | 20...63                      | 25                                  | RM1XA0251 |
|                                                                                                                                                                                                                                   | 18.1...29  | 32...100                     | 40                                  | RM1XA0401 |
|                                                                                                                                                                                                                                   | 29.1...46  | 50...160                     | 63                                  | RM1XA0631 |
|                                                                                                                                                                                                                                   | 46.1...72  | 80...250                     | 100                                 | RM1XA1001 |
|                                                                                                                                                                                                                                   | 73...115   | 125...400                    | 160                                 | RM1XA1601 |
|                                                                                                                                                                                                                                   | 116...145  | 160...500                    | 200                                 | RM1XA2001 |
| ~                                                                                                                                                                                                                                 | 146...230  | 250...800                    | 315                                 | RM1XA3151 |
|                                                                                                                                                                                                                                   | 231...360  | 400...1250                   | 500                                 | RM1XA5001 |
| ---                                                                                                                                                                                                                               | 361...630  | 630...2200                   | 1000                                | RM1XA1011 |
|                                                                                                                                                                                                                                   | 361...570  | 630...2000                   | 1000                                | RM1XA1011 |
| Accessories (to be ordered separately)                                                                                                                                                                                            |            |                              |                                     |           |
| Description                                                                                                                                                                                                                       |            |                              |                                     | Reference |
| 1 C/O contact block, latching                                                                                                                                                                                                     |            |                              |                                     | RM1ZH21   |
| Electrical reset <sup>(1)</sup><br>(consumption: inrush, sealed: 500 VA)<br>(fitted to the relay together with a latching contact block)<br>Basic reference. Complete with code indicating control circuit voltage <sup>(2)</sup> |            |                              |                                     | ER1XA2●   |
| <sup>(1)</sup> The impulse duration must not exceed 2 seconds within 10 minute intervals.<br><sup>(2)</sup> Standard coil voltages for electrical reset:                                                                          |            |                              |                                     |           |
| Volts                                                                                                                                                                                                                             | 110        | 220                          |                                     |           |
| 50 Hz                                                                                                                                                                                                                             | F          | M                            |                                     |           |

## TeSys contactors

## TeSys D contactors and reversing contactors

## Accessories

Electronic serial timer modules <sup>(1)</sup>

- 3-pole contactors LC1 D09 to D38: mounted using adapter LAD 4BB, to be ordered separately, see below.
- 3-pole contactors LC1 D40A to D65A: mounted using adapter LAD 4BB3, to be ordered separately, see below.
- 3-pole contactors LC1 D80 to D150 and 4-pole contactors LC1 D40 to D115: mounted directly across terminals A1 and A2 of the contactor.

## On-delay type

| Operational voltage ~ |                     | Time delay | Reference |
|-----------------------|---------------------|------------|-----------|
| 24...250 V            | 100...250 V         |            |           |
| LC1 D09...D80A (3P)   | LC1 D80...D150 (3P) | 0.1...2 s  | LA4DT0U   |
|                       |                     | 1.5...30 s | LA4DT2U   |
|                       |                     | 25...500 s | LA4DT4U   |

## Interface modules

- 3-pole contactors LC1 D09 to D38: mounted using adapter LAD 4BB, to be ordered separately, see below.
- 3-pole contactors LC1 D40A to D80A: mounted using adapter LAD 4BB3, to be ordered separately, see below.

## Relay interface

| Operational voltage ~ |  | Supply voltage E1-E2 (---) | Reference |
|-----------------------|--|----------------------------|-----------|
| 24...250 V            |  |                            |           |
| LC1 D09...D150 (3P)   |  | 24 V                       | LA4DFB    |

## Static relay interface

| Operational voltage ~ |                     | Supply voltage E1-E2 (---) | Reference |
|-----------------------|---------------------|----------------------------|-----------|
| 24...250 V            | 100...250 V         |                            |           |
| LC1 D09...D80A (3P)   | LC1 D80...D115 (3P) | 24 V                       | LA4DWB    |

## Adapter kit for low control signal

| For use on contactors               | Composition                                                                                                                  | Reference |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------|
| LC1 D40A...D80A (3P) <sup>(2)</sup> | <ul style="list-style-type: none"> <li>■ 1 LAD4BB3 coil wiring adapter</li> <li>■ 1 LA4DFB relay interface module</li> </ul> | LA4DBL    |

## Wiring adapters for coil retrofit of 3 pole contactors

## For adapting existing wiring to a new product

| For use on contactors |                          | Reference              |
|-----------------------|--------------------------|------------------------|
| LC1 D09...D38         | Without coil suppression | LAD4BB <sup>(3)</sup>  |
|                       | With coil suppression    | ~ 24...48 V LAD4BBVE   |
|                       |                          | ~ 50...127 V LAD4BBVG  |
|                       |                          | ~ 110...250 V LAD4BBVU |
| LC1 D40A...80A        | Without coil suppression | LAD4BB3                |

<sup>(1)</sup> For 24 V operation, the contactor must be fitted with a 21 V coil (code Z). See pages B8/32 to B8/35.

<sup>(2)</sup> The kit is compatible with a coil voltage of ~ 24 V to ~ 250 V (B7 to U7) and --- 24 V to --- 250 V (BD to UD).

<sup>(3)</sup> LAD4BB can not be used with 4 poles contactors.