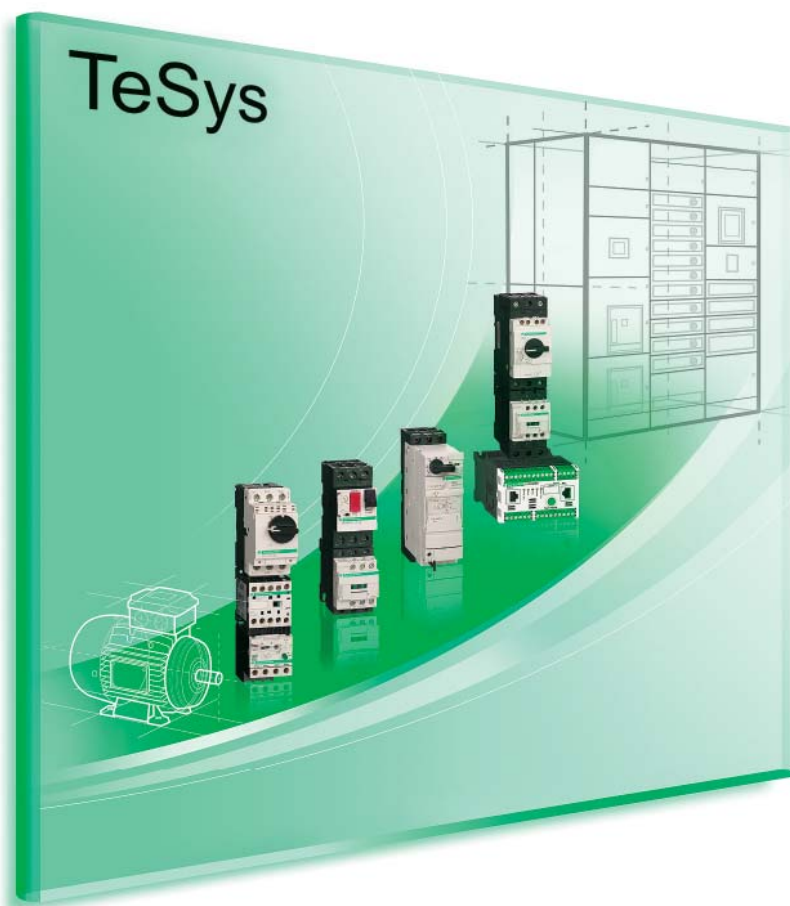


# Motor control

TeSys range provide you more *simplicity, compactness, openness* and *flexibility*  
... so many evolutions and new items to aid your productivity.

*Accurate and reliable  
control of motors*



Increase your productivity, adopt our solutions which help to simplify setting-up.

## Motor starters

- Ready-to-use component combinations, designed to work together in perfect harmony.
- Safe operation and level of coordination guaranteed by a major manufacturer.

## Power circuit control

- A wide range of components.
- Solutions for a variety of power control applications: lighting, capacitor switching, heating, changeover contactor pairs, resistive loads, upstream protection.

# Contents

New

## TeSys Motor starters up to 65 A



The new  
**TeSys GV3**  
circuit-breakers,  
**LC1D 40/50/65**  
contactors,  
**LRD3**  
thermal relays  
are equipped with the  
new terminal block:

EverLink



Long lasting connection quality.  
Schneider Electric  
patented technology.

## TeSys T Motor management system



TeSys protected

**TeSys T** is an advanced motor management and protection system. It is able to guard against all motor malfunctions: overload, current peak, excessive consumption, etc.

## TeSys U Communication modules



With open communication across CANopen, Profibus DP, Modbus, AS-interface, Advantys STB, DeviceNet and Ethernet networks, **TeSys U** has openness in mind.

## 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, changeover contactor pairs

TeSys K

Contactors  
0.06...5.5 kW



| Connections                                                                                                   |                         |                        |                      |                      |
|---------------------------------------------------------------------------------------------------------------|-------------------------|------------------------|----------------------|----------------------|
| screw clamp terminals                                                                                         |                         |                        |                      |                      |
| Rated operational current                                                                                     | le max AC-3 (Ue ≤ 440V) | 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 <sup>(1)*</sup>                                                                                | ~                       | LC1-K06••              | LC1-K09••            | LC1-K12••            |
|                                                                                                               | ---                     | LP1-K06•• or LP4-K06•• | LP1-K09 or LP4-K09•• | LP1-K12 or LP4-K12•• |
| Reversing contactor type *                                                                                    | ~                       | LC2-K06                | LC2-K09              | LC2-K12              |
| with mechanical interlock                                                                                     | ---                     | LP2-K06 or LP5-K06     | LP2-K09 or LP5-K09   | LP2-K12 or LP5-K12   |
| spring terminals                                                                                              |                         |                        |                      |                      |
| Add the figure 3 before the voltage code. Example LC1-K0610•• becomes LC1-K06103••                            |                         |                        |                      |                      |
| Faston connectors, 1 x 6.35 or 2 x 2.8                                                                        |                         |                        |                      |                      |
| Add the figure 7 before the voltage code. Example LC1-K0610•• becomes LC1-K06107••                            |                         |                        |                      |                      |
| solder pins for printed circuit boards                                                                        |                         |                        |                      |                      |
| Add the figure 5 before the voltage code. Example LC1-K0610•• becomes LC1-K06105••                            |                         |                        |                      |                      |
| (1) Basic reference, to be completed by adding 01 for N/C auxiliary contact, or 10 for N/O auxiliary contact. |                         |                        |                      |                      |
| * Basic reference to be completed by adding the coil voltage                                                  |                         |                        |                      |                      |

| Standard control circuit voltages                                                        |     |     |         |    |     |         |     |     |     |     |         |         |         |         |     |     |     |
|------------------------------------------------------------------------------------------|-----|-----|---------|----|-----|---------|-----|-----|-----|-----|---------|---------|---------|---------|-----|-----|-----|
| ~ supply                                                                                 |     |     |         |    |     |         |     |     |     |     |         |         |         |         |     |     |     |
| Contactors LC1-K (0.8...1.15 Uc) (0.85...1.1UC)                                          |     |     |         |    |     |         |     |     |     |     |         |         |         |         |     |     |     |
| 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 LC1-K0910P7                                                |     |     |         |    |     |         |     |     |     |     |         |         |         |         |     |     |     |
| --- supply                                                                               |     |     |         |    |     |         |     |     |     |     |         |         |         |         |     |     |     |
| Contactors LP1-K (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 LP4-K (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 LC1-K0910BD                                                |     |     |         |    |     |         |     |     |     |     |         |         |         |         |     |     |     |



## Auxiliary contact blocks

instantaneous, screw clamp connections

|             | ■ for LC1, LP1-K, LP4 |          |           | ■ for LC1, LP1-K |           |           |           |          |
|-------------|-----------------------|----------|-----------|------------------|-----------|-----------|-----------|----------|
| Composition | 2N/O                  | - 2N/C   | 1N/O 1N/C | 4N/O             | 3N/O 1N/C | 2N/C 2N/C | 1N/O 3N/C | - 4N/C   |
| Reference   | LA1-KN20              | LA1-KN02 | LA1-KN11  | LA1-KN40         | LA1-KN31  | LA1-KN22  | LA1-KN13  | LA1-KN04 |

## electronic time delay

Relay outputs, with common point changeover contact,  $\sim$  or  $\equiv$  24...48, 2 A maximum

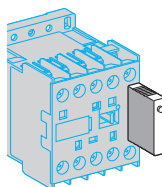
Control voltage 0.85...1.1Uc

Maximum switching capacity 250 VA or 150 W

Operating temperature -10...+ 60°C

Reset time: 1.5 s for 0.5 s after the time delay period

|              |                              |  |  |                  |  |  |  |  |
|--------------|------------------------------|--|--|------------------|--|--|--|--|
| Type         | On-delay                     |  |  |                  |  |  |  |  |
| Timing range | 1...30 s                     |  |  |                  |  |  |  |  |
| Composition  | 1                            |  |  |                  |  |  |  |  |
| Voltage      | $\sim$ or $\equiv$ 24...48 V |  |  | $\sim$ 110...240 |  |  |  |  |
| Reference    | LA2-KT2E                     |  |  | LA2-KT2U         |  |  |  |  |



## 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 | LA4-KE1B                         | LA4-KE1E  | LA4-KE1FC  | LA4-KE1UG   | LA4-KC1B                   | LA4-KC1E  | LA4-KA1U      |

TeSys D

Contactors

0.06...75 kW



Connections

screw clamp terminals or connectors

|                                         |                                                      |         |         |         |         |         |         |
|-----------------------------------------|------------------------------------------------------|---------|---------|---------|---------|---------|---------|
| Rated operational voltage               |                                                      | 690 V   |         |         |         |         |         |
| Rated operational current               | Ie max AC-3 (Ue ≤ 440V)                              | 9 A     | 12 A    | 18 A    | 25 A    | 32 A    | 38 A    |
|                                         | Ie 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 *                                     | LC1-D09 | LC1-D12 | LC1-D18 | LC1-D25 | LC1-D32 | LC1-D38 |
|                                         | Reversing contactor type * with mechanical interlock | LC2-D09 | LC2-D12 | LC2-D18 | LC2-D25 | LC2-D32 | LC2-D38 |

spring terminals <sup>(1)</sup>

Add the figure 3 before the voltage code. Example LC1-D09P7 becomes LC1-093P7

lug-clamps <sup>(2)</sup>

Add the figure 6 before the voltage code. Example LC1-D09P7 becomes LC1-096P7

Faston connectors <sup>(3)</sup> 2 x 6.35 (power) and 1 x 6.35 (control) up to D12 only

Add the figure 9 before the voltage code. Example LC1-D09P7 becomes LC1-099P7

\* Basic reference to be completed by adding the coil voltage

5



(1)



(2)



(3)

Standard control circuit voltages

~ supply

|                                                                                                     |    |    |    |     |     |     |     |     |     |     |     |     |     |
|-----------------------------------------------------------------------------------------------------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Volts                                                                                               | 24 | 42 | 48 | 110 | 115 | 220 | 230 | 240 | 380 | 400 | 415 | 440 | 500 |
| Contactors LC1-D09...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 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  | -   |

--- supply

|                                                                                          |    |    |    |    |    |    |     |     |     |     |     |  |  |
|------------------------------------------------------------------------------------------|----|----|----|----|----|----|-----|-----|-----|-----|-----|--|--|
| Volts                                                                                    | 12 | 24 | 36 | 48 | 60 | 72 | 110 | 125 | 220 | 250 | 440 |  |  |
| Contactors LC1-D09...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 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  | -   | -   |  |  |
| Contactors LC1-D115 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 LC1-D09...D38 (coils with integral suppression device fitted as standard)

|                 |    |    |    |    |    |     |     |     |  |  |  |  |  |
|-----------------|----|----|----|----|----|-----|-----|-----|--|--|--|--|--|
| Volts ---       | 5  | 12 | 20 | 24 | 48 | 110 | 120 | 250 |  |  |  |  |  |
| U 0.7...1.25 Uc | AL | JL | ZL | BL | EL | FL  | ML  | UL  |  |  |  |  |  |

Example of complete reference LC1-D09P7

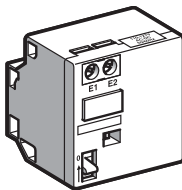


| 690 V    |          |          | 1 000 V on ~ supply, 690 V on ≡ supply |         |          |          |
|----------|----------|----------|----------------------------------------|---------|----------|----------|
| 40 A     | 50 A     | 65 A     | 80 A                                   | 95 A    | 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    |
| LC1-D40A | LC1-D50A | LC1-D65A | LC1-D80                                | LC1-D95 | LC1-D115 | LC1-D150 |
| LC2-D40A | LC2-D50A | LC2-D65A | LC2-D80                                | LC2-D95 | LC2-D115 | LC2-D150 |

## 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 (~)                                      | LA9-D8069          | LA9-D4002            |
| LC1-D80 and D95 (≡)                                      | LA9-D8069          | LA9-D8002            |
| LC1-D115 and D150                                        | LA9-D11569         | LA9-D11502           |
| ■ without electrical interlocking                        |                    |                      |
| LC1-D09...D38                                            | LA9-9R1            | included             |
| LC1-D40A...D65A                                          | LAD-9R3            | included             |
| LC1-D80 and D95 (~)                                      | LA9-D8069          | LA9-D50978           |
| LC1-D80 and D95 (≡)                                      | LA9-D8069          | LA9-D80978           |



## Mechanical latch blocks

Clip-on front mounting, manual or electrical unlatching control

| For use on contactor                                      | Reference | Standard control circuit voltages |
|-----------------------------------------------------------|-----------|-----------------------------------|
| LC1-D09...D65A ~ or ≡, LC1-DT20...DT80 ~ or ≡             | LA6-6K10• | B E F M Q                         |
| LC1-D80...D150 3P ~, LC1-D80 and D115 3P ~, LC1-D115 4P ≡ | LA6-DK20• | B E F M Q                         |



| Contact type   |         |                 | instantaneous, connection by screw terminals |               |
|----------------|---------|-----------------|----------------------------------------------|---------------|
| Block mounting |         |                 | Front mounting                               | Side mounting |
| References     | Contact | 1 "N/O"         | LADN10                                       | –             |
|                |         | 1 "N/C"         | LADN01                                       | –             |
|                |         | 1 "N/O" 1 "N/C" | LADN11                                       | LAD8N11       |
|                |         | 2 "N/O"         | LADN20                                       | LAD8N20       |
|                |         | 2 "N/C"         | LADN02                                       | LAD8N02       |
|                |         | 2 "N/O" 2 "N/C" | LADN22                                       | –             |
|                |         | 1 "N/O" 3 "N/C" | LADN13                                       | –             |
|                |         | 3 "N/O" 1 "N/C" | LADN31                                       | –             |
|                |         | 4 "N/O"         | LADN40                                       | –             |
|                |         | 4 "N/C"         | LADN04                                       | –             |



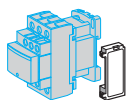
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| Type de contacts |  |           | Time delay, connection by screw terminals |            |            |
|------------------|--|-----------|-------------------------------------------|------------|------------|
| Block mounting   |  |           | 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      |

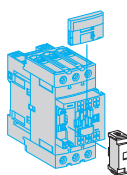
| Maximum number of auxiliary contacts that can be fitted |                          |                          |               |               |     |                |            |            |
|---------------------------------------------------------|--------------------------|--------------------------|---------------|---------------|-----|----------------|------------|------------|
| Type                                                    | Number of poles and size |                          | Instantaneous |               |     |                |            |            |
|                                                         |                          |                          | Side mounting |               |     | Front mounting |            |            |
|                                                         |                          |                          | on left side  | on right side |     | 1 contact      | 2 contacts | 4 contacts |
| AC                                                      | 3P                       | LC1D09...D38             | 1             | –             | and | –              | 1          | or 1       |
|                                                         |                          | LC1D40A...D65A           | 1             | or 1          | and | –              | 1          | or 1       |
|                                                         |                          | LC1D80...95 (50/60Hz)    | 1             | 1             | or  | 2              | and 1      | or 1       |
|                                                         |                          | LC1D80...95 (50 or 60Hz) | 1             | 1             | and | 2              | and 1      | or 1       |
|                                                         |                          | LC1D115 and D150         | 1             | –             | and | –              | 1          | or 1       |
|                                                         | 4P                       | LC1DT20...DT40           | 1             | –             | and | –              | 1          | or 1       |
|                                                         |                          | LC1DT60A...D80A          | 1             | or 1          | and | –              | 1          | or 1       |
|                                                         |                          | LC1D115                  | 1             | 1             | and | 1              | or 1       | or 1       |
| DC                                                      | 3P                       | LC1D09...D38             | –             | –             |     | –              | 1          | or 1       |
|                                                         |                          | LC1D40A...D65A           | 1             | or 1          | and | –              | 1          | or 1       |
|                                                         |                          | LC1D80 and 95            | –             | –             |     | 1              | or 1       | or 1       |
|                                                         |                          | LC1D115 and D150         | 1             | –             | and | –              | 1          | or 1       |
|                                                         | 4P                       | LC1DT20...DT40           | –             | –             |     | –              | 1          | or 1       |
|                                                         |                          | LC1DT60A...D80A          | –             | –             |     | –              | 1          | or 1       |
|                                                         |                          | LC1D115                  | 1             | 1             |     | –              | and 1      | or 1       |
|                                                         |                          |                          |               |               |     |                |            |            |
| DC low consumption                                      | 3P                       | LC1D09...D38             | –             | –             |     | –              | 1          | –          |
|                                                         | 4P                       | LC1DT20...DT40           | –             | –             |     | –              | 1          | –          |

# TeSys D

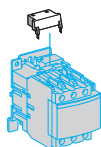
## Contactor Suppressor modules



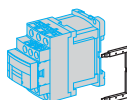
| Type of module         |         |               | RC circuits (Resistor-Capacitor) |                                   |                               |
|------------------------|---------|---------------|----------------------------------|-----------------------------------|-------------------------------|
| 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)               | –                             |

# TeSys F

## Contactors

### 90...450 kW



| Rated operational current | Ie max AC-3 (Ue ≤ 440V) | 185 A    | 225 A    | 265 A    | 330 A    |
|---------------------------|-------------------------|----------|----------|----------|----------|
|                           | Ie 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*           |                         | LC1-F185 | LC1-F225 | LC1-F265 | LC1-F330 |
| Reversing contactor type* |                         | LC2-F185 | LC2-F225 | LC2-F265 |          |

\* Basic reference to be completed by adding the coil voltage

| Standard control circuit voltages                                    |    |    |     |     |                   |     |     |     |     |     |     |     |      |
|----------------------------------------------------------------------|----|----|-----|-----|-------------------|-----|-----|-----|-----|-----|-----|-----|------|
| ~ supply                                                             |    |    |     |     |                   |     |     |     |     |     |     |     |      |
| Volts                                                                | 24 | 48 | 110 | 115 | 120               | 208 | 220 | 230 | 240 | 380 | 400 | 415 | 440  |
| Contactors LC1-F115...F225(0.85...1.1UC)                             |    |    |     |     |                   |     |     |     |     |     |     |     |      |
| 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 LC1-F265...F330U7                                         |    |    |     |     |                   |     |     |     |     |     |     |     |      |
| 40...400 Hz (coil LX1)                                               | B7 | E7 | F7  | FE7 | G7                | L7  | M7  | P7  | U7  | Q7  | V7  | N7  | R7   |
| Contactors LC1-F400...F630U7                                         |    |    |     |     |                   |     |     |     |     |     |     |     |      |
| 40...400 Hz (coil LX1)                                               | -  | E7 | F7  | FE7 | G7 <sup>(1)</sup> | L7  | M7  | P7  | U7  | Q7  | V7  | N7  | R7   |
| Contactor LC1-F780U7                                                 |    |    |     |     |                   |     |     |     |     |     |     |     |      |
| 40...400 Hz (coil LX1)                                               | -  | -  | F7  | FE7 | F7                | L7  | M7  | P7  | U7  | Q7  | V7  | N7  | R7   |
| Contactor LC1-F800U7                                                 |    |    |     |     |                   |     |     |     |     |     |     |     |      |
| 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 LC1-F115...F330(0.85...1.1UC)                             |    |    |     |     |                   |     |     |     |     |     |     |     |      |
| (coil LX4-F)                                                         | BD | ED | FD  | GD  | MD                | MD  | UD  | -   | RD  |     |     |     |      |
| Contactors LC1-F400...F630(0.85...1.1UC)                             |    |    |     |     |                   |     |     |     |     |     |     |     |      |
| (coil LX4-F)                                                         | -  | ED | FD  | GD  | MD                | -   | UD  | -   | RD  |     |     |     |      |
| Contactor LC1-F780(0.85...1.1UC)                                     |    |    |     |     |                   |     |     |     |     |     |     |     |      |
| (coil LX4-F)                                                         | -  | -  | FD  | GD  | MD                | -   | UD  | -   | RD  |     |     |     |      |
| Contactor LC1-F800(0.85...1.1UC)                                     |    |    |     |     |                   |     |     |     |     |     |     |     |      |
| (coil LX4-F)                                                         | -  | -  | FW  | FW  | MW                | MW  | -   | QW  | -   |     |     |     |      |
| Example: For a 630 A contactor with a 110 V ~ coil, order LC1-F630F7 |    |    |     |     |                   |     |     |     |     |     |     |     |      |

Example: For a 630 A contactor with a 110 V ~ coil, order **LC1-F630F7**

(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  |
|                       | 1 000 V   | 1 000 V   | 1 000 V   | 1 000 V  | 1 000 V  |
|                       | 2, 3 or 4 | 2, 3 or 4 | 2, 3 or 4 | 3 or 4   | 3        |
|                       | 110 kW    | 147 kW    | 200 kW    | 220 kW   | 250 kW   |
|                       | 200 kW    | 250 kW    | 335 kW    | 400 kW   | 450 kW   |
|                       | 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   |
|                       | LC1-F400  | LC1-F500  | LC1-F630  | LC1-F780 | LC1-F800 |
| For customer assembly |           |           |           |          |          |



## Auxiliary contact blocks

| instantaneous |           |             |           | dust & damp protected contacts |           |             |           | time delay 1N/O + 1 N/C |            |           |
|---------------|-----------|-------------|-----------|--------------------------------|-----------|-------------|-----------|-------------------------|------------|-----------|
| Composition   | Reference | Composition | Reference | Composition                    | Reference | Composition | Reference | Type                    | Range      | Reference |
| N/O           | N/C       | N/O         | N/C       | N/O                            | N/C       | N/O         | N/C       |                         |            |           |
| 1             | -         | 1           | 1         | 2                              | 2         | 2           | - - -     | On-delay                | 0.1...3 s  | LAD-T0    |
| -             | 1         | -           | -         | 1                              | 3         | 2           | 2 - -     |                         | 0.1...30 s | LAD-T2    |
|               |           | -           | 2         | 4                              | -         | 2           | - 2 -     |                         | 10...180 s | LAD-T4    |
|               |           |             |           | -                              | 4         | 2           | - 1 1     | Off-delay               | 1...30 s   | LAD-S2    |
|               |           |             |           | 3                              | 1         |             |           |                         | 0.1...3 s  | LAD-R0    |
|               |           |             |           | 2                              | 2         |             |           |                         | 0.1...30 s | LAD-R2    |
|               |           |             |           |                                |           |             |           |                         | 10...180 s | LAD-R4    |

## Mounting accessories for 3-pole reversing contactors for motor control

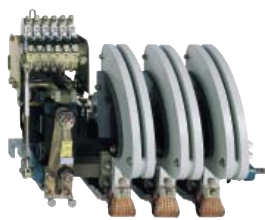
2 identical contactors, horizontally mounted

Mechanical interlock with an electrical interlocking kit for the contactors

| Contactor type       | Set of connections | Mechanical interlock |
|----------------------|--------------------|----------------------|
| LC1-F115             | LA9-FF976          | LA9-FF970            |
| LC1-F150             | LA9-F15076         | LA9-FF970            |
| LC1-F185             | LA9-FG976          | LA9-FG970            |
| LC1-F225             | LA9-F22576         | LA9-FG970            |
| LC1-F265             | LA9-FH976          | LA9-FJ970            |
| LC1-F330             | LA9-FJ976          | LA9-FJ970            |
| LC1-F400             | LA9-FJ976          | LA9-FJ970            |
| LC1-F500             | LA9-FK976          | LA9-FJ970            |
| LC1-F630 or LC1-F800 | LA9-FL976          | LA9-FL970            |

TeSys B

Contactors  
400...900 kW



| Rated operational current                            | Ie max AC-3 (Ue ≤ 440V) | 750 A   | 1000 A  | 1500 A  | 1800 A  |
|------------------------------------------------------|-------------------------|---------|---------|---------|---------|
|                                                      | Ie AC-1 (θ ≤ 40° C)     | 800 A   | 1250 V  | 2000 A  | 2750A   |
| 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 kW  | 280 kW  | 425 kW  | 500 kW  |
| in category AC3                                      | 220/240 V               | 400 kW  | 500 kW  | 750 kW  | 900 kW  |
|                                                      | 380/400 V               | 425 kW  | 530 kW  | 800 kW  | 900 kW  |
|                                                      | 415 V                   | 450 kW  | 560 kW  | 800 kW  | 900 kW  |
|                                                      | 440 V                   | 500 kW  | 600 kW  | 700 kW  | 900 kW  |
|                                                      | 500 V                   | 560 kW  | 670 kW  | 750 kW  | 900 kW  |
|                                                      | 660/690 V               | 530 kW  | 530 kW  | 670 kW  | 750 kW  |
| 4 instantaneous contact configurations               |                         |         |         |         |         |
| 2 N/C + 2 N/O, 3 N/O + 1 N/C, 1 N/O + 3 N/C or 4 N/O |                         |         |         |         |         |
| Contactor type*                                      |                         | LC1-BL  | LC1-BM  | LC1-BP  | LC1-BR  |

\* Basic reference to be completed by adding the coil voltage, followed by the instantaneous contact configuration.

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| 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 N/O + 1 N/C, select **LC1-BP33G31**

| Mounting accessories                               |               |            |
|----------------------------------------------------|---------------|------------|
| Description                                        | For contactor | Reference  |
| Bar support bracket                                | LC1-BL to BR  | LA9-B103   |
| for mounting on 120 or 150 mm centres              |               |            |
| Mechanical interlock and locking device components | LC1-B         | EZ2-LB0601 |

## Reference to compiled by the customer

| Contactor type, according to required use |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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Example 1/ for single-phase capacitor switching: 400 V - 80 A - 1 N/O pole - Control circuit 220 V / 50 Hz, 1 N/O and 1 1N/C auxiliary contacts: **CV1-BF1F0ZM511**.

2/ for heating circuits, d.c. supply 800 V - 150 A - 2 N/O poles - Control circuit 48 V  $\overline{\text{---}}$ , 1 N/O + 1 N/O On-delay auxiliary contacts: **CV3-BG2W0ZED10J**



### 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<br>of thermal<br>trips | Magnetic<br>tripping<br>current | Reference               |         |
|-----------|-----|--------------------|-------|-----|--------------------|-------|-----|--------------------|--------------------------------------|---------------------------------|-------------------------|---------|
| P         | Icu | Ics <sup>(1)</sup> | P     | Icu | Ics <sup>(1)</sup> | P     | Icu | Ics <sup>(1)</sup> | A                                    | A (d ± 20%)                     |                         |         |
| kW        | kA  |                    | kW    | kA  |                    | kW    | kA  |                    |                                      |                                 |                         |         |
| -         | -   | -                  | -     | -   | -                  | -     | -   | -                  | 0.1...0.16                           | 1.5                             | GV2-ME01                | GV2-P01 |
| 0.06      | ★   | ★                  | -     | -   | -                  | -     | -   | -                  | 0.16...0.25                          | 2.4                             | GV2-ME02                | GV2-P02 |
| 0.09      | ★   | ★                  | -     | -   | -                  | -     | -   | -                  | 0.25...0.40                          | 5                               | GV2-ME03                | GV2-P03 |
| 0.12      | ★   | ★                  | -     | -   | -                  | 0.37  | ★   | ★                  | 0.40...0.63                          | 8                               | GV2-ME04                | GV2-P04 |
| 0.18      | ★   | ★                  | -     | -   | -                  | -     | -   | -                  | 0.40...0.63                          | 8                               | GV2-ME04                | GV2-P04 |
| 0.25      | ★   | ★                  | -     | -   | -                  | 0.55  | ★   | ★                  | 0.63...1                             | 13                              | GV2-ME05                | GV2-P05 |
| 0.37      | ★   | ★                  | 0.37  | ★   | ★                  | -     | -   | -                  | 1...1.6                              | 22.5                            | GV2-ME06                | GV2-P06 |
| 0.55      | ★   | ★                  | 0.55  | ★   | ★                  | 0.75  | ★   | ★                  | 1...1.6                              | 22.5                            | GV2-ME06                | GV2-P06 |
| -         | -   | -                  | 0.75  | ★   | ★                  | 1.1   | ★   | ★                  | 1...1.6                              | 22.5                            | GV2-ME06                | GV2-P06 |
| 0.75      | ★   | ★                  | 1.1   | ★   | ★                  | 1.5   | 3   | 75                 | 1.6...2.5                            | 33.5                            | GV2-ME07                |         |
| 0.75      | ★   | ★                  | 1.1   | ★   | ★                  | 1.5   | 8   | 100                | 1.6...2.5                            | 33.5                            |                         | GV2-P07 |
| 1.1       | ★   | ★                  | 1.5   | ★   | ★                  | 2.2   | 3   | 75                 | 2.5...4                              | 51                              | GV2-ME08                |         |
| 1.1       | ★   | ★                  | 1.5   | ★   | ★                  | 2.2   | 8   | 100                | 2.5...4                              | 51                              |                         | GV2-P08 |
| 1.5       | ★   | ★                  | 2.2   | ★   | ★                  | 3     | 3   | 75                 | 2.5...4                              | 51                              | GV2-ME08                |         |
| 1.5       | ★   | ★                  | 2.2   | ★   | ★                  | 3     | 3   | 100                | 2.5...4                              | 51                              |                         | GV2-P08 |
| 2.2       | ★   | ★                  | 3     | 50  | 100                | 4     | 3   | 75                 | 4...6.3                              | 78                              | GV2-ME10                |         |
| 2.2       | ★   | ★                  | 3     | ★   | ★                  | 4     | 6   | 100                | 4...6.3                              | 78                              |                         | GV2-P10 |
| 3         | ★   | ★                  | 4     | 10  | 100                | 5.5   | 3   | 75                 | 6...10                               | 138                             | GV2-ME14                |         |
| 3         | ★   | ★                  | 4     | 50  | 100                | 5.5   | 6   | 100                | 6...10                               | 138                             |                         | GV2-P14 |
| 4         | ★   | ★                  | 5.5   | 10  | 100                | 7.5   | 3   | 75                 | 6...10                               | 138                             | GV2-ME14                |         |
| 4         | ★   | ★                  | 5.5   | 50  | 100                | 7.5   | 6   | 100                | 6...10                               | 138                             |                         | GV2-P14 |
| 5.5       | 15  | 50                 | 7.5   | 6   | 75                 | 9     | 3   | 75                 | 9...14                               | 170                             | GV2-ME16                |         |
| 5.5       | ★   | ★                  | 7.5   | 42  | 75                 | 9     | 6   | 100                | 9...14                               | 170                             |                         | GV2-P16 |
| -         | -   | -                  | -     | -   | -                  | 11    | 3   | 75                 | 9...14                               | 170                             | GV2-ME16                |         |
| -         | -   | -                  | -     | -   | -                  | 11    | 6   | 100                | 9...14                               | 170                             |                         | GV2-P16 |
| 7.5       | 15  | 50                 | 9     | 6   | 75                 | 15    | 3   | 75                 | 13...18                              | 223                             | GV2-ME20                |         |
| 7.5       | 50  | 50                 | 9     | 10  | 75                 | 15    | 4   | 100                | 13...18                              | 223                             |                         | GV2-P20 |
| 9         | 15  | 40                 | 11    | 4   | 75                 | 18.5  | 3   | 75                 | 17...23                              | 327                             | GV2-ME21                |         |
| 9         | 50  | 50                 | 11    | 10  | 75                 | 18.5  | 4   | 100                | 17...23                              | 327                             |                         | GV2-P21 |
| 11        | 15  | 40                 | 15    | 4   | 75                 | -     | -   | -                  | 20...25                              | 327                             | GV2-ME22 <sup>(2)</sup> |         |
| 11        | 50  | 50                 | 15    | 10  | 75                 | -     | -   | -                  | 20...25                              | 327                             |                         | GV2-P22 |
| 15        | 10  | 50                 | 18.5  | 4   | 75                 | 22    | 3   | 75                 | 24...32                              | 416                             | GV2-ME32                |         |
| 15        | 50  | 50                 | 18.5  | 10  | 75                 | 22    | 4   | 100                | 24...32                              | 416                             |                         | GV2-P32 |

H > 100 kA

(1) as % of Icu

(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 **GV2-ME22** becomes **GV2-ME223**

### Thermal-magnetic circuit-breakers GV2-ME for connection by ring terminals

Add the figure 6 to the end of the reference. Example **GV2-ME32** becomes **GV2-ME326**



## 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 |     |                    | 500 V |     |                    | 690 V |     |                    | Magnetic protection | Tripping current | Use in association with thermal overload relay | Reference           |
|-----------|-----|--------------------|-------|-----|--------------------|-------|-----|--------------------|---------------------|------------------|------------------------------------------------|---------------------|
| P         | Icu | Ics <sup>(1)</sup> | P     | Icu | Ics <sup>(1)</sup> | P     | Icu | Ics <sup>(1)</sup> | rating              | d ± 20%          |                                                |                     |
| kW        | kA  |                    | kW    | kA  |                    | kW    | kA  |                    | A                   | A                |                                                |                     |
| 0.06      | ★   | ★                  | -     | -   | -                  | -     | -   | -                  | 0.4                 | 5                | LR2-K0302                                      | GV2-LE03            |
| 0.09      | ★   | ★                  | -     | -   | -                  | -     | -   | -                  | 0.4                 | 5                | LR2-K0304 or LRD-03                            | GV2-LE03<br>GV2-L03 |
| 0.12      | ★   | ★                  | -     | -   | -                  | 0.37  | ★   | ★                  | 0.63                | 8                | LR2-K0304 or LRD-04                            | GV2-LE04<br>GV2-L04 |
| 0.18      | ★   | ★                  | -     | -   | -                  | -     | -   | -                  | 0.63                | 8                | LR2-K0305 or LRD-04                            | GV2-LE04<br>GV2-L04 |
| -         | -   | -                  | -     | -   | -                  | 0.55  | ★   | ★                  | 1                   | 13               | LR2-K0305 or LRD-05                            | GV2-LE05<br>GV2-L05 |
| 0.25      | ★   | ★                  | -     | -   | -                  | -     | -   | -                  | 1                   | 13               | LR2-K0306 or LRD-05                            | GV2-LE05<br>GV2-L05 |
| -         | -   | -                  | -     | -   | -                  | 0.75  | ★   | ★                  | 1                   | 13               | LR2-K0306 or LRD-06                            | GV2-LE05<br>GV2-L05 |
| 0.37      | ★   | ★                  | 0.37  | ★   | ★                  | -     | -   | -                  | 1                   | 13               | LR2-K0306 or LRD-05                            | GV2-LE05<br>GV2-L05 |
| 0.55      | ★   | ★                  | 0.55  | ★   | ★                  | 1.1   | ★   | ★                  | 1.6                 | 22.5             | LR2-K0307 or LRD-06                            | GV2-LE06<br>GV2-L06 |
| -         | -   | -                  | 0.75  | ★   | ★                  | -     | -   | -                  | 1.6                 | 22.5             | LR2-K0307 or LRD-06                            | GV2-LE06<br>GV2-L06 |
| 0.75      | ★   | ★                  | 1.1   | ★   | ★                  | 1.5   | 3   | 75                 | 2.5                 | 33.5             | LR2-K0308                                      | GV2-LE07            |
| 0.75      | ★   | ★                  | 1.1   | ★   | ★                  | 1.5   | 4   | 100                | 2.5                 | 33.5             | LRD-07                                         | GV2-L07             |
| 1.1       | ★   | ★                  | -     | -   | -                  | -     | -   | -                  | 2.5                 | 33.5             | LR2-K0308 or LRD-08                            | GV2-LE08<br>GV2-L08 |
| 1.5       | ★   | ★                  | 1.5   | ★   | ★                  | 3     | 3   | 75                 | 4                   | 51               | LR2-K0310                                      | GV2-LE08            |
| 1.5       | ★   | ★                  | 1.5   | ★   | ★                  | 3     | 4   | 100                | 4                   | 51               | LRD-08                                         | GV2-L08             |
| -         | -   | -                  | 2.2   | ★   | ★                  | -     | -   | -                  | 4                   | 51               | LR2-K0312 or LRD-08                            | GV2-LE08<br>GV2-L08 |
| 2.2       | ★   | ★                  | 3     | 50  | 100                | 4     | 3   | 75                 | 6.3                 | 78               | LR2-K0312                                      | GV2-LE10            |
| 2.2       | ★   | ★                  | 3     | ★   | ★                  | 4     | 4   | 100                | 6.3                 | 78               | LRD-10                                         | GV2-L10             |
| 3         | ★   | ★                  | 4     | 10  | 100                | 5.5   | 3   | 75                 | 10                  | 138              | LR2-K0314                                      | GV2-LE14            |
| 3         | ★   | ★                  | 4     | 10  | 100                | 5.5   | 4   | 100                | 10                  | 138              | LRD-12                                         | GV2-L14             |
| 4         | ★   | ★                  | 5.5   | 10  | 100                | -     | -   | -                  | 10                  | 138              | LR2-K0316 or LRD-14                            | GV2-LE14<br>GV2-L14 |
| -         | -   | -                  | -     | -   | -                  | 7.5   | 3   | 75                 | 10                  | 138              | LRD-14                                         | GV2-LE14            |
| -         | -   | -                  | -     | -   | -                  | 7.5   | 4   | 100                | 10                  | 138              | LRD-14                                         | GV2-L14             |
| -         | -   | -                  | -     | -   | -                  | 9     | 3   | 75                 | 14                  | 170              | LRD-16                                         | GV2-LE16            |
| -         | -   | -                  | -     | -   | -                  | 9     | 4   | 100                | 14                  | 170              | LRD-16                                         | GV2-L16             |
| 5.5       | 15  | 50                 | 7.5   | 6   | 75                 | 11    | 3   | 75                 | 14                  | 170              | LR2-K0321                                      | GV2-LE16            |
| 5.5       | 50  | 50                 | 7.5   | 10  | 75                 | 11    | 4   | 100                | 14                  | 170              | LRD-16                                         | GV2-L16             |
| 7.5       | 15  | 50                 | 9     | 6   | 75                 | 15    | 3   | 75                 | 18                  | 223              | LRD-21                                         | GV2-LE20            |
| 7.5       | 50  | 50                 | 9     | 10  | 75                 | 15    | 4   | 100                | 18                  | 223              | LRD-21                                         | GV2-L20             |
| 9         | 15  | 40                 | 11    | 4   | 75                 | 18.5  | 3   | 75                 | 25                  | 327              | LRD-22                                         | GV2-LE22            |
| 9         | 50  | 50                 | 11    | 10  | 75                 | 18.5  | 4   | 100                | 25                  | 327              | LRD-22                                         | GV2-L22             |
| 11        | 15  | 40                 | 15    | 4   | 75                 | -     | -   | -                  | 25                  | 327              | LRD-22                                         | GV2-LE22            |
| 11        | 50  | 50                 | 15    | 10  | 75                 | -     | -   | -                  | 25                  | 327              | LRD-22                                         | GV2-L22             |
| 15        | 10  | 50                 | 18.5  | 4   | 75                 | 22    | 3   | 75                 | 32                  | 416              | LRD-32                                         | GV2-LE32            |
| 15        | 50  | 50                 | 18.5  | 10  | 75                 | 22    | 4   | 100                | 32                  | 416              | LRD-32                                         | GV2-L32             |

H &gt; 100 kA

(1) as % of Icu

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 <sup>(1)</sup> | P     | Icu | Ics <sup>(1)</sup> | P         | Icu | Ics <sup>(1)</sup> | trips         |           |
| kW                                                                 | kA  |                    | kW    | kA  |                    | kW        | kA  |                    | A             |           |
| 5,5                                                                | 100 | 50                 | 7,5   | 12  | 50                 | 11        | 6   | 50                 | 9...13        | GV3-P13   |
| 7,5                                                                | 100 | 50                 | 11    | 12  | 50                 | 15        | 6   | 50                 | 12...18       | GV3-P18   |
| 11                                                                 | 100 | 50                 | 15    | 12  | 50                 | 18,5      | 6   | 50                 | 17...25       | GV3-P25   |
| 15                                                                 | 100 | 50                 | 18,5  | 12  | 50                 | 22        | 6   | 50                 | 23...32       | GV3-P32   |
| 18,5                                                               | 50  | 50                 | 22    | 10  | 50                 | 30        | 5   | 60                 | 30...40       | GV3-P40   |
| 22                                                                 | 50  | 50                 | 30    | 10  | 50                 | 37        | 5   | 60                 | 37...50       | GV3-P50   |
| 30                                                                 | 50  | 50                 | 37    | 10  | 50                 | 45        | 5   | 60                 | 48...65       | GV3-P65   |

(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**

For motor starter solution, only 1 EverLink terminal block, add the figure 1 at 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      |           |
| kW                                                                 | kA  |     | kW    | kA  |     | kW    | kA  |     | relay                | Rating A        | Reference |
| 11                                                                 | 100 | 50  | 15    | 12  | 50  | 18,5  | 6   | 50  | LRD-22               | 25              | GV3-L25   |
| 15                                                                 | 100 | 50  | 18,5  | 12  | 50  | 22    | 6   | 50  | LRD-32               | 32              | GV3-L32   |
| 18,5                                                               | 50  | 50  | 22    | 10  | 50  | 30    | 5   | 60  | LRD-3355             | 40              | GV3-L40   |
| 22                                                                 | 50  | 50  | 30    | 10  | 50  | 45    | 5   | 60  | LRD-3357             | 50              | GV3-L50   |
| 30                                                                 | 50  | 50  | 37    | 10  | 50  | 45    | 5   | 60  | LRD-3359             | 65              | GV3-L65   |

### 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**

For motor starter solution, only 1 EverLink terminal block, add the figure 1 at the end of the reference. Example : GV3L65 becomes GV3L651

(2) BTR screw of 4 mm

## Add-on blocks and accessories <sup>(3)</sup>

### Add-on blocks (front)

### Fault signalling contact + instantaneous auxiliary contact

| Contact type   | N/O (fault) + N/C | N/O (fault) + N/O |
|----------------|-------------------|-------------------|
| Références (4) | GV-AED011         | GV-AED101         |

### Accessories

| Type       | for contactor for lug type terminals | IP20 cover for lug type terminals | Set of 3-pole 115 A busbars | 2-pole busbars | "Wide spacing" UL 508 type E cover | Side by side mounting busbars |
|------------|--------------------------------------|-----------------------------------|-----------------------------|----------------|------------------------------------|-------------------------------|
| Références | LAD96575                             | LAD96570                          | GV3G364                     | GV36264        | GV3G66                             | 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**



| Accessories GV2                                               |                |                            |                                                              |                          |
|---------------------------------------------------------------|----------------|----------------------------|--------------------------------------------------------------|--------------------------|
| Combination block                                             |                |                            |                                                              |                          |
| For mounting on                                               |                | LC1-K or LP1-K             | LC1-D09...D38                                                | LAD-31 and LC1-D09...D38 |
|                                                               |                | GV2-AF01                   | GV2-AF3                                                      | GV2-AF4                  |
| Sets of 3-pole busbars                                        |                |                            |                                                              |                          |
| 63 A                                                          | Pitch          | 45 mm                      | 54 mm                                                        | 72 mm                    |
| Number of tap-offs                                            | 2              | GV2-G245                   | GV2-G254                                                     | GV2-G272                 |
|                                                               | 3              | GV2-G345                   | GV2-G354                                                     |                          |
|                                                               | 4              | GV2-G445                   | GV2-G454                                                     | GV2-G472                 |
|                                                               | 5              |                            | GV2-G554                                                     |                          |
| Protective end cover                                          |                |                            |                                                              |                          |
| For unused busbar outlets                                     |                | GV1-G10                    |                                                              |                          |
| Terminal blocks                                               |                |                            |                                                              |                          |
| 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) |                          |
|                                                               |                | GV1-G09                    | GV1-G05                                                      |                          |
| 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 | GV2-AP01                   | GV2-AP02                                                     |                          |
|                                                               | For GV2-LE     | GV2-AP03                   | –                                                            |                          |
|                                                               | For GV3-P/L    | GV3-AP01                   | GV3-AP02                                                     |                          |

| Add-on blocks common to GV2 / GV3                                      |             |            |           |           |               |                  |
|------------------------------------------------------------------------|-------------|------------|-----------|-----------|---------------|------------------|
| Contact blocks                                                         |             |            |           |           |               |                  |
| Contact types                                                          |             | N/O or N/C | N/O + N/C | N/O + N/O | (fault) + N/C | (fault) + N/O    |
| Instantaneous auxiliary contacts                                       |             |            |           |           |               | C/O common point |
| Mounting                                                               | front       | GV-AE1     | GV-AE11   | GV-AE20   |               |                  |
|                                                                        | LH side     |            | GV-AN11   | GV-AN20   |               |                  |
| Fault signalling contact + instantaneous auxiliary contact             |             |            |           |           |               |                  |
|                                                                        | LH side     | "F" fault  |           |           | GV-AD1001     | GV-AD1010        |
|                                                                        |             | "O" fault  |           |           | GV-AD0101     | GV-AD0110        |
| Short-circuit signalling contact                                       |             |            |           |           |               |                  |
|                                                                        | LH side     |            |           |           |               | GV-AM11          |
| Electric trips                                                         |             |            |           |           |               |                  |
| Undervoltage or shunt trips (1)                                        |             |            |           |           |               |                  |
| Side mounting (1 block on RH side of circuit-breaker)                  |             | 50 Hz      |           | 60 Hz     |               |                  |
| Voltage                                                                | 24 V        | GV-A•025   |           | GV-A•026  |               |                  |
|                                                                        | 48 V        | GV-A•055   |           | GV-A•056  |               |                  |
|                                                                        | 100 V       | GV-A•107   |           |           |               |                  |
|                                                                        | 100...110 V |            |           | GV-A•107  |               |                  |
|                                                                        | 110...115 V | GV-A•115   |           | GV-A•116  |               |                  |
|                                                                        | 120...127 V | GV-A•125   |           |           |               |                  |
|                                                                        | 127 V       |            |           | GV-A•115  |               |                  |
|                                                                        | 200 V       | GV-A•207   |           |           |               |                  |
|                                                                        | 200...220 V |            |           | GV-A•207  |               |                  |
|                                                                        | 220...240 V | GV-A•225   |           | GV-A•226  |               |                  |
|                                                                        | 380...400 V | GV-A•385   |           | GV-A•386  |               |                  |
|                                                                        | 415...440 V | GV-A•415   |           |           |               |                  |
|                                                                        | 415 V       |            |           | GV-A•416  |               |                  |
| Padlocking device                                                      |             |            |           |           |               |                  |
| For use with up to 4 padlocks (padlocks not supplied) Ø 6 mm shank max |             | GV2-V03    |           |           |               |                  |

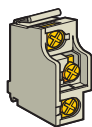


**Thermal-magnetic circuit-breakers GV7-R for connection by screw clamp terminals**

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                                                                  | Icu | Ics <sup>(1)</sup> | P     | Icu | Ics <sup>(1)</sup> | P         | Icu | Ics <sup>(1)</sup> | trips         |           |
| kW                                                                 | kA  |                    | kW    | kA  |                    | kW        | kA  |                    | A             |           |
| 7.5                                                                | 25  | 100                | 9     | 18  | 100                | 11        | 8   | 100                | 12...20       | GV7-RE20  |
| 9                                                                  | 25  | 100                | 11    | 18  | 100                | 15        | 8   | 100                |               |           |
| 7.5                                                                | 70  | 100                | 9     | 50  | 100                | 11        | 10  | 100                | 12...20       | GV7-RS20  |
| 9                                                                  | 70  | 100                | 11    | 50  | 100                | 15        | 10  | 100                |               |           |
| 9                                                                  | 25  | 100                | 11    | 18  | 100                | 15        | 8   | 100                | 15...25       | GV7-RE25  |
| 11                                                                 | 25  | 100                | 15    | 18  | 100                | 18.5      | 8   | 100                |               |           |
| 9                                                                  | 70  | 100                | 11    | 50  | 100                | 15        | 10  | 100                | 15...25       | GV7-RS25  |
| 11                                                                 | 70  | 50                 | 15    | 50  | 100                | 18.5      | 10  | 100                |               |           |
| 18.5                                                               | 25  | 100                | 18.5  | 18  | 100                | 22        | 8   | 100                | 25...40       | GV7-RE40  |
|                                                                    |     |                    | 22    | 18  | 100                |           |     |                    |               |           |
| 18.5                                                               | 70  | 100                | 18.5  | 50  | 100                | 22        | 10  | 100                | 25...40       | GV7-RS40  |
| 22                                                                 | 25  | 100                | 30    | 18  | 100                | 30        | 8   | 100                | 30...50       | GV7-RE50  |
| 37                                                                 | 25  | 100                | 45    | 18  | 100                | 55        | 8   | 100                | 48...80       | GV7-RE80  |
|                                                                    |     |                    | 55    | 18  | 100                |           |     |                    |               |           |
| 37                                                                 | 70  | 100                | 45    | 50  | 100                | 55        | 10  | 100                | 48...80       | GV7-RS80  |
|                                                                    |     |                    | 55    | 50  | 100                |           |     |                    |               |           |
| 45                                                                 | 25  | 100                | -     | 18  | 100                | 75        | 8   | 100                | 60...100      | GV7-RE100 |
| 45                                                                 | 70  | 100                | -     | 50  | 100                | 75        | 10  | 100                | 60...100      | GV7-RS100 |
| 55                                                                 | 35  | 100                | 75    | 30  | 100                | 90        | 8   | 100                | 90...150      | GV7-RE150 |
| 75                                                                 | 70  | 100                | 90    | 30  | 100                | 110       | 8   | 100                |               |           |
| 55                                                                 | 70  | 100                | 75    | 50  | 100                | 90        | 10  | 100                | 90...150      | GV7-RS150 |
| 75                                                                 | 70  | 100                | 90    | 50  | 100                | 110       | 10  | 100                |               |           |
| 90                                                                 | 35  | 100                | 110   | 30  | 100                | 160       | 8   | 100                | 132...220     | GV7-RE220 |
| 110                                                                | 35  | 100                | 132   | 30  | 100                | 200       | 8   | 100                |               |           |
|                                                                    |     |                    | 160   | 30  | 100                |           |     |                    |               |           |
| 90                                                                 | 70  | 100                | 110   | 50  | 100                | 160       | 10  | 100                | 132...220     | GV7-RS220 |

(1) as % of Icu



| Add-on blocks                            |          |                            |              |               |             |           |
|------------------------------------------|----------|----------------------------|--------------|---------------|-------------|-----------|
| Contact blocks                           |          |                            |              |               |             |           |
| Auxiliary contacts                       |          |                            |              |               |             |           |
| Contact type                             |          | C/O                        |              |               |             |           |
|                                          |          | GV7-AE11                   |              |               |             |           |
| Thermal or magnetic fault discrimination |          |                            |              |               |             |           |
|                                          |          | ⎓ 24...48 V or ⎓ 24...72 V |              | ⎓ 110...240 V |             |           |
|                                          |          | GV7-AD111                  |              | GV7-AD112     |             |           |
| Electric trips                           |          |                            |              |               |             |           |
| Voltage                                  | 50/60 Hz | 48 V                       | 110... 130 V | 200... 240 V  | 380...440 V |           |
|                                          | 50 Hz    |                            |              |               |             | 525 V     |
| Undervoltage trip <sup>(1)</sup>         |          | GV7-AU055                  | GV7-AU107    | GV7-AU207     | GV7-AU387   | GV7-AU525 |
| Shunt trip <sup>(1)</sup>                |          | GV7-AS055                  | GV7-AS107    | GV7-AS207     | GV7-AS387   | GV7-AS525 |

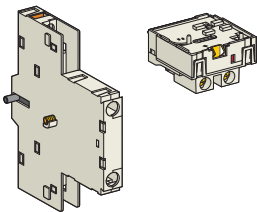
(1) For mounting of a GV7-AD or a GV7-AU or AS

| Accessories                                                 |       |                  |                  |                   |
|-------------------------------------------------------------|-------|------------------|------------------|-------------------|
| Terminal shields IP 405                                     |       |                  |                  |                   |
| Supplied with the sealing accessory                         |       | GV7-AC01         |                  |                   |
| Phase barriers                                              |       |                  |                  |                   |
| Safety accessories                                          |       | GV7-AC04         |                  |                   |
| used when fitting of shields is impossible                  |       |                  |                  |                   |
| Insulating screens                                          |       |                  |                  |                   |
| Ensure insulation between                                   |       | GV7-AC05         |                  |                   |
| the connections and the backplate                           |       |                  |                  |                   |
| 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 |
|                                                             |       | GV7-AC06         | GV7-AC07         | GV7-AC08          |
| Rotary handles                                              |       |                  |                  |                   |
| Handle                                                      |       | black            |                  | red               |
| Legend plate                                                |       | black            |                  | yellow            |
| ■ direct                                                    | IP 40 | GV7-AP03         |                  | GV7-AP04          |
| ■ extended                                                  | IP 55 | GV7-AP01         |                  | GV7-AP02          |
| Conversion accessory                                        |       |                  |                  |                   |
| for mounting on enclosure door                              | IP 43 | GV7-AP05         |                  |                   |
| Locking device                                              |       |                  |                  |                   |
| For circuit-breaker not fitted with a rotary handle         |       | GV7-V01          |                  |                   |



| 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                                                                                | Icu | Ics <sup>(1)</sup> | P     | Icu | Ics <sup>(1)</sup> | P         | Icu | Ics <sup>(1)</sup> | trips         |           |
| kW                                                                               | kA  |                    | kW    | kA  |                    | kW        | kA  |                    | A             |           |
| 37                                                                               | 15  | 50                 | 45    | 4   | 100                | 55        | 2   | 100                | 56...80       | GV3-ME80  |

(1) as % of Icu

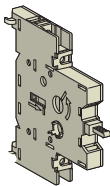


| Add-on blocks for GV3-ME                         |           |                 |                 |                 |                          |                          |
|--------------------------------------------------|-----------|-----------------|-----------------|-----------------|--------------------------|--------------------------|
| Contact blocks                                   |           |                 |                 |                 |                          |                          |
| Instantaneous auxiliary contacts (1 per breaker) |           |                 |                 |                 |                          |                          |
| Normal early break type contacts                 | N/C + N/O | N/O + N/O       | N/C + N/O + N/O | N/O + N/O + N/O | N/O + N/O <sup>(1)</sup> | N/C + N/O <sup>(1)</sup> |
|                                                  | GV3-A01   | GV3-A02         | GV3-A03         | GV3-A05         | GV3-A06                  | GV3-A07                  |
| Fault signalling contact                         |           |                 |                 |                 |                          |                          |
| Normal early break type contacts                 | N/C       |                 |                 | N/O             |                          |                          |
|                                                  | GV3-A08   |                 |                 | GV3-A09         |                          |                          |
| 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                                |           | GV3-B11         | GV3-B22         | GV3-B38         |                          |                          |
| Shunt trip                                       |           | GV3-D11         | GV3-D22         | GV3-D38         |                          |                          |
| Padlocking device                                |           |                 |                 |                 |                          |                          |
| Start button (for bare device)                   |           | GV1-V02         |                 |                 |                          |                          |

(1) + 2 volt free terminals



| 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                                                                        | Icu | Ics | P     | Icu | Ics | P     | Icu | Ics | min. size            | protection      |           |
| kW                                                                       | kA  |     | kW    | kA  |     | kW    | kA  |     | relay                | Rating A        | Reference |
| 37                                                                       | 35  | 25  | 45    | 15  | 30  | -     | -   | -   | LRD-3363             | 80              | GK3-EF80  |



| Add-on blocks for GK3                                          |                 |                 |                 |                |                |
|----------------------------------------------------------------|-----------------|-----------------|-----------------|----------------|----------------|
| Contact blocks                                                 |                 |                 |                 |                |                |
| Contact types                                                  | N/O             | N/O + N/O       | N/C + N/O       | N/C            | N/O            |
| <b>On-Off signalling contacts</b>                              | <b>GK2-AX10</b> | <b>GK2-AX20</b> | <b>GK2-AX50</b> |                |                |
| and "Control circuit test" function (1 or 2 blocks per device) |                 |                 |                 |                |                |
| mounted on RH side of GK3-EF                                   |                 |                 |                 |                |                |
| <b>Instantaneous fault signalling contacts</b>                 | <b>GK2-AX12</b> | <b>GK2-AX22</b> | <b>GK2-AX52</b> |                |                |
| (1 or 2 blocks per device) mounted on LH side of GK3-EF        |                 |                 |                 |                |                |
| <b>Fault signalling contact <sup>(1)</sup></b>                 |                 |                 |                 | <b>GV3-A08</b> | <b>GV3-A09</b> |

(1) 1 trip OR 1 fault signalling contact to be fitted inside the circuit-breaker.

| Accessories                                                                |          |
|----------------------------------------------------------------------------|----------|
| Padlocking device                                                          |          |
| for padlocking the operator, with up to 3 padlocks (padlocks not supplied) | GK3-AV01 |
| External operator                                                          |          |
| for mounting on enclosure door.                                            | GK3-AP03 |
| 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                   |          |



TeSys DF

Fuse carriers

0.5...125 A



| Type                                     |                 |      | Fuse carriers witout indicator |            |            |            |
|------------------------------------------|-----------------|------|--------------------------------|------------|------------|------------|
| Rated operational 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 rated 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                          | DF10N      | DF14N      | DF22N      |
|                                          |                 | 2P   | DF82                           | DF102      | DF142      | DF222      |
|                                          |                 | 3P   | DF83                           | DF103      | DF143C     | DF223C     |
|                                          |                 | 3P+N | DF83N                          | DF103N     | DF143NC    | DF223NC    |



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| Type                                     |                 |      | Fuse carriers with indicator |            |            |            |
|------------------------------------------|-----------------|------|------------------------------|------------|------------|------------|
| Rated operational 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 rated 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     | DF143CV    | DF223CV    |
|                                          |                 | 3P+N | DF83NV                       | DF103NV    | DF143NCV   | DF223NCV   |

Accessories

| Type                           |  | Auxiliary early break and blown fuse signalling contacts |         |            |         |
|--------------------------------|--|----------------------------------------------------------|---------|------------|---------|
| Fuse carrier to be equipped    |  | DF14                                                     |         | DF22       |         |
| Size of cartridge fuse or link |  | 14 x 51 mm                                               |         | 22 x 58 mm |         |
| 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       |
| Size of cartridge fuse or link |  | 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     |



| Fuse carriers                                              |                        |                          |                  |               |
|------------------------------------------------------------|------------------------|--------------------------|------------------|---------------|
| Rated operational voltage with links, a.c. supply          | 690 V                  | 690 V                    | 690 V            | 690 V         |
| Maximum continuous current for ambient temperature ≤ 40° C |                        |                          |                  |               |
| with links                                                 | min cable Ø/le (mm²/A) | 6/32 or 4/25 or 2.5/16   | 4/25 or 2.5/16   | 10/50 or 6/40 |
| with aM fuses (mm²/A)                                      |                        | 6/32 or 4/22 or 2.5/20   | 4/22 or 2.5/20   | 10/50 or 6/35 |
| with gG fuses (mm²/A)                                      |                        | 6/32 or 2.5/20 or 1.5/16 | 2.5/20 or 1.5/16 | 10/40 or 6/32 |
| Conforming to standards                                    | NF EN 60947-3          | ●                        | ●                | ●             |
|                                                            | IEC 947-3              | ●                        | ●                | ●             |
| Product certifications                                     |                        | BV, UR                   | -                | -             |
| Fuse carrier type                                          | LS1-D32                | LS1-D323                 | GK1-E•           | GK1-F•        |



| Basic blocks                             |          |                    |         |        |         |        |
|------------------------------------------|----------|--------------------|---------|--------|---------|--------|
| Connection                               |          |                    |         |        |         |        |
| Rating                                   | 25 A     | 32 A               | 50 A    |        | 125 A   |        |
| Cartridge fuse size                      | 10 x 38  | 10 x 38            | 14 x 51 |        | 22 x 58 |        |
| ■ by spring terminals                    |          |                    |         |        |         |        |
| Number of early break contacts           | -        |                    |         |        |         |        |
| Single-phase protection device           | Without  | Without            | Without | With   | Without | With   |
| 3-pole                                   | LS1-D323 |                    |         |        |         |        |
| ■ by screw clamp terminals or connectors |          |                    |         |        |         |        |
| Number of early break contacts           | -        | -                  | 1       |        | 1       |        |
| 3-pole                                   |          | LS1-D32            | GK1-EK  | GK1-EV | GK1-FK  | GK1-FV |
| 4-pole                                   |          | LS1-D32 + LA8-D324 | GK1-EM  | GK1-EY | GK1-FM  | GK1-FY |
| Number of early break contacts           |          |                    | 2       |        | 2       |        |
| 3-pole                                   |          |                    | GK1-ES  | GK1-EW | GK1-FS  | GK1-FW |
| 4-pole                                   |          |                    | GK1-ET  | GK1-EX | GK1-FT  | GK1-FX |



| Operators               |               |          |          |                    |          |
|-------------------------|---------------|----------|----------|--------------------|----------|
| Handles                 | side          |          |          | front              |          |
| Number of poles, 3 or 4 |               |          |          |                    |          |
| For fuse carrier rating | 125 A         |          |          | 32, 50, 125 A      |          |
| For mounting on         | RH side       | LH side  |          |                    |          |
|                         | GK1-AP07      | GK1-AP08 |          | Fitted as standard |          |
| external                |               |          |          |                    |          |
| For fuse carrier rating | 32 A          | 50 A     |          | 125 A              |          |
| For mounting on         | RH or LH side | RH side  | LH side  | RH side            | LH side  |
|                         | DK1-FB005     | GK1-AP05 | GK1-AP06 | GK1-AP07           | GK1-AP08 |

## Padlocking devices

|                                |          |          |          |          |          |
|--------------------------------|----------|----------|----------|----------|----------|
| For fuse carrier rating        | 32 A     | 50 A     |          |          |          |
| Number of poles                | 3 or 4   | 3        |          | 4        |          |
| Single-phase protection device | Without  | Without  | With     | Without  | With     |
|                                | Integral | GK1-AV07 | GK1-AV08 | GK1-AV08 | GK1-AV09 |

## Links

### Tubular links

|                         |                         |  |                         |                         |
|-------------------------|-------------------------|--|-------------------------|-------------------------|
| Number of poles, 3 or 4 |                         |  |                         |                         |
| For fuse carrier rating | 32 A                    |  | 50 A                    | 125 A                   |
| Reference               | DK1-CB92 <sup>(1)</sup> |  | DK1-EB92 <sup>(2)</sup> | DK1-FA92 <sup>(2)</sup> |

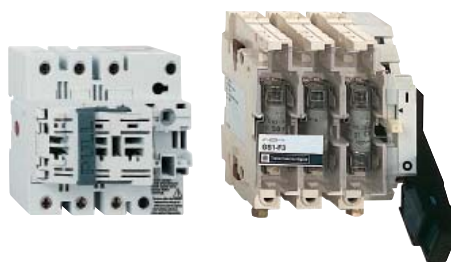
(1) For use on a neutral circuit, the tubular link can be interlocked with special device LA8-D25906.

(2) 4-pole fuse carriers GK1-50 and 125 A 4 are fitted with an interlocked neutral tubular link as standard.

## Add-on blocks

### Contact blocks

|                                  |           |           |           |           |
|----------------------------------|-----------|-----------|-----------|-----------|
| For use on                       | LS1-D32   |           | LS1-D323  |           |
| Contact type                     | N/O + N/C | N/O + N/O | N/O + N/C | N/O + N/O |
| Instantaneous auxiliary contacts |           |           |           |           |
| Mounting                         | front     |           |           |           |
|                                  | GV-AE11   | GV-AE20   | GV-AE113  | GV-AE203  |



## Switch-disconnector-fuse switch bodies

for use with NF C or DIN fuses

| For use with NP 3 or DIN fuses |                         | 3       | 3 + N <sup>(1)</sup> | 3       | 4       | 3                  | 4       | 3       | 4       | 3       |
|--------------------------------|-------------------------|---------|----------------------|---------|---------|--------------------|---------|---------|---------|---------|
| Number of poles                |                         |         |                      |         |         |                    |         |         |         |         |
| Switch rating                  |                         | 32 A    |                      | 50 A    |         | 63 A               |         | 100 A   |         | 125 A   |
| Fuse size                      |                         | 10 x 38 |                      | 14 x 51 |         | 00C <sup>(2)</sup> |         | 22 x 58 |         | 22 x 58 |
| Type of operator:              |                         |         |                      |         |         |                    |         |         |         |         |
| ■ internal or external         | RH or LH side and front | GS1-DD3 | GS1-DD4              |         |         |                    |         |         |         |         |
|                                | RH side                 |         |                      | GS1-FD3 | GS1-FD4 | GS1-GD3            | GS1-GD4 | GS1-JD3 | GS1-JD4 | GS1-KD3 |
| ■ external                     | LH side                 |         |                      | GS1-FG3 | GS1-FG4 | GS1-GG3            | GS1-GG4 | GS1-JG3 | GS1-JG4 | GS1-KG3 |
|                                | front                   |         |                      | GS1-F3  | GS1-F4  | GS1-G3             | GS1-G4  | GS1-J3  | GS1-J4  | GS1-K3  |
| ■ internal and external        | front                   |         |                      |         |         |                    |         |         |         |         |

for use with BS fuses

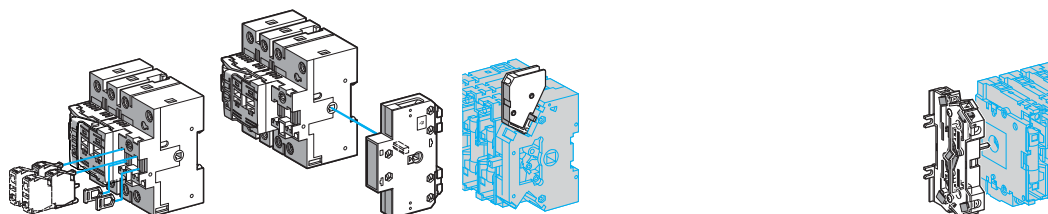
| For use with DB fuses   |                         |  |          |          |          |          |              |          |           |           |
|-------------------------|-------------------------|--|----------|----------|----------|----------|--------------|----------|-----------|-----------|
| Switch rating           |                         |  | 32 A     |          | 63 A     |          | 100 A        |          | 160 A     |           |
| Fuse size               |                         |  | A1       |          | A2-A3    |          | A4 Ø ≤ 31 mm |          | A4        |           |
| Type of operator:       |                         |  |          |          |          |          |              |          | B1-B2     |           |
| ■ internal or external  | RH or LH side and front |  | GS1-DDB3 | GS1-DDB4 |          |          |              |          |           |           |
| ■ RH side               |                         |  |          |          | GS1-GBR3 | GS1-GBR4 | GS1-JBR3     | GS1-JBR4 | GS1-LLBR3 | GS1-LLBR4 |
| ■ external              | front                   |  |          |          |          |          |              |          |           |           |
| ■ internal and external | front                   |  | GS1-DB3  | GS1-DB4  | GS1-GB3  | GS1-GB4  | GS1-JB3      | GS1-JB4  | GS1-LLB3  | GS1-LLB4  |
|                         |                         |  |          |          |          |          |              |          |           | GS1-LB3   |

(1) N = Switched Neutral

(2) Fuses for German market

## Auxiliary “blown fuse” signalling contacts for use with NF C or DIN fuses

|                 |                     |          |               |          |          |          |
|-----------------|---------------------|----------|---------------|----------|----------|----------|
| Contact type    | 1 <sup>st</sup> C/O |          |               |          |          |          |
| Switch rating   | 50 A                |          | 100 and 125 A |          | 160 A    |          |
| Fuse size       | 14 x 51             |          | 22 x 58       |          | T0       |          |
| Number of poles | 3                   | 4        | 3             | 4        | 3        | 4        |
|                 | GS1-AF13            | GS1-AF14 | GS1-AF23      | GS1-AF24 | GS1-AF33 | GS1-AF34 |



## Auxiliary early break and/or signalling contacts

|                             |           |           |           |           |            |         |              |         |               |               |
|-----------------------------|-----------|-----------|-----------|-----------|------------|---------|--------------|---------|---------------|---------------|
| Switch rating               | 32 A      |           |           |           | 50...400 A |         | 630...1250 A |         | 50...400 V    |               |
| Contact type                | 1 N/O     | 1 N/C     | 1 C/O     | 2 C/O     | 1 C/O      | 2 C/O   | 1 C/O        | 2 C/O   | 1 N/C + 1 N/O | 2 N/C + 2 N/O |
| Standard contacts           | GS1-AM110 | GS1-AM101 | GS1-AM111 | GS1-AM211 | GS1-AM1    | GS1-AM2 | GS1-AM3      | GS1-AM4 | GS1-AN11      | GS1-AN22      |
| Contacts with test facility |           |           |           |           |            |         |              |         | GS1-ANT11     | GS1-ANT22     |



|          |           |           |          |          |           |           |           |           |          |          |          |          |          |          |
|----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|
| 4        | 3         | 4         | 3        | 4        | 3         | 4         | 3         | 4         | 3        | 4        | 3        | 4        | 3        | 4        |
| 160 A    |           |           | 250 A    |          |           | 400 A     |           |           | 630 A    |          |          | 1250 A   |          |          |
| Size 00  |           |           | Size 0   |          |           | Size 1    |           |           | Size 2   |          |          | Size 3   |          |          |
| GS1-KD4  | GS1-KKD3  | GS1-KKD4  | GS1-LD3  | GS1-LD4  | GS1-LLD3  | GS1-LLD4  | GS1-ND3   | GS1-ND4   | GS1-QQD3 | GS1-QQD4 | GS1-SD3  | GS1-SD4  | GS1-VD3  | GS1-VD4  |
| GS1-KG4  | GS1-KKG3  | GS1-KKG4  | GS1-LG3  | GS1-LG4  | GS1-LLG3  | GS1-LLG4  | GS1-NG3   | GS1-NG4   | GS1-QQG3 | GS1-QQG4 |          |          |          |          |
| GS1-K4   | GS1-KK3   | GS1-KK4   | GS1-L3   | GS1-L4   | GS1-LL3   | GS1-LL4   | GS1-N3    | GS1-N4    | GS1-QQ3  | GS1-QQ4  |          |          |          |          |
|          |           |           |          |          |           |           |           |           |          |          | GS1-S3   | GS1-S4   | GS1-V3   | GS1-V4   |
|          |           |           |          |          |           |           |           |           |          |          |          |          |          |          |
| 200 A    |           |           | 250 A    |          |           | 315 A     |           |           | 400 V    |          |          | 630 A    |          |          |
| B1-B2    |           |           | B1...B3  |          |           | B1...B3   |           |           | B1...B4  |          |          | C1-C2    |          |          |
|          |           |           |          |          |           |           |           |           |          |          |          |          |          |          |
| GS1-LBR4 | GS1-MMBR3 | GS1-MMBR4 | GS1-NBR3 | GS1-NBR4 | GS1-PPBR3 | GS1-PPBR4 | GS1-QQBR3 | GS1-QQBR4 | GS1-SBR3 | GS1-SBR4 | GS1-TBR3 | GS1-TRB4 | GS1-VRB3 | GS1-VRB4 |
| GS1-LB4  | GS1-MMB3  | GS1-MMB4  | GS1-NB3  | GS1-NB4  | GS1-PPB3  | GS1-PPB4  | GS1-QQB3  | GS1-QQB4  |          |          |          |          |          |          |
|          |           |           |          |          |           |           |           |           | GS1-SB3  | GS1-SB4  | GS1-TB3  | GS1-TB4  | GS1-VB3  | GS1-VB4  |

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|               |          |          |          |          |          |        |        |         |         |         |         |         |         |                     |         |
|---------------|----------|----------|----------|----------|----------|--------|--------|---------|---------|---------|---------|---------|---------|---------------------|---------|
| 250 and 400 A |          |          |          |          |          | 630 A  |        |         |         | 1250 A  |         |         |         | 2 <sup>nd</sup> C/O |         |
| T1 and T2     |          |          |          |          |          | T3     |        |         |         | T4      |         |         |         | 50...400 A          |         |
| 3             |          |          |          |          |          | 3      |        |         |         | 3       |         |         |         | -                   |         |
| 4             |          |          |          |          |          | 4      |        |         |         | 4       |         |         |         | -                   |         |
| GS1-AF43      | GS1-AF44 | GS1-AF63 | GS1-AF64 | GS1-AF73 | GS1-AF74 | GS1-AF | GS1-AF | GS1-AFF | GS1-AFF | GS1-AFF | GS1-AFF | GS1-AFF | GS1-AFF | GS1-AFF             | GS1-AFF |

# TeSys K Thermal overload relays

## 0.11...11.5 A



### 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 |
|---------------------|--------------------------------------|-------|------|-----------|
| Class 10 A          | aM                                   | gG    | BS88 |           |
| 0.11...0.16 A       | 0.25 A                               | 0.5 A | -    | LR2-K0301 |
| 0.16...0.23 A       | 0.25 A                               | 0.5 A | -    | LR2-K0302 |
| 0.23...0.36 A       | 0.5 A                                | 1 A   | -    | LR2-K0303 |
| 0.36...0.54 A       | 1 A                                  | 1.6 A | -    | LR2-K0304 |
| 0.54...0.8 A        | 1 A                                  | 2 A   | -    | LR2-K0305 |
| 0.8...1.2 A         | 2 A                                  | 4 A   | 6 A  | LR2-K0306 |
| 1.2...1.8 A         | 2 A                                  | 6 A   | 6 A  | LR2-K0307 |
| 1.8...2.6 A         | 2 A                                  | 6 A   | 10 A | LR2-K0308 |
| 2.6...3.7 A         | 4 A                                  | 10 A  | 16 A | LR2-K0310 |
| 3.7...5.5 A         | 6 A                                  | 16 A  | 16 A | LR2-K0312 |
| 5.5...8 A           | 8 A                                  | 20 A  | 20 A | LR2-K0314 |
| 8...11.5 A          | 10 A                                 | 25 A  | 20 A | LR2-K0316 |

Thermal overload relays for use on class 10 A 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 N/C contact of relay LRD-01...35 or LR3-D01... D35 to the contactor | For use on    |         |
|                                                                                                       | LC1-D09...D18 | LAD-7C1 |
|                                                                                                       | LC1-D25...D38 | LAD-7C2 |

#### Terminal blocks (1)

|                                                         |                               |                          |
|---------------------------------------------------------|-------------------------------|--------------------------|
| For clip-on mounting on 35 mm mounting rail (AM1-DP200) | LRD-01...35 and LR3-D01...D35 | LAD-7B10                 |
| or screw fixing                                         | LRD-3..., LR3-D3..., LRD-35.. | LA7-D3064 <sup>(2)</sup> |
| For independent mounting of the relay                   | LR2-K...                      | LA7-K0064                |

#### EverLink Terminal blocks

|                         |                    |         |
|-------------------------|--------------------|---------|
| Separate terminal block | LRD-313... LRD-365 | LAD-9R3 |
|-------------------------|--------------------|---------|

#### Terminal block adapter

|                                                            |                               |           |
|------------------------------------------------------------|-------------------------------|-----------|
| For mounting a relay beneath an LC1-D115 or D150 contactor | LRD-3..., LR3-D3..., LRD-35.. | LA7-D3058 |
|------------------------------------------------------------|-------------------------------|-----------|

#### Stop or electrical reset

|                       |                               |                        |
|-----------------------|-------------------------------|------------------------|
| Remote <sup>(3)</sup> | LRD-01...35 and LR3-D01...D35 | LAD-703 <sup>(4)</sup> |
|-----------------------|-------------------------------|------------------------|

#### Tripping or electrical reset device

|                       |                                                 |                        |
|-----------------------|-------------------------------------------------|------------------------|
| Remote <sup>(3)</sup> | All relays except LRD-01...35 and LR3-D01...D35 | LA7-D03 <sup>(4)</sup> |
|-----------------------|-------------------------------------------------|------------------------|

(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.

| Relay setting range                                     |               | Fuses to be used with selected relay |       |       | With contactor  | Reference    |
|---------------------------------------------------------|---------------|--------------------------------------|-------|-------|-----------------|--------------|
| Connection by screw clamp terminals or connectors       |               | aM                                   | gG    | BS88  |                 |              |
| Class 10 A                                              | 0.10...0.16 A | 0.25 A                               | 2 A   | -     | LC1-D09...D38   | LRD 01       |
|                                                         | 0.16...0.25 A | 0.5 A                                | 2 A   | -     | LC1-D09...D38   | LRD 02       |
|                                                         | 0.25...0.40 A | 1 A                                  | 2 A   | -     | LC1-D09...D38   | LRD 03       |
|                                                         | 0.40...0.63 A | 1 A                                  | 1.6 A | -     | LC1-D09...D38   | LRD 04       |
|                                                         | 0.63...1 A    | 2 A                                  | 4 A   | -     | LC1-D09...D38   | LRD 05       |
|                                                         | 1...1.7 A     | 2 A                                  | 4 A   | 6 A   | LC1-D09...D38   | LRD 06       |
|                                                         | 1.6...2.5 A   | 4 A                                  | 6 A   | 10 A  | LC1-D09...D38   | LRD 07       |
|                                                         | 2.5...4 A     | 6 A                                  | 10 A  | 16 A  | LC1-D09...D38   | LRD 08       |
|                                                         | 4...6 A       | 8 A                                  | 16 A  | 16 A  | LC1-D09...D38   | LRD 10       |
|                                                         | 5.5...8 A     | 12 A                                 | 20 A  | 20 A  | LC1-D09...D38   | LRD 12       |
|                                                         | 7...10 A      | 12 A                                 | 20 A  | 20 A  | LC1-D09...D38   | LRD 14       |
|                                                         | 9...13 A      | 16 A                                 | 25 A  | 25 A  | LC1-D12...D38   | LRD 16       |
|                                                         | 12...18 A     | 20 A                                 | 35 A  | 32 A  | LC1-D18...D38   | LRD 21       |
|                                                         | 16...24 A     | 25 A                                 | 50 A  | 50 A  | LC1-D25...D38   | LRD 22       |
|                                                         | 23...32 A     | 40 A                                 | 63 A  | 63 A  | LC1-D25...D38   | LRD 32       |
|                                                         | 30...38 A     | 50 A                                 | 80 A  | 80 A  | LC1-D32 et D38  | LRD 35       |
|                                                         | 55...70 A     | 80 A                                 | 125 A | 125 A | D50...D95       | LRD 3361     |
|                                                         | 63...80 A     | 80 A                                 | 125 A | 125 A | D65...D95       | LRD 3363     |
|                                                         | 80...104 A    | 100 A                                | 160 A | 160 A | D80 et D95      | LRD 3365     |
|                                                         | 80...104 A    | 125 A                                | 200 A | 160 A | D115 et D150    | LRD 4365     |
|                                                         | 95...120 A    | 125 A                                | 200 A | 200 A | D115 et D150    | LRD 4367     |
|                                                         | 110...140 A   | 160 A                                | 250 A | 200 A | D150            | LRD 4369     |
|                                                         | 80...104 A    | 100 A                                | 160 A | 160 A | Montage séparé  | LRD 33656    |
|                                                         | 95...120 A    | 125 A                                | 200 A | 200 A | Montage séparé  | LRD 33676    |
|                                                         | 110...140 A   | 160 A                                | 250 A | 200 A | Montage séparé  | LRD 33696    |
| Class 20                                                | 6 A           | 10 A                                 | 16 A  |       | LC1-D09...D32   | LRD 1508     |
|                                                         | 4...6 A       | 8 A                                  | 16 A  | 16 A  | LC1-D09...D32   | LRD 1510     |
|                                                         | 5.5...8 A     | 12 A                                 | 20 A  | 20 A  | LC1-D09...D32   | LRD 1512     |
|                                                         | 7...10 A      | 16 A                                 | 20 A  | 25 A  | LC1-D09...D32   | LRD 1514     |
|                                                         | 9...13 A      | 16 A                                 | 25 A  | 25 A  | LC1-D12...D32   | LRD 1516     |
|                                                         | 12...18 A     | 25 A                                 | 35 A  | 40 A  | LC1-D18...D32   | LRD 1521     |
|                                                         | 17...25 A     | 32 A                                 | 50 A  | 50 A  | LC1-D25 et D32  | LRD 1522     |
|                                                         | 23...28 A     | 40 A                                 | 63 A  | 63 A  | LC1-D25 et D32  | LRD 1530     |
|                                                         | 25...32 A     | 40 A                                 | 63 A  | 63 A  | LC1-D25 et D32  | LRD 1532     |
|                                                         | 55...70 A     | 100 A                                | 125 A | 125 A | D65...D95       | LR2 D3561    |
|                                                         | 63...80 A     | 100 A                                | 160 A | 125 A | D80 et D95      | LR2 D3563    |
| Connection by EverLink terminal blocks, with BTR screws |               |                                      |       |       |                 |              |
| Class 10 A                                              | 9...13 A      | 16 A                                 | 25 A  | 25 A  | LC1-D40A...D65A | LRD 313 (1)  |
|                                                         | 12...18 A     | 20 A                                 | 32 A  | 35 A  | LC1-D40A...D65A | LRD 318 (1)  |
|                                                         | 17...25 A     | 25 A                                 | 50 A  | 50 A  | LC1-D40A...D65A | LRD 325 (1)  |
|                                                         | 23...32 A     | 40 A                                 | 63 A  | 63 A  | LC1-D40A...D65A | LRD 332 (1)  |
|                                                         | 30...40 A     | 40 A                                 | 80 A  | 80 A  | LC1-D40A...D65A | LRD 340 (1)  |
|                                                         | 37...50 A     | 63 A                                 | 100 A | 100 A | LC1-D40A...D65A | LRD 350 (1)  |
|                                                         | 48...65 A     | 63 A                                 | 100 A | 100 A | LC1-D40A...D65A | LRD 365 (1)  |
| Class 20                                                | 9...13 A      | 20 A                                 | 32 A  | 35 A  | LC1-D40A...D65A | LRD 313L (1) |
|                                                         | 12...18 A     | 25 A                                 | 40 A  | 40 A  | LC1-D40A...D65A | LRD 318L (1) |
|                                                         | 17...25 A     | 32 A                                 | 50 A  | 50 A  | LC1-D40A...D65A | LRD 325L (1) |
|                                                         | 23...32 A     | 40 A                                 | 63 A  | 63 A  | LC1-D40A...D65A | LRD 332L (1) |
|                                                         | 30...40 A     | 50 A                                 | 80 A  | 80 A  | LC1-D40A...D65A | LRD 340L (1) |
|                                                         | 37...50 A     | 63 A                                 | 100 A | 100 A | LC1-D40A...D65A | LRD 350L (1) |
|                                                         | 48...65 A     | 80 A                                 | 125 A | 125 A | LC1-D40A...D65A | LRD 365L (1) |

## Class 10A with connection by lug-clamps:

Select overload relay with screw clamp terminals or connectors from the table above and add one of following suffixes:

■ figure 6 for relays LRD01 to LRD35 and LRD313 to LRD365.

■ figure A66 for relays LRD3361 to LRD3365.

Relays LRD43 are suitable as standard, for use with lug-clamps

(1) Independant mounting on a DIN rail, order an EverLink LAD96560 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 LRD 4●●●) by LR3D

Example: LRD01 becomes LR3D01

Example with screw clamp terminal: LRD340 becomes LR3D340

Example with lug-clamp terminal: LRD3406 becomes LR3D3406



|                                  |            |            |
|----------------------------------|------------|------------|
| For use with contactor           | LC1-D      | LC1-F      |
| Motor current                    | 60...150 A | 30...630 A |
| Basic reference, to be completed | LR9-D      | LR9-F      |

| Relay setting range | Fuse to be used with selected relay |     | For mounting<br>beneath contactor LC1- | Compensated and differential |           | or not with alarm<br>Class 10 or 20 |
|---------------------|-------------------------------------|-----|----------------------------------------|------------------------------|-----------|-------------------------------------|
|                     | aM                                  | gG  |                                        | Class 10                     | Class 20  |                                     |
| 60...100            | 100                                 | 160 | D115 and D150                          | LR9-D5367                    | LR9-D5567 |                                     |
| 90...150            | 160                                 | 250 | D115 and D150                          | LR9-D5369                    | LR9-F5569 |                                     |
| 30...50             | 50                                  | 80  | F115...F185                            | LR9-F5357                    | LR9-F5557 | LR9-F57                             |
| 48...80             | 80                                  | 125 | F115...F185                            | LR9-F5363                    | LR9-F5563 | LR9-F63                             |
| 60...100            | 100                                 | 200 | F115...F185                            | LR9-F5367                    | LR9-F5567 | LR9-F67                             |
| 90...150            | 160                                 | 250 | F115...F185                            | LR9-F5369                    | LR9-F5569 | LR9-F69                             |
| 132...220           | 250                                 | 315 | F185...F400                            | LR9-F5371                    | LR9-F5571 | LR9-F71                             |
| 200...330           | 400                                 | 500 | F225...F500                            | LR9-F7375                    | LR9-F7575 | LR9-F75                             |
| 300...500           | 500                                 | 800 | F225...F500                            | LR9-F7379                    | LR9-F7579 | LR9-F79                             |
| 380...630           | 630                                 | 800 | F400...F630 and F800                   | LR9-F7381                    | LR9-F7581 | LR9-F81                             |

### Accessories

#### Remote control

|                                        |                         |                   |
|----------------------------------------|-------------------------|-------------------|
| Function                               | Reset                   | Stop and/or Reset |
| Electrical reset <sup>(1)</sup>        | LA7-D03• <sup>(2)</sup> |                   |
| Reset by flexible cable (length 0.5 m) | LA7-D305                |                   |
| Adapter for door interlock mechanism   |                         | LA7-D1020         |

#### Operating head for pushbutton

|               |           |           |
|---------------|-----------|-----------|
| Spring return | ZA2-BL639 | ZA2-BL432 |
|---------------|-----------|-----------|

#### Rod with snap-off end

|                              |          |  |
|------------------------------|----------|--|
| Adjustable from 17 to 120 mm | ZA2-BZ13 |  |
|------------------------------|----------|--|

#### Insulated terminal blocks

|                                                                  |                 |
|------------------------------------------------------------------|-----------------|
| For relays LR9-F5•57, F5•63, F5•67, F5•69, F57, F63, F67 and F69 | Set of 2 blocks |
|                                                                  | LA9-F103        |

(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 over current 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 over current 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

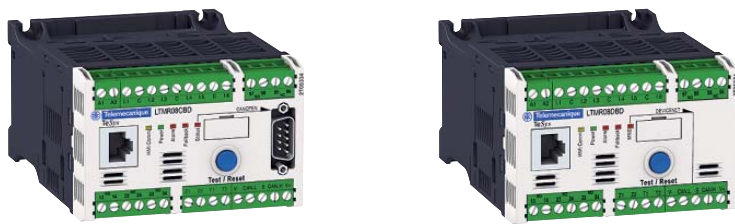


| Relay type          |                | Electronic over current relays  |            |           |
|---------------------|----------------|---------------------------------|------------|-----------|
|                     |                | TeSys LT47 with automatic reset |            |           |
| 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 |               |             | Modbus     |               | Profibus DP |               |
|------------------|---------------|-------------|------------|---------------|-------------|---------------|
| Supply voltage   |               |             | 24 VDC     | 100...240 VAC | 24 VDC      | 100...240 VAC |
| References       | Current range | 0.4...8 A   | LTMR08MBD  | LTMR08MFM     | LTMR08PBD   | LTMR08PFM     |
|                  |               | 1.35...27 A | LTMR27MBD  | LTMR27MFM     | LTMR27PBD   | LTMR27PFM     |
|                  |               | 5...100 A   | 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<br>4 additional inputs + voltage measuring |               | Ethernet external port<br>Modbus RTU / Modbus TCP/IP |
|----------------|--|--|------------------------------------------------------|---------------|------------------------------------------------------|
| Inputs voltage |  |  | 24 VDC                                               | 100...240 VAC | 24 VDC                                               |
| References     |  |  | LTMEV40BD                                            | LTMEV40FM     | TCSEQM113M13M                                        |

Operator dialogue terminal and software



| Type of terminal |  |  | Compact display          | Configuration software   |
|------------------|--|--|--------------------------|--------------------------|
| Description      |  |  | 4 lines of 20 characters | For Windows 98, 2000, XP |
| Supply voltage   |  |  | 24 VDC                   | —                        |
| References       |  |  | XBTN410                  | XBTL1000                 |

TeSys T

Motor management system

Current transformers



| 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 |

Accessories <sup>(1)</sup>



| Type of accessory |  | Connecting cable<br>Controller / Extension module |        |        |
|-------------------|--|---------------------------------------------------|--------|--------|
| Length of cable   |  | 0.04 m                                            | 0.3 m  | 1 m    |
| References        |  | LTMCC004                                          | LU9R03 | LU9R10 |



| Type of accessory |  | Connecting cable<br>Controller / Display | Connection kit<br>PC serial port |
|-------------------|--|------------------------------------------|----------------------------------|
| Length of cable   |  | 2.5 m                                    | –                                |
| References        |  | XBTZ938                                  | VW3A8106                         |

(1) For other connection accessories, see [www.schneider-electric.com](http://www.schneider-electric.com)



|                                  |                |                |
|----------------------------------|----------------|----------------|
| 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 | LT3-S          | LT6-P0M05FM    |

## 3-pole multifunction protection relays

|                     |   |                |              |
|---------------------|---|----------------|--------------|
| Operational current | A | 0.2...1. 1...5 | 5...25       |
|                     |   | LT6-P0M005FM   | LT6-P0M025FM |

## Protection units with automatic reset with thermistor short-circuit detection without fault memory

| Connection                                             | Voltage            | Output contact | Reference  |
|--------------------------------------------------------|--------------------|----------------|------------|
| by cage connectors                                     | ~ 50/60 Hz         |                |            |
|                                                        | 115 V              | N/C            | LT3-SE00F  |
|                                                        | 230 V              | N/C            | LT3-SE00M  |
|                                                        | 24 V               | N/C            | LT3-SE00F  |
| On front panel: fault and voltage signalling indicator |                    |                |            |
|                                                        | ~ 50/60 Hz         | N/C + N/O      | LT3-SA00M  |
|                                                        | 24/48 V            | N/C + N/O      | LT3-SA00ED |
|                                                        | ~ 50/60 Hz or 24 V | 2 C/O          | LT3-SA00MW |

## with fault memory

### On front panel: fault and voltage signalling indicator, Test and Reset button

|                     |            |           |            |
|---------------------|------------|-----------|------------|
| ~ 50/60 Hz          | 400 V      | N/C + N/O | LT3-SM00V  |
|                     | 24/48 V    | N/C + N/O | LT3-SM00E  |
|                     | 115/230 V  | N/C + N/O | LT3-SM00M  |
| 24 V                | 24/48 V    | N/C + N/O | LT3-SM00ED |
| ~ 50/60 Hz1 or 24 V | 24...230 V | 2 C/O     | LT3-SM00MW |

## Accessories

### PTC thermistor probes for LT3 and LT6 relays

|                                    |           |           |           |           |           |           |           |           |
|------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Normal operating temperature (NOT) | 90 °C     | 110 °C    | 120 °C    | 130 °C    | 140 °C    | 150 °C    | 160 °C    | 170 °C    |
| Integrated triple probes           | DA1-TT090 | DA1-TT110 | DA1-TT120 | DA1-TT130 | DA1-TT140 | DA1-TT150 | DA1-TT160 | DA1-TT170 |
| Normal operating temperature (NOT) |           | 60 °C     | 70 °C     | 80 °C     | 90 °C     | 100 °C    |           |           |
| Surface probes                     | DA1-TS060 | DA1-TS070 | DA1-TS080 | DA1-TS090 | DA1-TS100 |           |           |           |

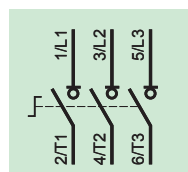
### Configuration software for LT6 relays

|                                                      |                    |          |
|------------------------------------------------------|--------------------|----------|
| Languages: English, French, German, Italian, Spanish | Kit <sup>(1)</sup> | Diskette |
| For use with all relay sizes                         | LA9-P620           | LA9-P621 |

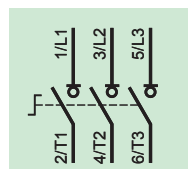
### Current transformers for LT6 relays

|                     |           |            |            |            |
|---------------------|-----------|------------|------------|------------|
| Operational current | primary   | 100 A      | 400 A      | 800 A      |
|                     | secondary | 1 A        | 1 A        | 1 A        |
|                     |           | LT6-CT1001 | LT6-CT4001 | LT6-CT8001 |

(1) Comprising 2 x 3" 1/2 diskettes, 1 x 2 m connection cable with 2 SUB-D 9-pin connectors (female-female)



| Type                              | Mini-Vario for standard applications |               |                                 |
|-----------------------------------|--------------------------------------|---------------|---------------------------------|
|                                   | Mounting door                        |               | 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 operational voltage (Ue)    | 690 V                                |               | 690 V                           |
| Thermal current in open air (Ith) | 12 A                                 | VCDN12        | VBDN12                          |
|                                   | 20 A                                 | VCDN20        | VBDN20                          |



| Type                              | Vario for high performance applications |               |              |               |              |              | Backplate mounting in enclosure |          |          |
|-----------------------------------|-----------------------------------------|---------------|--------------|---------------|--------------|--------------|---------------------------------|----------|----------|
|                                   | Mounting door                           |               |              |               |              |              |                                 |          |          |
| 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       | 60 x 60      | 60 x 60       | 90 x 90      | 90 x 90      | 60 x 60                         | 90 x 90  | 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         | VBD02        | VCF02         | VBF02        | –            | VCCD02                          | VCCF02   | –        |
|                                   | 20 A                                    | VCD01         | VBD01        | VCF01         | VBF01        | –            | VCCD01                          | VCCF01   | –        |
|                                   | 25 A                                    | VCD0          | VBD0         | VCF0          | VBF0         | –            | VCCD0                           | VCCF0    | –        |
|                                   | 32 A                                    | VCD1          | VBD1         | VCF1          | VBF1         | –            | VCCD1                           | VCCF1    | –        |
|                                   | 40 A                                    | VCD2          | VBD2         | VCF2          | VBF2         | –            | VCCD2                           | VCCF2    | –        |
|                                   | 63 A                                    | –             | –            | VCF3          | VBF3         | –            | –                               | VCCF3    | –        |
|                                   | 80 A                                    | –             | –            | VCF4          | VBF4         | –            | –                               | VCCF4    | –        |
|                                   | 125 A                                   | –             | –            | –             | –            | VCF5         | –                               | –        | VCCF5    |
|                                   | 175 A                                   | –             | –            | –             | –            | VCF6         | –                               | –        | VCCF6    |



| Add-on modules                                              | For mini-Vario |       | For Vario |      |             |           |               |      |      |
|-------------------------------------------------------------|----------------|-------|-----------|------|-------------|-----------|---------------|------|------|
| Main pole modules                                           |                |       |           |      |             |           |               |      |      |
| 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 |                |       |           |      |             |           |               |      |      |
| Rating                                                      | 12...20 A      |       | 12...40 A |      | 63 and 80 A |           | 125 and 175 A |      |      |
| References                                                  | VZN11          |       | VZ11      |      | VZ12        |           | VZ13          |      |      |
| Earthing module                                             |                |       |           |      |             |           |               |      |      |
| References                                                  | VZN14          |       | VZ14      |      | VZ15        |           | VZ16          |      |      |
| Auxiliary contact block modules                             |                |       |           |      |             |           |               |      |      |
| Contact types                                               | N/O            | N/C   | N/O + N/C |      |             | N/O + N/O |               |      |      |
| 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 |               | GV2-ME                                                                                           | GV2-DM | GV2-DP                                 |
|                                  |               |                                                                                                  |        | LC4-D                                  |



| Starters GV2-ME                          |       |       |                        |                           |                       | Non-reversing | Reversing                                                                     |
|------------------------------------------|-------|-------|------------------------|---------------------------|-----------------------|---------------|-------------------------------------------------------------------------------|
| Standard power ratings of 3-phase motors |       |       | Setting                | Fixed                     | For customer assembly |               | Factory assembled                                                             |
| 50/60 Hz in category AC-3 (kW)           |       |       | range of thermal trips | magnetic tripping current | Motor circuit-breaker | Contactor     | Basic reference, to be completed with code indicating control circuit voltage |
| 400/415 V                                | 440 V | 500 V |                        | 13 Irth                   |                       |               |                                                                               |
| 0.37                                     | 0.37  | 0.37  | 1...1.6                | 22.5                      | GV2-ME06              | LC1-K06       | GV2-ME06K1**                                                                  |
| 0.55                                     | 0.55  | 0.55  |                        |                           |                       |               | GV2-ME06K2**                                                                  |
| -                                        | -     | 0.75  |                        |                           |                       |               |                                                                               |
| 0.75                                     | 0.75  | -     | 1.6...2.5              | 33.5                      | GV2-ME07              | LC1-K06       | GV2-ME07K1**                                                                  |
| -                                        | 1.1   | 1.1   |                        |                           |                       |               | GV2-ME07K2**                                                                  |
| 1.1                                      | -     | 1.5   | 2.5...4                | 51                        | GV2-ME08              | LC1-K06       | GV2-ME08K1**                                                                  |
| 1.5                                      | 1.5   | 2.2   |                        |                           |                       |               | GV2-ME08K2**                                                                  |
| 2.2                                      | 2.2   | -     | 4...6.3                | 78                        | GV2-ME10              | LC1-K06       | GV2-ME10K1**                                                                  |
| -                                        | -     | 3     |                        |                           |                       |               | GV2-ME10K2**                                                                  |
| 3                                        | -     | 4     | 6...10                 | 138                       | GV2-ME14              | LC1-K09       | GV2-ME14K1**                                                                  |
| 4                                        | 4     | 5.5   |                        |                           |                       |               | GV2-ME14K2**                                                                  |
| 5.5                                      | 5.5   | 7.5   | 9...14                 | 170                       | GV2-ME16              | LC1-K12       | GV2-ME16K1**                                                                  |
|                                          |       |       |                        |                           |                       |               | GV2-ME16K2**                                                                  |

| 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 GV2-DM and GV2-DP

|                                          |       |       |                        |                           | Non-reversing         |           | Reversing                                                                     |
|------------------------------------------|-------|-------|------------------------|---------------------------|-----------------------|-----------|-------------------------------------------------------------------------------|
| Standard power ratings of 3-phase motors |       |       | Setting                | Fixed                     | For customer assembly |           | Factory assembled                                                             |
| 50/60 Hz in category AC-3 (kW)           |       |       | range of thermal trips | magnetic tripping current | Motor circuit-breaker | Contactor | Basic reference, to be completed with code indicating control circuit voltage |
| 400/415 V                                | 440 V | 500 V |                        | 13 Irth                   |                       |           |                                                                               |
| 0.06                                     | 0.06  | -     | 0.16...0.25            | 2.4                       | GV2-ME02              | LC1-D09** | GV2-DM102**                                                                   |
|                                          |       |       |                        |                           | GV2-P02               | LC1-D09** | GV2-DP102**                                                                   |
| 0.09                                     | 0.09  | -     | 0.25...0.40            | 5                         | GV2-ME03              | LC1-D09** | GV2-DM103**                                                                   |
| -                                        | 0.12  | -     |                        |                           | GV2-P03               | LC1-D09** | GV2-DP103**                                                                   |
| 0.12                                     | -     | -     | 0.40...0.63            | 8                         | GV2-ME04              | LC1-D09** | GV2-DM104**                                                                   |
| 0.18                                     | 0.18  | -     |                        |                           | GV2-P04               | LC1-D09** | GV2-DP104**                                                                   |
| 0.25                                     | 0.25  | -     | 0.63...1               | 13                        | GV2-ME05              | LC1-D09** | GV2-DM105**                                                                   |
| 0.37                                     | 0.37  | -     |                        |                           | GV2-P05               | LC1-D09** | GV2-DP105**                                                                   |
| -                                        | -     | 0.37  | 1...1.6                | 22.5                      | GV2-ME06              | LC1-D09** | GV2-DM106**                                                                   |
| 0.55                                     | 0.55  | 0.55  |                        |                           | GV2-P06               | LC1-D09** | GV2-DP106**                                                                   |
| -                                        | -     | 0.75  |                        |                           |                       |           |                                                                               |
| 0.75                                     | 0.75  | -     | 1.6...2.5              | 33.5                      | GV2-ME07              | LC1-D09** | GV2-DM107**                                                                   |
| -                                        | 1.1   | 1.1   |                        |                           | GV2-P07               | LC1-D09** | GV2-DP107**                                                                   |
| 1.1                                      | -     | 1.5   | 2.5...4                | 51                        | GV2-ME08              | LC1-D09** | GV2-DM108**                                                                   |
| 1.5                                      | 1.5   | 2.2   |                        |                           | GV2-P08               | LC1-D09** | GV2-DP108**                                                                   |
| 2.2                                      | 2.2   | -     | 4...6.3                | 78                        | GV2-ME10              | LC1-D09** | GV2-DM110**                                                                   |
| -                                        | 3     | 3     |                        |                           | GV2-P10               | LC1-D09** | GV2-DP110**                                                                   |
| 3                                        | -     | 4     | 6...10                 | 138                       | GV2-ME14              | LC1-D09** | GV2-DM114**                                                                   |
| 4                                        | 4     | 5.5   |                        |                           | GV2-P14               | LC1-D09** | GV2-DP114**                                                                   |
| 5.5                                      | 5.5   | 7.5   | 9...14                 | 170                       | GV2-ME16              | LC1-D12** | GV2-DM116**                                                                   |
| -                                        | 7.5   | 9     |                        |                           | GV2-P16               | LC1-D25** | GV2-DP116**                                                                   |
| 7.5                                      | 9     | -     | 13...18                | 223                       | GV2-ME20              | LC1-D18** | GV2-DM120**                                                                   |
|                                          |       |       |                        |                           | GV2-P20               | LC1-D25** | GV2-DP120**                                                                   |
| 9                                        | 11    | 11    | 17...23                | 327                       | GV2-ME21              | LC1-D25** | GV2-DM121**                                                                   |
|                                          |       |       |                        |                           | GV2-P21               | LC1-D25** | GV2-DP121**                                                                   |
| 11                                       | -     | 15    | 20...25                | 327                       | GV2-ME22              | LC1-D25** | GV2-DM122**                                                                   |
|                                          |       |       |                        |                           | GV2-P22               | LC1-D25** | GV2-DP122**                                                                   |
| 15                                       | 15    | 18.5  | 24...32                | 416                       | GV2-ME32              | LC1-D32** | GV2-DM132**                                                                   |
|                                          |       |       |                        |                           | GV2-P32               | LC1-D32** | GV2-DP132**                                                                   |

5

### Standard control circuit voltages (for other voltages, please consult your Regional Sales Office)

| Volts              | 24        | 220       | 230       |
|--------------------|-----------|-----------|-----------|
| ~ 50...400 Hz      | <b>B7</b> | <b>M7</b> | <b>P7</b> |
| --- <sup>(1)</sup> | <b>BD</b> |           | -         |

(1) Low consumption coil (1.5 W), wide range (0.7...1.3 Uc) with integral suppression device as standard.



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| Function characteristics, LUB... + LUCA...                                                                                                                                                                                            | Maximum motor power<br>< 400/415 V | Power base    |                  | Standard control unit |               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------|------------------|-----------------------|---------------|
|                                                                                                                                                                                                                                       |                                    | Non-reversing | Reversing<br>(1) | Class 10<br>(2)       | Setting range |
| <ul style="list-style-type: none"> <li>- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only).</li> <li>- Manual reset following thermal fault.</li> </ul> | 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<br>< 400/415 V | Power base    |                  | Advanced control unit |                 |               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------|------------------|-----------------------|-----------------|---------------|
|                                                                                                                                                                                                                                                                                  |                                    | Non-reversing | Reversing<br>(1) | Class 10<br>(2) (3)   | Class 20<br>(2) | Setting range |
| <ul style="list-style-type: none"> <li>- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only).</li> <li>- Manual reset following thermal fault.</li> <li>- Thermal overload test function.</li> </ul> | 0.09 kW                            | LUB12         | LU2B12●●         | LUCB6X●●              | LUCD6X●●        | 0.15...0.6 A  |
|                                                                                                                                                                                                                                                                                  | 0.25 kW                            | LUB12         | LU2B12●●         | LUCB1X●●              | LUCD1X●●        | 0.35...1.4 A  |
|                                                                                                                                                                                                                                                                                  | 1.5 kW                             | LUB12         | LU2B12●●         | LUCB05●●              | LUCD05●●        | 1.25...5 A    |
|                                                                                                                                                                                                                                                                                  | 5.5 kW                             | LUB12         | LU2B12●●         | LUCB12●●              | LUCD12●●        | 3...12 A      |
|                                                                                                                                                                                                                                                                                  | 7.5 kW                             | LUB32         | LU2B32●●         | LUCB18●●              | LUCD18●●        | 4.5...18 A    |
|                                                                                                                                                                                                                                                                                  | 15 kW                              | LUB32         | LU2B32●●         | LUCB32●●              | LUCD32●●        | 8...32 A      |

(3) For single-phase-motors, replace LUCB●●●● by LUCC●●●●.

## MULTIFUNCTION motor starter



| Function characteristics, LUB... + LUCA...                                                                                                                                                                                                                                                                                                                                                                                                                             | Maximum motor power<br>< 400/415 V | Power base    |                  | Multifunction control unit |               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------|------------------|----------------------------|---------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                    | Non-reversing | Reversing<br>(1) | Class 5 to 30              | Setting range |
| <ul style="list-style-type: none"> <li>- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only).</li> <li>- Manual, automatic or remote reset,</li> <li>- Thermal overload test function,</li> <li>- Overtorque and no-load running, alarm,</li> <li>- Motor operation log,</li> <li>- Motor parameters display on LUCM..., PC or HMI,</li> <li>- Integrated Modbus communication.</li> </ul> | 0.09 kW                            | LUB12         | LU2B12●●         | LUCM6XB                    | 0.15...0.6 A  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.25 kW                            | LUB12         | LU2B12●●         | LUCM1XB                    | 0.35...1.4 A  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1.5 kW                             | LUB12         | LU2B12●●         | LUCM05B                    | 1.25...5 A    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 5.5 kW                             | LUB12         | LU2B12●●         | LUCM12B                    | 3...12 A      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 7.5 kW                             | LUB32         | LU2B32●●         | LUCM18B                    | 4.5...18 A    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 15 kW                              | LUB32         | LU2B32●●         | LUCM32B                    | 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 LUCB       | 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                 | LUFDA11                  | LUFDA01             | LUFDA10 | LUFV2                 |

## Communication modules



| Type of communication                                                                | Modbus               | Advantys STB                     | Profibus DP                | CANopen                | DeviceNet               | AS-Interface               | Parallel wiring            |
|--------------------------------------------------------------------------------------|----------------------|----------------------------------|----------------------------|------------------------|-------------------------|----------------------------|----------------------------|
| Only compatible with 24 V DC control units<br>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.

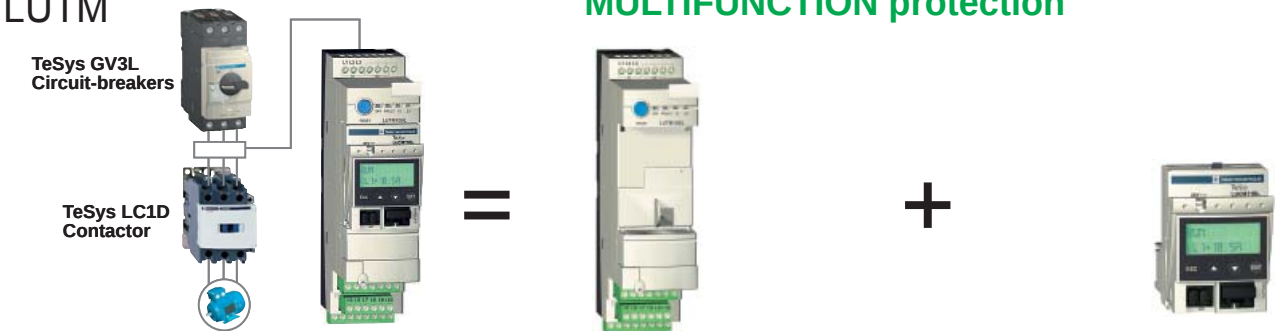
### Information carried by the Modbus, Advantys STB or CANopen bus

| 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) |
|                             |                            | —          | —          | NO (43-44) | NC (41-42) |
| References                  | Screw clamp terminals      | LUA1C11    | LUA1C20    | LUFN20     | LUFN11     |
|                             | Without connections        | LUA1C110   | LUA1C200   | —          | —          |



| Function characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                       | Control base for use with contactors |                  | Multifunction control unit Class 5 to 35 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------|------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                | TeSys D (LC1D..)                     | TeSys F (LC1F..) |                                          |
| <ul style="list-style-type: none"><li>- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only).</li><li>- Manual, automatic or remote reset,</li><li>- Thermal overload test function,</li><li>- Overtorque and no-load running, alarm,</li><li>- Motor operation log,</li><li>- Motor parameters display on LUCM..., PC or HMI,</li><li>- Integrated Modbus communication.</li></ul> | LUTM10BL                             | LUTM20BL         | LUCMT1BL                                 |

ADVANCED protection



| Function characteristics                                                                                                                                                                                                                                                     | Control base for use with contactors |                  | Advanced control unit |          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------|-----------------------|----------|
|                                                                                                                                                                                                                                                                              | TeSys D (LC1D..)                     | TeSys F (LC1F..) | Class 10              | Class 20 |
| <ul style="list-style-type: none"><li>- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipment only).</li><li>- Manual reset following thermal fault.</li><li>- Thermal overload test function.</li></ul> | LUTM10BL                             | LUTM20BL         | LUCBT1BL              | 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                 |

## Communication modules



| Type of communication                                                                | Modbus                     | Advantys STB                     | CANopen                | DeviceNet               | Parallele wiring           |
|--------------------------------------------------------------------------------------|----------------------------|----------------------------------|------------------------|-------------------------|----------------------------|
| Only compatible with 24 V DC control units<br>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●●<br>LU9RDD●● | LU9RCD●●                         | TSXCANC●●              | DeviceNet standard      | TSXCDP●●●                  |
| References                                                                           | LUFC033                    | LULC15                           | LULC08                 | LULC09                  | LUFC00                     |

## Information carried by the Modbus, Advantys 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        |

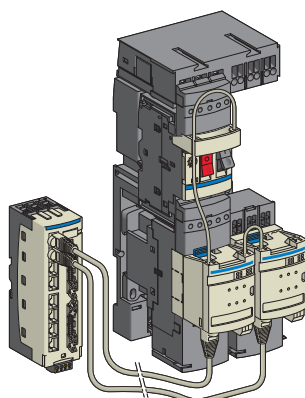


Starters

|                                                                    |                          | 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        | GV2-ME       | GV2-LC       | LE1-GVME      | LE1-M        |
|                                                                    |                          | VCFN       | GV3-PC       | GV-NGC       |               | LE1-D        |
|                                                                    |                          | V•FX       | GV3-CE       |              |               |              |
|                                                                    | Reversing                |            |              |              |               | LE2-K        |
|                                                                    |                          |            |              |              |               | LE2-D        |



| 2 stage |                       |              |             |             |               |                     |             |
|---------|-----------------------|--------------|-------------|-------------|---------------|---------------------|-------------|
|         | ■ safety applications |              |             | ■ AS-i 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 |
|         | -                     | ●            | -           | -           | -             | -                   | -           |
|         | ●                     | -            | ●           | ●           | ●             | ●                   | ●           |
|         | -                     | -            | ●           | -           | -             | -                   | -           |
|         | -                     | ●            | ●           | ●           | ●             | -                   | -           |
|         | ●                     | -            | -           | -           | -             | -                   | ●           |
|         | ●                     | ●            | ●           | ●           | ●             | -                   | ●           |
|         | ●                     | ●            | ●           | ●           | ●             | ●                   | ●           |
|         | -                     | -            | -           | -           | ●             | -                   | -           |
| LE4-K   |                       | GV2-ME       | LG1-K       | LG7-K       | LF1-M         | LE3-K               | LE6-D       |
| LE4-D   |                       |              | LG1-D       | LG7-D       | LF1-P         | LE3-D               | LE3-D       |
|         |                       |              |             | LJ7-K       | LF7-P         | LE3-F               |             |
| LE8-K   |                       |              |             | LG8-K       | LF2-M         |                     |             |
| LE8-D   |                       |              |             | LJ8-K       | LF2-P         |                     |             |
| LE2-D   |                       |              |             |             | LF8-P         |                     |             |



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.

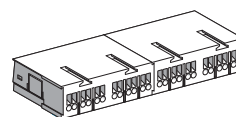
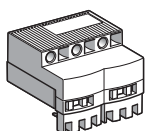
### Components for pre-wiring the power part

- 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 mm<sup>2</sup>),
- a **downstream terminal block** for connecting the motor power supply cables and the earth cables (6 mm<sup>2</sup>).

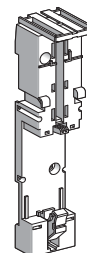
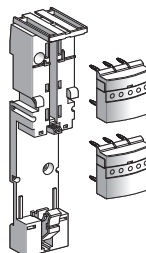
### Components for pre-wiring the control part

- 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 Advantys Telefast pre-wired system.
  - **STB**, intended for decentralised automation architectures. This module is integrated in an Advantys STB configuration for connection to the PLC via a fieldbus.

## 9...25 A power pre-wiring components



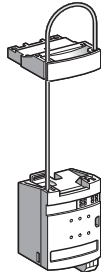
| Type                         | Terminal block        |                   | 60 A power splitter box |        |
|------------------------------|-----------------------|-------------------|-------------------------|--------|
|                              | Upstream              | Downstream        | Extension by LAD32●     |        |
| Maximum c.s.a. of connection | 16 mm <sup>2</sup>    | 6 mm <sup>2</sup> | –                       | –      |
| Use                          | Splitter boxes supply | Motor cables      | –                       | –      |
| Number of starters           | –                     | –                 | 2                       | 4      |
| Reference                    | LAD3B1                | LAD331            | LAD322                  | LAD324 |



| Type        | Connection kit                                                         | Mounting plate for  | Power connection |
|-------------|------------------------------------------------------------------------|---------------------|------------------|
|             | For D.O.L. starter (1)                                                 | GV2 ME & contactor  | module           |
| Composition | 1 mounting plate LAD311 for GV2ME<br>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 | Advantys STB parallel interface module |
|-----------------------------------|--------------------------------|----------------------------------------|
|                                   | Splitter box                   |                                        |
| 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 <sup>2</sup>          | 28 / 0.080 mm <sup>2</sup> | 22 / 0.324 mm <sup>2</sup> |
| Reference      | L = 0.3 m         | LU9R03                              | –                          | –                          |
|                | 0.5 m             | –                                   | TSXCDP053                  | –                          |
|                | 1 m               | LU9R10                              | TSXCDP103                  | ABFH20H100                 |
|                | 2 m               | –                                   | TSXCDP203                  | ABFH20H200                 |
|                | 3 m               | LU9R30                              | TSXCDP303                  | ABFH20H300                 |
|                | 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        |
| accordint 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  | D40        |
|                                   | 35            | 26  | 17   | 13   | 13   | 12  | 12  | 140                        | 105  | 70   | 46   | 42   | 35  | 32  | D50, D65   |
|                                   | 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        |
| accordint 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    |     |     | D40        |
|                                   | 22            | 13  | 8    | 4    | 3    |     |     | 50                         | 30   | 19   | 10   | 7    |     |     | D50, D65   |
|                                   | 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        |
| accordint 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    | -    |      |     |     | D40        |
|                                   | 16            | 11  | 4    | 2    |      |     |     | 30                         | 21   | 7    | -    |      |     |     | D50, D65   |
|                                   | 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      |
| accordint 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    |  | D40      |
|                                   | 207  | 164  | 124  | 82   | 62   | 40   | 24   | 16   | 12   |  | D50, D65 |
|                                   | 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 |      |      |      |      |            |
| P (W)                             | 20            | 40   | 65   | 80   | 110 | 20                       | 40   | 65   | 80   | 110  |            |
| IB (A)                            | 0.39          | 0.45 | 0.70 | 0.80 | 1.2 | 0.17                     | 0.26 | 0.42 | 0.52 | 0.72 |            |
| C (μF)                            | -             | -    | -    | -    | -   | 5                        | 5    | 7    | 7    | 16   | LC1-       |
| Max. number of lamps              | 24            | 21   | 13   | 12   | 8   | 56                       | 36   | 22   | 18   | -    | K09        |
| accordint to P (W), per contactor | 41            | 35   | 22   | 20   | 13  | 94                       | 61   | 38   | 30   | 22   | D09, D12   |
|                                   | 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   | D40        |
|                                   | 143           | 124  | 80   | 70   | 46  | 329                      | 215  | 133  | 107  | 77   | D50, D65   |
|                                   | 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        |
| accordint 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   | D40        |
|                                   | 2x126  | 2x68   | 2x40   | 2x34   | 2x24  | 2x214  | 2x116  | 2x70   | 2x58   | 2x42   | D50, D65   |
|                                   | 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 |

# Components Capacitor switching

## 0...1000 kVAR

### On-load capacitor switching

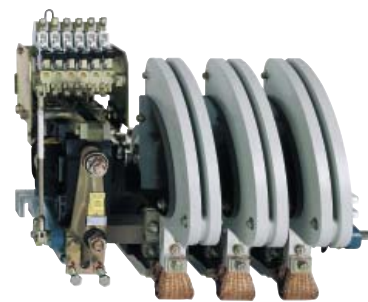
for bar-mounted contactors, a.c. control circuit

| 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     | CE5-FB11•11                      | 1 + 1 staggered pole  | 80                           | 60     | CE6-FB12•11                      |
|                               |                          | 160                          | 125    | CE5-GB11•11                      |                       | 160                          | 125    | CE6-GB12•11                      |
|                               |                          | 240                          | 190    | CE5-HB11•11                      |                       | 240                          | 190    | CE6-HB12•11                      |
|                               | 2                        | 80x2                         | 60x2   | CE5-FB21•11                      | 2 + 2 staggered poles |                              |        |                                  |
|                               |                          | 160x2                        | 125x2  | CE5-GB21•11                      |                       |                              |        |                                  |
|                               |                          | 240x2                        | 190x2  | CE5-HB21•11                      |                       | 240x2                        | 190x2  | CE6-HB22•11                      |
| 1500                          | 3                        | 80x3                         | 60x3   | CE5-FB31•11                      | 1 + 2 staggered poles |                              |        |                                  |
|                               |                          | 160x3                        | 125x3  | CE5-GB31•11                      |                       |                              |        |                                  |
|                               |                          | 240x3                        | 190x3  | CE5-HB31•11                      |                       |                              |        |                                  |
|                               | 2 poles in series        | 160                          | 125    | CE5-GB12•11                      |                       | 160                          | 125    | CE6-GB13•11                      |
|                               |                          | 280                          | 220    | CE5-HB12•11                      |                       | 280                          | 220    | CE6-HB13•11                      |
|                               | 2 x 2 poles in series    | 280x2                        | 220x2  | CE5-HB22•11                      |                       |                              |        |                                  |
| 2000                          | 2 poles in series        | 240                          | 190    | CS5-HB12•11                      | 1 + 2 staggered poles | 240                          | 190    | CS6-HB13•11                      |
|                               | 2 x 2 poles in series    | 240x2                        | 190x2  | CS5-HB22•11                      |                       |                              |        |                                  |
| 3000                          | 3 poles in series        | 280                          | 220    | CS5-HB13•11                      | 1 + 3 staggered poles | 280                          | 220    | CS6-HB14•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

|     | $\theta \geq 40^\circ\text{C}$ |       |       | $\theta \geq 55^\circ\text{C}$ |       |       | 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          | LC1-D09, D12   |
| 9   | 15                             | 20    | 20    | 9                              | 15    | 20    | 850          | LC1-D18        |
| 11  | 20                             | 25    | 25    | 11                             | 20    | 25    | 1600         | LC1-D25        |
| 14  | 25                             | 30    | 30    | 14                             | 25    | 30    | 1900         | LC1-D32, D38   |
| 17  | 30                             | 37    | 37    | 17                             | 30    | 37    | 2160         | LC1-D40A       |
| 22  | 40                             | 50    | 50    | 22                             | 40    | 50    | 2160         | LC1-D50A       |
| 22  | 40                             | 50    | 50    | 22                             | 40    | 50    | 3040         | LC1-D65A       |
| 35  | 60                             | 75    | 75    | 35                             | 60    | 75    | 3040         | LC1-D80, D95   |
| 50  | 90                             | 125   | 125   | 38                             | 75    | 80    | 3100         | LC1-D115       |
| 60  | 110                            | 135   | 135   | 40                             | 85    | 90    | 3300         | LC1-D150       |
| 70  | 125                            | 160   | 160   | 50                             | 100   | 100   | 3500         | LC1-F185       |
| 80  | 140                            | 190   | 190   | 60                             | 110   | 110   | 4000         | LC1-F225       |
| 90  | 160                            | 225   | 225   | 75                             | 125   | 125   | 5000         | LC1-F265       |
| 100 | 190                            | 275   | 275   | 85                             | 140   | 165   | 6500         | LC1-F330       |
| 125 | 220                            | 300   | 300   | 100                            | 160   | 200   | 8000         | LC1-F400       |
| 180 | 300                            | 400   | 400   | 125                            | 220   | 300   | 10000        | LC1-F500       |
| 250 | 400                            | 600   | 600   | 190                            | 350   | 500   | 12000        | LC1-F630       |
| 250 | 400                            | 600   | 600   | 190                            | 350   | 500   | 14200        | LC1-F800       |
| 200 | 350                            | 500   | 500   | 180                            | 350   | 500   | 25000        | LC1-BL         |
| 300 | 550                            | 650   | 650   | 250                            | 500   | 600   | 25000        | LC1-BM         |
| 500 | 8350                           | 950   | 950   | 400                            | 750   | 750   | 25000        | LC1-BP         |
| 600 | 1100                           | 1300  | 1300  | 500                            | 1000  | 1000  | 25000        | LC1-BR         |

### special contactors

Operational power at 50/60 Hz

|     | $\theta \geq 55^\circ\text{C}$ |       |       | Instantaneous auxiliary contacts |     | Tightening torque on cable end | Basic reference, to be completed |
|-----|--------------------------------|-------|-------|----------------------------------|-----|--------------------------------|----------------------------------|
|     | 220 V                          | 400 V | 660 V |                                  |     |                                |                                  |
|     | 240 V                          | 440 V | 690 V |                                  |     |                                |                                  |
|     | kVAR                           | kVAR  | kVAR  | N/O                              | N/C | N.m                            |                                  |
| 6.7 | 12.5                           | 18    | 18    | 1                                | 1   | 1.2                            | LC1-DFK11••                      |
|     |                                |       |       | -                                | 2   | 1.2                            | LC1-DFK02••                      |
| 8.5 | 16.7                           | 24    | 24    | 1                                | 1   | 1.7                            | LC1-DGK11••                      |
|     |                                |       |       | -                                | 2   | 1.7                            | LC1-DGK02••                      |
| 10  | 20                             | 30    | 30    | 1                                | 1   | 1.9                            | LC1-DLK11••                      |
|     |                                |       |       | -                                | 2   | 1.9                            | LC1-DLK02••                      |
| 15  | 25                             | 36    | 36    | 1                                | 1   | 2.5                            | LC1-DMK11••                      |
|     |                                |       |       | -                                | 2   | 2.5                            | LC1-DMK02••                      |
| 20  | 33.3                           | 48    | 48    | 1                                | 2   | 5                              | LC1-DPK12••                      |
| 25  | 40                             | 58    | 58    | 1                                | 2   | 5                              | LC1-DTK12••                      |
| 40  | 60                             | 92    | 92    | 1                                | 2   | 9                              | LC1-DWK12••                      |

## 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  |



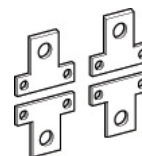
### Maximum operational current (device in open air)

| Contactors                                         |           |    | LC1-/LP1- | LC1-/LP1- | LC1-   | LC1- | LC1- | LC1- | LC1- | LC1- | LC1- | LC1-  |
|----------------------------------------------------|-----------|----|-----------|-----------|--------|------|------|------|------|------|------|-------|
| ■ 3-pole                                           |           |    | K09       | K12       | D09    |      | D12  | D18  | D25  | D32  | D38  | D40A  |
| ■ 4-pole                                           |           |    |           |           |        | DT20 | DT25 | DT32 | DT40 |      |      |       |
| 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                                | 220/230 V | kW | 8         | 8         | 9      | 8    | 9    | 11   | 14   | 18   | 18   | 21    |
| power ≤ 60° C                                      | 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     | LA9-E01                |
|                        | 4 poles | with screw clamp terminals     | LA9-E02                |
| ■ TeSys D              | 2 poles | D09...D38                      | LA9-D2561              |
|                        |         | DT20 and DT25 (4P)             | LA9-D1261              |
|                        |         | DT32...DT40 (4P)               | LAD-D96061             |
|                        |         | D40A...D65A                    | LAD-9P32               |
|                        | 3 poles | D80                            | LA9-D80961             |
|                        |         | D09...D38                      | LAD-9P3 <sup>(1)</sup> |
| ■ TeSys F              | 4 poles | D40A...D65A                    | LAD-9P33               |
|                        |         | D80                            | LA9-D80962             |
|                        |         | DT20...DT25                    | LA9-D1263              |
|                        |         | D40A...D65A                    | 2 x LAD-9P33           |
|                        | 2 to 2  | D80                            | LA9-D80963             |
|                        |         | LC1-F1154                      | LA9-FF602              |
|                        |         | LC1-F1504, F1854               | LA9-FG602              |
|                        |         | LC1-F2254, F2654, F3304, F4004 | LA9-FH602              |
|                        |         | LC1-F5004                      | LA9-FK602              |
|                        |         | LC1-F6304                      | LA9-FL602              |

(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                                                             |
|-------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| <b>2 contactors, vertically mounted</b>                                       |                          |                          |                                                        |                                                                                                                                                                 |                                                                                  |
| ■ 4-pole changeover pairs with locking device components                      |                          |                          |                                                        |                                                                                                                                                                 |                                                                                  |
| LC1-B                                                                         |                          | EZ2-LB0601               |                                                        |                                                                                                                                                                 |                                                                                  |
| <b>2 identical contactors, horizontally mounted</b>                           |                          |                          |                                                        |                                                                                                                                                                 |                                                                                  |
| ■ with electrical interlocking kit for the contactors                         |                          |                          |                                                        |                                                                                                                                                                 |                                                                                  |
| LC1-DT20...DT40                                                               | LAD-T9R1V <sup>(1)</sup> |                          |                                                        |                                                                                                                                                                 |                                                                                  |
| ■ mechanical interlock with integral electrical interlocking                  |                          |                          |                                                        |                                                                                                                                                                 |                                                                                  |
| LP1-D80004                                                                    | LA9-D8070                | LA9-D8002                | LC1-D115004                                            | LA9-D11570                                                                                                                                                      | LA9-D11502                                                                       |
| ■ without electrical interlocking <sup>(2)</sup>                              |                          |                          |                                                        |                                                                                                                                                                 |                                                                                  |
| LC1-DT20...DT32                                                               | LAD-T9R1 <sup>(2)</sup>  |                          | LC1-DT40 and DT60                                      | LAD-T9R2 <sup>(2)</sup>                                                                                                                                         |                                                                                  |
| LP1-D80004                                                                    | LA9-D8070                | LA9-D80978               |                                                        |                                                                                                                                                                 |                                                                                  |
| <b>2 contactors of identical rating, horizontally mounted</b>                 |                          |                          |                                                        |                                                                                                                                                                 |                                                                                  |
| ■ 4-pole changeover pairs                                                     |                          |                          |                                                        |                                                                                                                                                                 |                                                                                  |
| LC1-F1154                                                                     | LA9-FF977                | LA9-FF970                | LC1-F1504                                              | LA9-F15077                                                                                                                                                      | LA9-FF970                                                                        |
| LC1-F1854                                                                     | LA9-FG977                | LA9-FG970                | LC1-F2254                                              | LA9-F22577                                                                                                                                                      | LA9-FG970                                                                        |
| LC1-F2654                                                                     | LA9-FH977                | LA9-FJ970                | LC1-F3304                                              | LA9-FJ977                                                                                                                                                       | LA9-FJ970                                                                        |
| LC1-F4004                                                                     | LA9-FJ977                | LA9-FJ970                | LC1-F5004                                              | LA9-FK977                                                                                                                                                       | LA9-FJ970                                                                        |
| LC1-F6304                                                                     | LA9-FL977                | LA9-FL970                |                                                        |                                                                                                                                                                 |                                                                                  |
| ■ 3-pole changeover pairs with electrical interlocking                        |                          |                          |                                                        |                                                                                                                                                                 |                                                                                  |
| LC1-D115 and D150                                                             | LA9-D11571               | LA9-D11502               |                                                        |                                                                                                                                                                 |                                                                                  |
| <b>reversers assembled using 2 contactors, vertically mounted</b>             |                          |                          |                                                        |                                                                                                                                                                 |                                                                                  |
| ■ 4-pole changeover pairs using contactors of identical rating <sup>(3)</sup> |                          |                          |                                                        |                                                                                                                                                                 |                                                                                  |
| LC1-F1154 or F1505                                                            | (3)                      | LA9-FF4F                 | At bottom<br>LC1-F115 or F1154<br>or LC1-F150 or F1504 | At top<br>LC1-F185 or F1854<br>LC1-F225 or F2254<br>LC1-F265 or F2654<br>LC1-F300 or F3304<br>LC1-F400 or F4004<br>LC1-F500 or F5004<br>LC1-F630, F6304 or F800 | LA9-FG4F<br>LA9-FG4F<br>LA9-FH4F<br>LA9-FH4F<br>LA9-FJ4F<br>LA9-FK4F<br>LA9-FL4F |
| LC1-F1854                                                                     | (3)                      | LA9-FG4G                 |                                                        | LC1-F265 or F2654<br>LC1-F400 or F4004<br>LC1-F500 or F5004<br>LC1-F630, F6304 or F800                                                                          | LA9-FH4G<br>LA9-FH4G<br>LA9-FJ4G<br>LA9-FK4G<br>LA9-FL4G                         |
| LC1-F2254                                                                     | (3)                      | LA9-FG4G                 |                                                        | LC1-F400 or F4004<br>LC1-F500 or F5004<br>LC1-F630, F6304 or F800                                                                                               | LA9-FJ4H<br>LA9-FK4H<br>LA9-FL4H                                                 |
| LC1-F2654 or F3304                                                            | (3)                      | LA9-FH4H                 |                                                        | LC1-F500 or F5004<br>LC1-F630, F6304 or F800                                                                                                                    | LA9-FK4J<br>LA9-FL4J                                                             |
| LC1-F4004                                                                     | (3)                      | LA9-FJ4J                 |                                                        | LC1-F630, F6304 or F800                                                                                                                                         | LA9-FL4K                                                                         |
| LC1-F5004                                                                     | (3)                      | LA9-FK4K                 |                                                        |                                                                                                                                                                 |                                                                                  |
| LC1-F6304                                                                     | (3)                      | LA9-FL4L                 |                                                        |                                                                                                                                                                 |                                                                                  |
| LC1-F7804                                                                     | (4)                      | LA9-FX971 <sup>(4)</sup> |                                                        |                                                                                                                                                                 |                                                                                  |

(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.

