





## Main

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|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range                                       | TeSys                                                                                                                                                                                                                                                                                                                       |
| Product name                                | TeSys D                                                                                                                                                                                                                                                                                                                     |
| Product or component type                   | Contactor                                                                                                                                                                                                                                                                                                                   |
| Device short name                           | LC1D                                                                                                                                                                                                                                                                                                                        |
| Contactor application                       | Resistive load<br>Motor control                                                                                                                                                                                                                                                                                             |
| Utilisation category                        | AC-4<br>AC-3<br>AC-1                                                                                                                                                                                                                                                                                                        |
| Poles description                           | 3P                                                                                                                                                                                                                                                                                                                          |
| Power pole contact composition              | 3 NO                                                                                                                                                                                                                                                                                                                        |
| [Ue] rated operational voltage              | Power circuit: ≤ 300 V DC 25...400 Hz<br>Power circuit: ≤ 690 V AC                                                                                                                                                                                                                                                          |
| [Ie] rated operational current              | 125 A (at ≤60 °C) at ≤ 440 V AC AC-1 for power circuit<br>80 A (at ≤60 °C) at ≤ 440 V AC AC-3 for power circuit                                                                                                                                                                                                             |
| Motor power kW                              | 22 kW at 220...230 V AC 50/60 Hz (AC-3)<br>37 kW at 380...400 V AC 50/60 Hz (AC-3)<br>45 kW at 415...440 V AC 50/60 Hz (AC-3)<br>55 kW at 500 V AC 50/60 Hz (AC-3)<br>45 kW at 660...690 V AC 50/60 Hz (AC-3)<br>45 kW at 1000 V AC 50/60 Hz (AC-3)<br>15 kW at 400 V AC 50/60 Hz (AC-4)                                    |
| Motor power HP (UL / CSA)                   | 20 Hp at 200/208 V AC 50/60 Hz for 3 phases motors<br>7.5 Hp at 115 V AC 50/60 Hz for 1 phase motors<br>15 Hp at 230/240 V AC 50/60 Hz for 1 phase motors<br>25 Hp at 230/240 V AC 50/60 Hz for 3 phases motors<br>60 Hp at 460/480 V AC 50/60 Hz for 3 phases motors<br>60 hp at 575/600 V AC 50/60 Hz for 3 phases motors |
| Control circuit type                        | AC at 50/60 Hz                                                                                                                                                                                                                                                                                                              |
| [Uc] control circuit voltage                | 230 V AC 50/60 Hz                                                                                                                                                                                                                                                                                                           |
| Auxiliary contact composition               | 1 NO + 1 NC                                                                                                                                                                                                                                                                                                                 |
| [Uimp] rated impulse withstand voltage      | 8 kV conforming to IEC 60947                                                                                                                                                                                                                                                                                                |
| Overvoltage category                        | III                                                                                                                                                                                                                                                                                                                         |
| [Ith] conventional free air thermal current | 10 A (at 60 °C) for signalling circuit<br>125 A (at 60 °C) for power circuit                                                                                                                                                                                                                                                |
| Irms rated making capacity                  | 140 A AC for signalling circuit conforming to IEC 60947-5-1<br>250 A DC for signalling circuit conforming to IEC 60947-5-1<br>1100 A at 440 V for power circuit conforming to IEC 60947                                                                                                                                     |
| Rated breaking capacity                     | 1100 A at 440 V for power circuit conforming to IEC 60947                                                                                                                                                                                                                                                                   |
| [Icw] rated short-time withstand current    | 640 A 40 °C - 10 s for power circuit<br>990 A 40 °C - 1 s for power circuit<br>135 A 40 °C - 10 min for power circuit<br>320 A 40 °C - 1 min for power circuit<br>100 A - 1 s for signalling circuit<br>120 A - 500 ms for signalling circuit<br>140 A - 100 ms for signalling circuit                                      |
| Associated fuse rating                      | 10 A gG for signalling circuit conforming to IEC 60947-5-1<br>200 A gG at ≤ 690 V coordination type 1 for power circuit<br>160 A gG at ≤ 690 V coordination type 2 for power circuit                                                                                                                                        |

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|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Average impedance             | 0.8 mOhm - lth 125 A 50 Hz for power circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| [Ui] rated insulation voltage | Power circuit: 600 V CSA certified<br>Power circuit: 600 V UL certified<br>Power circuit: 1000 V conforming to IEC 60947-4-1<br>Signalling circuit: 690 V conforming to IEC 60947-1<br>Signalling circuit: 600 V CSA certified<br>Signalling circuit: 600 V UL certified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Electrical durability         | 0.8 Mcycles 125 A AC-1 at Ue ≤ 440 V<br>1.5 Mcycles 80 A AC-3 at Ue ≤ 440 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Power dissipation per pole    | 5.1 W AC-3<br>12.5 W AC-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Front cover                   | With                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Mounting support              | Rail<br>Plate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Standards                     | CSA C22.2 No 14<br>EN 60947-4-1<br>EN 60947-5-1<br>IEC 60947-4-1<br>IEC 60947-5-1<br>UL 508                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Product certifications        | DNV<br>LROS (Lloyds register of shipping)<br>GOST<br>CCC<br>GL<br>RINA<br>BV<br>CSA<br>UL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Connections - terminals       | Control circuit: screw clamp terminals 2 cable(s) 1...<br>2.5 mm <sup>2</sup> flexible with cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...<br>2.5 mm <sup>2</sup> flexible with cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...<br>4 mm <sup>2</sup> flexible without cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1...<br>4 mm <sup>2</sup> flexible without cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...<br>4 mm <sup>2</sup> solid without cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1...<br>4 mm <sup>2</sup> solid without cable end<br>Power circuit: connector 1 cable(s) 4...<br>50 mm <sup>2</sup> flexible without cable end<br>Power circuit: connector 2 cable(s) 4...<br>25 mm <sup>2</sup> flexible without cable end<br>Power circuit: connector 1 cable(s) 4...<br>50 mm <sup>2</sup> flexible with cable end<br>Power circuit: connector 2 cable(s) 4...<br>16 mm <sup>2</sup> flexible with cable end<br>Power circuit: connector 1 cable(s) 4...50 mm <sup>2</sup> solid<br>without cable end<br>Power circuit: connector 2 cable(s) 4...25 mm <sup>2</sup> solid<br>without cable end |
| Tightening torque             | Control circuit: 1.2 N.m - on screw clamp terminals -<br>with screwdriver flat Ø 6 mm<br>Control circuit: 1.2 N.m - on screw clamp terminals -<br>with screwdriver Philips No 2<br>Power circuit: 12 N.m - on connector - with<br>screwdriver flat Ø 6 to Ø 8 mm<br>Power circuit: 12 N.m - on connector hexagonal<br>screw head 4 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Operating time                | 20...35 ms closing<br>6...20 ms opening                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Safety reliability level      | B10d = 1369863 cycles contactor with nominal load<br>conforming to EN/ISO 13849-1<br>B10d = 20000000 cycles contactor with mechanical<br>load conforming to EN/ISO 13849-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Mechanical durability         | 4 Mcycles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Maximum operating rate        | 3600 cyc/h 60 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## Complementary

|                                 |                                                                                                                                                                                                           |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Coil technology                 | Without built-in suppressor module                                                                                                                                                                        |
| Control circuit voltage limits  | 0.85...1.1 Uc (-40...55 °C):operational AC 60 Hz<br>0.3...0.6 Uc (-40...70 °C):drop-out AC 50/60 Hz<br>0.8...1.1 Uc (-40...55 °C):operational AC 50 Hz<br>1...1.1 Uc (55...70 °C):operational AC 50/60 Hz |
| Inrush power in VA              | 245 VA 60 Hz cos phi 0.75 (at 20 °C)<br>245 VA 50 Hz cos phi 0.75 (at 20 °C)                                                                                                                              |
| Hold-in power consumption in VA | 26 VA 60 Hz cos phi 0.3 (at 20 °C)<br>26 VA 50 Hz cos phi 0.3 (at 20 °C)                                                                                                                                  |
| Heat dissipation                | 6...10 W at 50/60 Hz                                                                                                                                                                                      |
| Auxiliary contacts type         | Type mechanically linked 1 NO + 1 NC conforming to IEC 60947-5-1<br>Type mirror contact 1 NC conforming to IEC 60947-4-1                                                                                  |
| Signalling circuit frequency    | 25...400 Hz                                                                                                                                                                                               |
| Minimum switching current       | 5 mA for signalling circuit                                                                                                                                                                               |
| Minimum switching voltage       | 17 V for signalling circuit                                                                                                                                                                               |
| Non-overlap time                | 1.5 Ms on de-energisation between NC and NO contact<br>1.5 ms on energisation between NC and NO contact                                                                                                   |
| Insulation resistance           | > 10 MOhm for signalling circuit                                                                                                                                                                          |

## Environment

|                                       |                                                                                                                                                                                   |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IP degree of protection               | IP20 front face conforming to IEC 60529                                                                                                                                           |
| Protective treatment                  | TH conforming to IEC 60068-2-30                                                                                                                                                   |
| Pollution degree                      | 3                                                                                                                                                                                 |
| Ambient air temperature for operation | -40...60 °C<br>60...70 °C with derating                                                                                                                                           |
| Ambient air temperature for storage   | -60...80 °C                                                                                                                                                                       |
| Operating altitude                    | 0...3000 m                                                                                                                                                                        |
| Fire resistance                       | 850 °C conforming to IEC 60695-2-1                                                                                                                                                |
| Flame retardance                      | V1 conforming to UL 94                                                                                                                                                            |
| Mechanical robustness                 | Vibrations contactor open: 2 Gn, 5...300 Hz<br>Shocks contactor open: 8 Gn for 11 ms<br>Vibrations contactor closed: 3 Gn, 5...300 Hz<br>Shocks contactor closed: 10 Gn for 11 ms |
| Height                                | 127 mm                                                                                                                                                                            |
| Width                                 | 85 mm                                                                                                                                                                             |
| Depth                                 | 130 mm                                                                                                                                                                            |
| Net weight                            | 1.59 kg                                                                                                                                                                           |

## Packing Units

|                              |           |
|------------------------------|-----------|
| Unit Type of Package 1       | PCE       |
| Number of Units in Package 1 | 1         |
| Package 1 Weight             | 1.555 kg  |
| Package 1 Height             | 9.4 cm    |
| Package 1 width              | 13.2 cm   |
| Package 1 Length             | 14.2 cm   |
| Unit Type of Package 2       | S02       |
| Number of Units in Package 2 | 5         |
| Package 2 Weight             | 8.235 kg  |
| Package 2 Height             | 15 cm     |
| Package 2 width              | 30 cm     |
| Package 2 Length             | 40 cm     |
| Unit Type of Package 3       | P06       |
| Number of Units in Package 3 | 80        |
| Package 3 Weight             | 140.18 kg |
| Package 3 Height             | 80 cm     |
| Package 3 width              | 80 cm     |
| Package 3 Length             | 60 cm     |

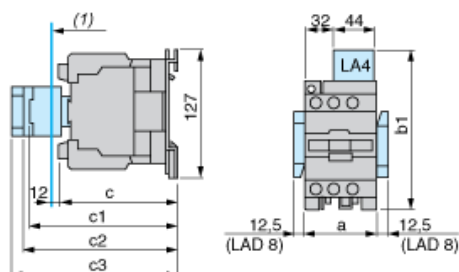
## Offer Sustainability

|                            |                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                       |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                                           |
| REACH free of SVHC         | Yes                                                                                                                         |
| EU RoHS Directive          | Compliant <a href="#">EU RoHS Declaration</a>                                                                               |
| Toxic heavy metal free     | Yes                                                                                                                         |
| Mercury free               | Yes                                                                                                                         |
| RoHS exemption information | <a href="#">Yes</a>                                                                                                         |
| China RoHS Regulation      | <a href="#">China RoHS Declaration</a>                                                                                      |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>                                                                               |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
| PVC free                   | Yes                                                                                                                         |

## Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

## Dimensions



(1) Minimum electrical clearance

| LC1                                |                                | D80 | D95 |
|------------------------------------|--------------------------------|-----|-----|
| a                                  |                                | 85  | 85  |
| b1                                 | with LA4 D•2                   | 135 | 135 |
| with LA4 DB3 or LAD 4BB3           | 135                            | —   |     |
| with LA4 DF, DT                    | 142                            | 142 |     |
| with LA4 DM, DW, DL                | 150                            | 150 |     |
| c                                  | without cover or add-on blocks | 125 | 125 |
| with cover, without add-on blocks  | 130                            | 130 |     |
| c1                                 | with LAD N (1 contact)         | 150 | 150 |
| with LAD N or C (2 or 4 contacts)  | 158                            | 158 |     |
| c2                                 | with LA6 DK10, LAD 6DK         | 170 | 170 |
| c3                                 | with LAD T, R, S               | 178 | 178 |
| with LAD T, R, S and sealing cover | 182                            | 182 |     |

## Wiring

