





## Main

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|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range                                       | TeSys                                                                                                                                                                                                                                                                                 |
| Product name                                | TeSys D                                                                                                                                                                                                                                                                               |
| Product or component type                   | Contactor                                                                                                                                                                                                                                                                             |
| Device short name                           | LC1D                                                                                                                                                                                                                                                                                  |
| Contactor application                       | Resistive load                                                                                                                                                                                                                                                                        |
| Utilisation category                        | AC-1                                                                                                                                                                                                                                                                                  |
| Poles description                           | 4P                                                                                                                                                                                                                                                                                    |
| Power pole contact composition              | 4 NO                                                                                                                                                                                                                                                                                  |
| [Ue] rated operational voltage              | Power circuit: ≤ 690 V AC 25...400 Hz<br>Power circuit: ≤ 300 V DC                                                                                                                                                                                                                    |
| [Ie] rated operational current              | 60 A (at ≤60 °C) at ≤ 440 V AC AC-1 for power circuit                                                                                                                                                                                                                                 |
| Control circuit type                        | AC at 50/60 Hz                                                                                                                                                                                                                                                                        |
| [Uc] control circuit voltage                | 400 V AC 50/60 Hz                                                                                                                                                                                                                                                                     |
| Auxiliary contact composition               | 1 NO + 1 NC                                                                                                                                                                                                                                                                           |
| [Uimp] rated impulse withstand voltage      | 6 kV conforming to IEC 60947                                                                                                                                                                                                                                                          |
| Overvoltage category                        | III                                                                                                                                                                                                                                                                                   |
| [Ith] conventional free air thermal current | 10 A (at 60 °C) for signalling circuit<br>60 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>800 A at 440 V for power circuit conforming to IEC 60947                                                                                                |
| Rated breaking capacity                     | 800 A at 440 V for power circuit conforming to IEC 60947                                                                                                                                                                                                                              |
| [Icw] rated short-time withstand current    | 320 A 40 °C - 10 s for power circuit<br>720 A 40 °C - 1 s for power circuit<br>72 A 40 °C - 10 min for power circuit<br>165 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>80 A gG at ≤ 690 V coordination type 1 for power circuit<br>80 A gG at ≤ 690 V coordination type 2 for power circuit                                                                                                    |
| Average impedance                           | 1.6 mOhm - Ith 60 A 50 Hz for power circuit                                                                                                                                                                                                                                           |
| [Ui] rated insulation voltage               | Power circuit: 600 V CSA certified<br>Power circuit: 600 V UL certified<br>Signalling circuit: 690 V conforming to IEC 60947-1<br>Signalling circuit: 600 V CSA certified<br>Signalling circuit: 600 V UL certified<br>Power circuit: 690 V conforming to IEC 60947-4-1               |
| Electrical durability                       | 1.4 Mcycles 60 A AC-1 at Ue ≤ 440 V                                                                                                                                                                                                                                                   |
| Power dissipation per pole                  | 5.8 W AC-1                                                                                                                                                                                                                                                                            |
| Front cover                                 | With                                                                                                                                                                                                                                                                                  |
| Mounting support                            | Plate<br>Rail                                                                                                                                                                                                                                                                         |
| 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                                                                                                                                                                                           |

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| Product certifications   | RINA<br>GL<br>DNV<br>CSA<br>CCC<br>BV<br>UL<br>LROS (Lloyds register of shipping)<br>GOST                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 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>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> flexible with 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: screw clamp terminal 1 cable(s) 1...<br>35 mm <sup>2</sup> flexible without cable end<br>Power circuit: screw clamp terminal 2 cable(s) 1...<br>25 mm <sup>2</sup> flexible without cable end<br>Power circuit: screw clamp terminal 1 cable(s) 1...<br>35 mm <sup>2</sup> flexible with cable end<br>Power circuit: screw clamp terminal 2 cable(s) 1...<br>25 mm <sup>2</sup> flexible with cable end<br>Power circuit: screw clamp terminal 1 cable(s) 1...<br>35 mm <sup>2</sup> solid without cable end<br>Power circuit: screw clamp terminal 2 cable(s) 1...<br>25 mm <sup>2</sup> solid without cable end |
| Tightening torque        | Control circuit: 1.7 N.m - on screw clamp terminals -<br>with screwdriver flat Ø 6 mm<br>Control circuit: 1.7 N.m - on screw clamp terminals -<br>with screwdriver Philips No 2<br>Power circuit: 8 N.m - on screw clamp terminals -<br>cable 25...35 mm <sup>2</sup> hexagonal screw head 4 mm<br>Power circuit: 5 N.m - on screw clamp terminals -<br>cable 1...25 mm <sup>2</sup> hexagonal screw head 4 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Operating time           | 4...19 ms opening<br>12...26 ms closing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 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    | 6 Mcycles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Maximum operating rate   | 3600 cyc/h 60 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## Complementary

|                                 |                                                                                                                                                                                                           |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Coil technology                 | Without built-in suppressor module                                                                                                                                                                        |
| Control circuit voltage limits  | 0.3...0.6 Uc (-40...70 °C):drop-out AC 50/60 Hz<br>0.8...1.1 Uc (-40...60 °C):operational AC 50 Hz<br>0.85...1.1 Uc (-40...60 °C):operational AC 60 Hz<br>1...1.1 Uc (60...70 °C):operational AC 50/60 Hz |
| Inrush power in VA              | 140 VA 60 Hz cos phi 0.75 (at 20 °C)<br>160 VA 50 Hz cos phi 0.75 (at 20 °C)                                                                                                                              |
| Hold-in power consumption in VA | 13 VA 60 Hz cos phi 0.3 (at 20 °C)<br>15 VA 50 Hz cos phi 0.3 (at 20 °C)                                                                                                                                  |
| Heat dissipation                | 4...5 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>Vibrations contactor closed: 4 Gn, 5...300 Hz<br>Shocks contactor closed: 15 Gn for 11 ms<br>Shocks contactor open: 10 Gn for 11 ms |
| Height                                | 122 mm                                                                                                                                                                             |
| Width                                 | 70 mm                                                                                                                                                                              |
| Depth                                 | 120 mm                                                                                                                                                                             |
| Net weight                            | 1.09 kg                                                                                                                                                                            |

## Packing Units

|                  |          |
|------------------|----------|
| Package 1 Weight | 1.084 kg |
| Package 1 Height | 0.790 dm |
| Package 1 width  | 1.380 dm |
| Package 1 Length | 1.530 dm |

## 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 |
|----------|-----------|