





## 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-3<br>AC-1<br>AC-4                                                                                                                                                                                                                                                                                                       |
| Poles description                           | 3P                                                                                                                                                                                                                                                                                                                         |
| Power pole contact composition              | 3 NO                                                                                                                                                                                                                                                                                                                       |
| [Ue] rated operational voltage              | Power circuit: ≤ 690 V AC 25...400 Hz<br>Power circuit: ≤ 300 V DC                                                                                                                                                                                                                                                         |
| [Ie] rated operational current              | 25 A (at ≤60 °C) at ≤ 440 V AC AC-3 for power circuit<br>40 A (at ≤60 °C) at ≤ 440 V AC AC-1 for power circuit                                                                                                                                                                                                             |
| Motor power kW                              | 5.5 kW at 220...230 V AC 50/60 Hz (AC-3)<br>11 kW at 380...400 V AC 50/60 Hz (AC-3)<br>11 kW at 415...440 V AC 50/60 Hz (AC-3)<br>15 kW at 500 V AC 50/60 Hz (AC-3)<br>15 kW at 660...690 V AC 50/60 Hz (AC-3)<br>5.5 kW at 400 V AC 50/60 Hz (AC-4)                                                                       |
| Motor power HP (UL / CSA)                   | 3 Hp at 230/240 V AC 50/60 Hz for 1 phase motors<br>2 Hp at 115 V AC 50/60 Hz for 1 phase motors<br>7.5 Hp at 230/240 V AC 50/60 Hz for 3 phases motors<br>15 Hp at 460/480 V AC 50/60 Hz for 3 phases motors<br>20 Hp at 575/600 V AC 50/60 Hz for 3 phases motors<br>7.5 hp at 200/208 V AC 50/60 Hz for 3 phases motors |
| Control circuit type                        | AC at 50/60 Hz                                                                                                                                                                                                                                                                                                             |
| [Uc] control circuit voltage                | 115 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 | 25 A (at 60 °C) for power circuit<br>10 A (at 60 °C) for signalling 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>450 A at 440 V for power circuit conforming to IEC 60947                                                                                                                                     |
| Rated breaking capacity                     | 450 A at 440 V for power circuit conforming to IEC 60947                                                                                                                                                                                                                                                                   |
| [Icw] rated short-time withstand current    | 240 A 40 °C - 10 s for power circuit<br>380 A 40 °C - 1 s for power circuit<br>50 A 40 °C - 10 min for power circuit<br>120 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>63 A gG at ≤ 690 V coordination type 1 for power circuit<br>40 A gG at ≤ 690 V coordination type 2 for power circuit                                                                                                                                         |

|                               |                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Average impedance             | 2 mOhm - lth 25 A 50 Hz for power circuit                                                                                                                                                                                                                                                                                                                                                    |
| [Ui] rated insulation voltage | Power circuit: 690 V conforming to IEC 60947-4-1<br>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                                                                                                                      |
| Electrical durability         | 1.65 Mcycles 25 A AC-3 at $U_e \leq 440$ V<br>1.4 Mcycles 40 A AC-1 at $U_e \leq 440$ V                                                                                                                                                                                                                                                                                                      |
| Power dissipation per pole    | 3.2 W AC-1<br>1.25 W AC-3                                                                                                                                                                                                                                                                                                                                                                    |
| 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                                                                                                                                                                                                                                                                                                  |
| Product certifications        | GL<br>CSA<br>RINA<br>CCC<br>LROS (Lloyds register of shipping)<br>BV<br>UL<br>DNV<br>GOST                                                                                                                                                                                                                                                                                                    |
| Connections - terminals       | Control circuit: spring terminals 1 cable(s)<br>2.5 mm <sup>2</sup> flexible without cable end<br>Control circuit: spring terminals 2 cable(s)<br>2.5 mm <sup>2</sup> flexible without cable end<br>Power circuit: spring terminals 1 cable(s)<br>4 mm <sup>2</sup> flexible without cable end<br>Power circuit: spring terminals 2 cable(s)<br>4 mm <sup>2</sup> flexible without cable end |
| Operating time                | 12...22 ms closing<br>4...19 ms opening                                                                                                                                                                                                                                                                                                                                                      |
| Safety reliability level      | B10d = 1369863 cycles contactor with nominal load conforming to EN/ISO 13849-1<br>B10d = 20000000 cycles contactor with mechanical load conforming to EN/ISO 13849-1                                                                                                                                                                                                                         |
| Mechanical durability         | 15 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 $U_c$ (-40...70 °C):drop-out AC 50/60 Hz<br>0.8...1.1 $U_c$ (-40...60 °C):operational AC 50 Hz<br>0.85...1.1 $U_c$ (-40...60 °C):operational AC 60 Hz<br>1...1.1 $U_c$ (60...70 °C):operational AC 50/60 Hz |
| Inrush power in VA              | 70 VA 60 Hz cos phi 0.75 (at 20 °C)<br>70 VA 50 Hz cos phi 0.75 (at 20 °C)                                                                                                                                            |
| Hold-in power consumption in VA | 7.5 VA 60 Hz cos phi 0.3 (at 20 °C)<br>7 VA 50 Hz cos phi 0.3 (at 20 °C)                                                                                                                                              |
| Heat dissipation                | 2...3 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: 8 Gn for 11 ms |
| Height                                | 99 mm                                                                                                                                                                             |
| Width                                 | 45 mm                                                                                                                                                                             |
| Depth                                 | 92 mm                                                                                                                                                                             |
| Net weight                            | 0.37 kg                                                                                                                                                                           |

## Packing Units

|                              |          |
|------------------------------|----------|
| Unit Type of Package 1       | PCE      |
| Number of Units in Package 1 | 1        |
| Package 1 Weight             | 429 g    |
| Package 1 Height             | 5.3 cm   |
| Package 1 width              | 11 cm    |
| Package 1 Length             | 12 cm    |
| Unit Type of Package 2       | S02      |
| Number of Units in Package 2 | 15       |
| Package 2 Weight             | 6.803 kg |
| Package 2 Height             | 15 cm    |
| Package 2 width              | 30 cm    |
| Package 2 Length             | 40 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> |
| Circularity Profile        |  <a href="#">End Of Life Information</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 |
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