

# LC1D12FL

TeSys D contactor - 3P(3 NO) - AC-3 -  $\leq 440$  V  
12 A - 110 V DC coil



## Main

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|--|---|
| Range                                  | TeSys   |
| Product name                           | TeSys D   |
| Product or component type              | Contactor   |
| Device short name                      | LC1D  |
| Contactor application                  | Motor control<br>Resistive load   |
| 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: $\leq 690$ V AC 25...400 Hz<br>Power circuit: $\leq 300$ V DC  |
| [Ie] rated operational current         | 25 A (at $\leq 60$ °C) at $\leq 440$ V AC AC-1 for power circuit<br>12 A (at $\leq 60$ °C) at $\leq 440$ V AC AC-3 for power circuit  |
| Motor power kW                         | 3 kW at 220...230 V AC 50/60 Hz (AC-3)<br>5.5 kW at 380...400 V AC 50/60 Hz (AC-3)<br>5.5 kW at 415...440 V AC 50/60 Hz (AC-3)<br>7.5 kW at 500 V AC 50/60 Hz (AC-3)<br>7.5 kW at 660...690 V AC 50/60 Hz (AC-3)<br>3.7 kW at 400 V AC 50/60 Hz (AC-4)  |
| Motor power HP (UL / CSA)              | 0.5 hp at 115 V AC 50/60 Hz for 1 phase motors<br>2 hp at 230/240 V AC 50/60 Hz for 1 phase motors<br>3 hp at 200/208 V AC 50/60 Hz for 3 phases motors<br>3 hp at 230/240 V AC 50/60 Hz for 3 phases motors<br>7.5 hp at 460/480 V AC 50/60 Hz for 3 phases motors<br>10 hp at 575/600 V AC 50/60 Hz for 3 phases motors |
| Control circuit type                   | DC low consumption  |
| [Uc] control circuit voltage           | 110 V DC  |
| Auxiliary contact composition          | 1 NO + 1 NC   |
| [Uimp] rated impulse withstand voltage | 6 kV conforming to IEC 60947  |
| Overvoltage category                   | III   |

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|---|--|
| [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                  | 250 A at 440 V for power circuit conforming to IEC 60947<br>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   |
| Rated breaking capacity                     | 250 A at 440 V for power circuit conforming to IEC 60947   |
| [Icw] rated short-time withstand current    | 105 A 40 °C - 10 s for power circuit<br>210 A 40 °C - 1 s for power circuit<br>30 A 40 °C - 10 min for power circuit<br>61 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>40 A gG at ≤ 690 V coordination type 1 for power circuit<br>25 A gG at ≤ 690 V coordination type 2 for power circuit   |
| Average impedance                           | 2.5 mOhm - Ith 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                       | 2 Mcycles 12 A AC-3 at Ue ≤ 440 V<br>0.8 Mcycles 25 A AC-1 at Ue ≤ 440 V   |
| Power dissipation per pole                  | 0.36 W AC-3<br>1.56 W AC-1   |
| Safety 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                      | UL<br>CSA<br>BV<br>RINA<br>DNV<br>LROS (Lloyds register of shipping)<br>GL<br>CCC<br>GOST  |
| Connections - terminals                     | Power circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> flexible without cable end<br>Power circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> flexible without cable end<br>Power circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> flexible with cable end<br>Power circuit: screw clamp terminals 2 cable(s) 1...2.5 mm <sup>2</sup> flexible with cable end<br>Power circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> solid without cable end<br>Power circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> solid without cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> flexible without cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> flexible without cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> flexible with cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1...2.5 mm <sup>2</sup> flexible with cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> solid without cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> solid without cable end |
| Tightening torque                           | Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm<br>Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver Philips No 2<br>Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm<br>Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver Philips No 2   |
| Operating time                              | 65.45...88.55 ms closing<br>20...30 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                       | 30 Mcycles   |
| Maximum operating rate                      | 3600 cyc/h 60 °C   |

## Complementary

|                                |  |
|--------------------------------|--|
| Coil technology                | Built-in bidirectional peak limiting diode suppressor  |
| Control circuit voltage limits | Drop-out: 0.1...0.3 U <sub>c</sub> DC (at 60 °C)<br>Operational: 0.8...1.25 U <sub>c</sub> DC (at 60 °C)                 |
| Time constant                  | 40 ms  |
| Inrush power in W              | 2.4 W (at 20 °C)   |
| Hold-in power consumption in W | 2.4 W at 20 °C   |
| 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

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| 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                 | -5...60 °C   |
| Ambient air temperature for storage                   | -60...80 °C  |
| Permissible ambient air temperature around the device | -40...70 °C at U <sub>c</sub>  |
| Operating altitude                                    | 3000 m without   |
| 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 open: 10 Gn for 11 ms<br>Shocks contactor closed: 15 Gn for 11 ms |
| Height  | 77 mm  |
| Width   | 45 mm  |
| Depth   | 95 mm  |
| Net weight  | 0.485 kg   |

## Offer Sustainability

|                            |   |
|----------------------------|---|
| Sustainable offer status   | Green Premium product   |
| REACH Regulation           | <a href="#">REACH Declaration</a>   |
| REACH free of SVHC         | Yes   |
| EU RoHS Directive          | Compliant<br><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 |

## Contractual warranty

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