

## LC2D50ARD

TeSys D reversing contactor - 3P(3 NO) - AC-3 - <= 440 V 50 A - 440 V DC coil



### Main

|   |  |
|---|--|
| Range                                       | TeSys  |
| Product name                                | TeSys D  |
| Product or component type                   | Reversing contactor  |
| Device short name                           | LC2D   |
| Contactor application                       | Motor control<br>Resistive load  |
| Utilisation category                        | AC-1<br>AC-3   |
| Device presentation                         | Preassembled with reversing power busbar   |
| Poles description                           | 3P   |
| Pole contact composition                    | 3 NO   |
| [Ue] rated operational voltage              | <= 690 V AC 25...400 Hz for power circuit<br><= 300 V DC for power circuit   |
| [Ie] rated operational current              | 50 A (<= 60 °C) at <= 440 V AC AC-3 for power circuit<br>80 A (<= 60 °C) at <= 440 V AC AC-1 for power circuit   |
| Motor power kW                              | 15 kW at 220...230 V AC 50/60 Hz<br>22 kW at 380...400 V AC 50/60 Hz<br>25 kW at 415 V AC 50/60 Hz<br>30 kW at 440 V AC 50/60 Hz<br>30 kW at 500 V AC 50/60 Hz<br>33 kW at 660...690 V AC 50/60 Hz   |
| Motor power hp                              | 3 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 1 phase motors<br>15 hp at 200/208 V AC 50/60 Hz for 3 phases motors<br>15 hp at 230/240 V AC 50/60 Hz for 3 phases motors<br>40 hp at 460/480 V AC 50/60 Hz for 3 phases motors<br>40 hp at 575/600 V AC 50/60 Hz for 3 phases motors |
| Control circuit type                        | DC standard  |
| Control circuit voltage                     | 440 V DC   |
| 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 | 80 A at <= 60 °C for power circuit<br>10 A at <= 60 °C for signalling circuit  |
| Irms rated making capacity                  | 900 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                     | 900 A at 440 V for power circuit conforming to IEC 60947   |
| [Icw] rated short-time withstand current    | 100 A 1 s signalling circuit<br>120 A 500 ms signalling circuit<br>140 A 100 ms signalling circuit<br>400 A <= 40 °C 10 s power circuit<br>810 A <= 40 °C 1 s power circuit<br>84 A <= 40 °C 10 min power circuit<br>208 A <= 40 °C 1 min power circuit  |
| Associated fuse rating                      | 100 A gG at <= 690 V coordination type 1 for power circuit   |

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|-------------------------------|---|
|                               | 100 A gG at ≤ 690 V coordination type 2 for power circuit<br>10 A gG for signalling circuit conforming to IEC 60947-5-1   |
| Average impedance             | At 50 Hz - Ith 80 A for power circuit   |
| [Ui] rated insulation voltage | 600 V for power circuit certifications CSA<br>600 V for power circuit certifications UL<br>690 V for power circuit conforming to IEC 60947-4-1<br>690 V for signalling circuit conforming to IEC 60947-1<br>600 V for signalling circuit certifications CSA<br>600 V for signalling circuit certifications UL   |
| Electrical durability         | 1.45 Mcycles 50 A AC-3 at Ue ≤ 440 V<br>1.1 Mcycles 80 A AC-1 at Ue ≤ 440 V   |
| Power dissipation per pole    | 3.7 W AC-3<br>9.6 W AC-1  |
| Protective cover              | With  |
| Interlocking type             | Mechanical  |
| Mounting support              | Plate<br>Rail   |
| Standards                     | EN 60947-4-1<br>EN 60947-5-1<br>IEC 60947-4-1<br>IEC 60947-5-1<br>UL 508<br>CSA C22.2 No 14   |
| Product certifications        | CCC<br>CSA<br>GOST<br>UL  |
| Connections - terminals       | Control circuit : screw clamp terminals 2 cable(s)<br>1...2.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Power circuit : EverLink BTR screw connectors 1 cable(s) 1...35 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Power circuit : EverLink BTR screw connectors 1 cable(s) 1...35 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Power circuit : EverLink BTR screw connectors 1 cable(s) 1...35 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Power circuit : EverLink BTR screw connectors 2 cable(s) 1...25 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Power circuit : EverLink BTR screw connectors 2 cable(s) 1...25 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Power circuit : EverLink BTR screw connectors 2 cable(s) 1...25 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Control circuit : screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Control circuit : screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Control circuit : screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Control circuit : screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Control circuit : screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: solid - without cable end |
| Tightening torque             | 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<br>Power circuit : 5 N.m - on EverLink BTR screw connectors - cable ≤ 25 mm <sup>2</sup> hexagonal 4 mm<br>Power circuit : 8 N.m - on EverLink BTR screw connectors - cable 25...35 mm <sup>2</sup> hexagonal 4 mm  |

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|--------------------------|--|
| Operating time           | 16...24 ms opening<br>42.5...57.5 ms closing   |
| 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    | 10 Mcycles   |
| Operating rate           | 3600 cyc/h at ≤ 60 °C  |

## Complementary

|                                |  |
|--------------------------------|--|
| Coil technology                | Built-in bidirectional peak limiting diode suppressor  |
| Control circuit voltage limits | 0.1...0.3 Uc at 60 °C drop-out<br>0.75...1.25 Uc at 60 °C operational  |
| Time constant                  | 34 ms  |
| Inrush power in W              | 19 W at 20 °C  |
| Hold-in power consumption in W | 7.4 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      |  |
| 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                               | IP2x 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 Uc  |
| Operating altitude                                    | 3000 m without derating in temperature   |
| 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  | 122 mm   |
| Width   | 119 mm   |
| Depth   | 120 mm   |
| Product weight  | 2.03 kg  |