

# LC2D150F7

## TeSys D reversing contactor - 3P(3 NO) - AC-3 - <= 440 V 150 A - 110 V AC coil



### Main

|   |  |
|---|--|
| Commercial Status                           | Commercialised   |
| Range of product                            | 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                         | Preamsembled with reversing power busbar   |
| Poles description                           | 3P   |
| Power pole contact composition              | 3 NO   |
| [Ue] rated operational voltage              | <= 300 V DC for power circuit<br><= 1000 V AC 25...400 Hz for power circuit  |
| [Ie] rated operational current              | 150 A (<= 60 °C) at <= 440 V AC AC-3 for power circuit<br>200 A (<= 60 °C) at <= 440 V AC AC-1 for power circuit   |
| Motor power kW                              | 75 kW at 1000 V AC 50/60 Hz<br>100 kW at 660...690 V AC 50/60 Hz<br>90 kW at 500 V AC 50/60 Hz<br>80 kW at 415...440 V AC 50/60 Hz<br>75 kW at 380...400 V AC 50/60 Hz<br>40 kW at 220...230 V AC 50/60 Hz   |
| Motor power HP (UL / CSA)                   | 125 hp at 575/600 V AC 50/60 Hz for 3 phases motors<br>100 hp at 460/480 V AC 50/60 Hz for 3 phases motors<br>50 hp at 230/240 V AC 50/60 Hz for 3 phases motors<br>40 hp at 200/208 V AC 50/60 Hz for 3 phases motors                                     |
| Control circuit type                        | AC 50/60 Hz  |
| Control circuit voltage                     | 110 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 | 200 A at <= 60 °C for power circuit  |
| Irms rated making capacity                  | 1660 A at 440 V for power circuit conforming to IEC 60947<br>250 A DC for signalling circuit conforming to IEC 60947-5-1<br>140 A AC for signalling circuit conforming to IEC 60947-5-1  |
| Rated breaking capacity                     | 1400 A at 440 V for power circuit conforming to IEC 60947  |
| [Icw] rated short-time withstand current    | 1400 A <= 40 °C 1 s power circuit<br>1200 A <= 40 °C 10 s power circuit<br>580 A <= 40 °C 1 min power circuit<br>250 A <= 40 °C 10 min power circuit<br>140 A 100 ms signalling circuit<br>120 A 500 ms signalling circuit<br>100 A 1 s signalling circuit |

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|                               |   |
|-------------------------------|---|
| Associated fuse rating        | 250 A gG at ≤ 690 V coordination type 2 for power circuit<br>315 A gG at ≤ 690 V coordination type 1 for power circuit<br>10 A gG for signalling circuit conforming to IEC 60947-5-1  |
| Average impedance             | 0.60 mOhm at 50 Hz - Ith 200 A for power circuit  |
| [Ui] rated insulation voltage | 1000 V for power circuit conforming to IEC 60947-4-1<br>600 V for signalling circuit certifications UL<br>600 V for signalling circuit certifications CSA<br>690 V for signalling circuit conforming to IEC 60947-1<br>600 V for power circuit certifications UL<br>600 V for power circuit certifications CSA  |
| Electrical durability         | 1 Mcycles 200 A AC-1 at Ue ≤ 440 V<br>0.85 Mcycles 150 A AC-3 at Ue ≤ 440 V   |
| Power dissipation per pole    | 13.5 W AC-3<br>24 W AC-1  |
| Safety cover                  | With  |
| Interlocking type             | Electrical<br>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        | BV<br>CCC<br>CSA<br>DNV<br>GL<br>GOST<br>RINA<br>UL<br>LROS   |
| Connections - terminals       | Power circuit: connector 2 cable(s) 10...50 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Power circuit: connector 1 cable(s) 10...120 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Power circuit: connector 2 cable(s) 10...50 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Power circuit: connector 1 cable(s) 10...120 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Power circuit: connector 2 cable(s) 10...50 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Power circuit: connector 1 cable(s) 10...120 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1...2.5 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...2.5 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...2.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1...2.5 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...2.5 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1...2.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end |
| Tightening torque             | Power circuit: 12 N.m - on connector hexagonal 4 mm<br>Control circuit: 1.2 N.m - on screw clamp terminals - with screwdriver Philips No 2<br>Control circuit: 1.2 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm  |
| Operating time                | 40...75 ms opening<br>20...35 ms closing  |

|                          |   |
|--------------------------|---|
| Safety reliability level | B10d = 2000000 cycles contactor with mechanical load conforming to EN/ISO 13849-1<br>B10d = 1369863 cycles contactor with nominal load conforming to EN/ISO 13849-1 |
| Mechanical durability    | 8000000 cycles  |
| Operating rate           | 1200 cyc/h at $\leq 60$ °C  |

## Complementary

|                                 |  |
|---------------------------------|--|
| Coil technology                 | Without built-in suppressor module   |
| Control circuit voltage limits  | 0.8...1.15 $U_c$ at 55 °C operational 50/60 Hz<br>0.3...0.5 $U_c$ at 55 °C drop-out 50/60 Hz                                 |
| Inrush power in VA              | 280...350 VA at 20 °C ( $\cos \phi$ 0.9) 50 Hz<br>280...350 VA at 20 °C ( $\cos \phi$ 0.9) 60 Hz                             |
| Hold-in power consumption in VA | 2...18 VA at 20 °C ( $\cos \phi$ 0.9) 50 Hz<br>2...18 VA at 20 °C ( $\cos \phi$ 0.9) 60 Hz                                   |
| Heat dissipation                | 3...4.5 W at 50/60 Hz  |
| Auxiliary contacts type         | Type mirror contact (1 NC) conforming to IEC 60947-4-1<br>Type mechanically linked (1 NO + 1 NC) conforming to IEC 60947-5-1 |
| 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 energisation (between NC and NO contact)<br>1.5 ms on de-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 $U_c$  |
| 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                                 | Shocks contactor open 6 Gn for 11 ms<br>Shocks contactor closed 15 Gn for 11 ms<br>Vibrations contactor closed 4 Gn, 5...300 Hz<br>Vibrations contactor open 2 Gn, 5...300 Hz |
| Height  | 158 mm  |
| Width   | 266 mm  |
| Depth   | 148 mm  |
| Product weight  | 6.4 kg  |

## Contractual warranty

|        |           |
|--------|-----------|
| Period | 18 months |
|--------|-----------|