

# LC1D25BD

TeSys D contactor - 3P(3 NO) - AC-3 -  $\leq 440$  V 25 A - 24 V DC coil



## Main

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| Range of product   | TeSys D  |
| Product or component type                                | Contacteur   |
| Device short name  | LC1D   |
| Contacteur application                                   | Motor control<br>Resistive load  |
| Utilisation category                                     | AC-1<br>AC-3   |
| Poles description  | 3P   |
| Power pole contact composition                           | 3 NO   |
| [Ue] rated operational voltage                           | $\leq 690$ V AC 25...400 Hz for power circuit<br>$\leq 690$ V DC for power circuit   |
| [Ie] rated operational current                           | 40 A ( $\leq 60$ °C) at $\leq 440$ V AC AC-1 for power circuit<br>25 A ( $\leq 60$ °C) at $\leq 440$ V AC AC-3 for power circuit   |
| Motor power kW   | 5.5 kW at 220...230 V AC 50/60 Hz<br>11 kW at 380...400 V AC 50/60 Hz<br>11 kW at 415...440 V AC 50/60 Hz<br>15 kW at 500 V AC 50/60 Hz<br>15 kW at 660...690 V AC 50/60 Hz  |
| Motor power HP (UL / CSA)                                | 2 hp at 115 V AC 50/60 Hz for 1 phase motors<br>3 hp at 230/240 V AC 50/60 Hz for 1 phase motors<br>5 hp at 200/208 V AC 50/60 Hz for 3 phases 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 |
| Control circuit type                                     | DC standard  |
| Control circuit voltage                                  | 24 V DC  |
| Auxiliary contact composition                            | 1 NO + 1 NC  |
| [Uimp] rated impulse withstand voltage                   | 6 kV conforming to IEC 60947   |
| Overtoltage category                                     | III  |
| [I <sub>th</sub> ] conventional free air thermal current | 10 A at $\leq 60$ °C for signalling circuit<br>40 A at $\leq 60$ °C for power circuit  |
| I <sub>rms</sub> 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   |
| [I <sub>cw</sub> ] 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>240 A $\leq 40$ °C 10 s power circuit<br>380 A $\leq 40$ °C 1 s power circuit<br>50 A $\leq 40$ °C 10 min power circuit<br>120 A $\leq 40$ °C 1 min power circuit  |
| Associated fuse rating                                   | 10 A gG for signalling circuit conforming to IEC 60947-5-1<br>63 A gG at $\leq 690$ V coordination type 1 for power circuit<br>40 A gG at $\leq 690$ V coordination type 2 for power circuit   |

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| Average impedance                          | 2 mOhm at 50 Hz - lth 40 A for power circuit  |
| [U <sub>i</sub> ] rated insulation voltage | 690 V for power circuit conforming to IEC 60947-4-1<br>600 V for power circuit certifications CSA<br>600 V for power circuit certifications UL<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   |
| Power dissipation per pole                 | 3.2 W AC-1<br>1.25 W AC-3   |
| Safety cover                               | With  |
| 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 n°14  |
| Product certifications                     | BV<br>CCC<br>CSA<br>DNV<br>GL<br>GOST<br>RINA<br>UL<br>LROS   |
| Connections - terminals                    | Control circuit: screw clamp terminals 1 cable(s)<br>1...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Control circuit: screw clamp terminals 2 cable(s)<br>1...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Control circuit: screw clamp terminals 1 cable(s)<br>1...4 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Control circuit: screw clamp terminals 2 cable(s)<br>1...2.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Control circuit: screw clamp terminals 1 cable(s)<br>1...4 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Control circuit: screw clamp terminals 2 cable(s)<br>1...4 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Power circuit: screw clamp terminals 1 cable(s)<br>2.5...10 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Power circuit: screw clamp terminals 2 cable(s)<br>2.5...10 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Power circuit: screw clamp terminals 1 cable(s)<br>1...10 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Power circuit: screw clamp terminals 2 cable(s)<br>1.5...6 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Power circuit: screw clamp terminals 1 cable(s)<br>1.5...10 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Power circuit: screw clamp terminals 2 cable(s)<br>2.5...10 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: 2.5 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm<br>Power circuit: 2.5 N.m - on screw clamp terminals - with screwdriver Philips No 2  |
| Operating time                             | 53.55...72.45 ms closing<br>16...24 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  |
| Operating rate                             | 3600 cyc/h at ≤ 60 °C   |

## Complementary

|                                |  |
|--------------------------------|--|
| Coil technology                | Built-in bidirectional peak limiting diode suppressor  |
| Control circuit voltage limits | 0.1...0.25 U <sub>c</sub> at 60 °C drop-out<br>0.7...1.25 U <sub>c</sub> at 60 °C operational                                |
| Time constant                  | 28 ms  |
| Hold-in power consumption in W | 5.4 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

|   |   |
|---|---|
| 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 <sub>c</sub>   |
| 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 closed 15 Gn for 11 ms<br>Shocks contactor open 8 Gn for 11 ms |
| Height  | 85 mm   |
| Width   | 45 mm   |
| Depth   | 101 mm  |
| Product weight  | 0.53 kg   |