

# LC1DT20JD

TeSys D contactor - 4P(4 NO) - AC-1 - <= 440 V 20 A - 12 V DC coil



## Main

|   |   |
|---|---|
| Range of product                            | TeSys D   |
| Product or component type                   | Contacteur  |
| Device short name                           | LC1D  |
| Contacteur application                      | Resistive load  |
| Utilisation category                        | AC-1  |
| Poles description                           | 4P  |
| Power pole contact composition              | 4 NO  |
| [Ue] rated operational voltage              | <= 690 V AC 25...400 Hz for power circuit<br><= 690 V DC for power circuit  |
| [Ie] rated operational current              | 20 A (<= 60 °C) at <= 440 V AC AC-1 for power circuit   |
| Control circuit type                        | DC standard   |
| Control circuit voltage                     | 12 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 | 10 A at <= 60 °C for signalling circuit<br>20 A at <= 60 °C for power 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>250 A at 440 V for power circuit conforming to IEC 60947  |
| Rated breaking capacity                     | 250 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>30 A <= 40 °C 10 min power circuit<br>61 A <= 40 °C 1 min power circuit<br>105 A <= 40 °C 10 s power circuit<br>210 A <= 40 °C 1 s power circuit  |
| Associated fuse rating                      | 10 A gG for signalling circuit conforming to IEC 60947-5-1<br>25 A gG at <= 690 V coordination type 1 for power circuit<br>20 A gG at <= 690 V coordination type 2 for power circuit  |
| Average impedance                           | 2.5 mOhm at 50 Hz - Ith 20 A for power circuit  |
| [Ui] 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                  | 1.56 W AC-1   |
| Safety cover                                | With  |
| Mounting support                            | Plate<br>Rail   |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

|                                     |  |
|-------------------------------------|--|
| 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) 1...4<br>mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Power circuit: screw clamp terminals 2 cable(s) 1...4<br>mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Power circuit: screw clamp terminals 1 cable(s) 1...4<br>mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Power circuit: screw clamp terminals 2 cable(s)<br>1...2.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Power circuit: screw clamp terminals 1 cable(s) 1...4<br>mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Power circuit: screw clamp terminals 2 cable(s) 1...4<br>mm <sup>2</sup> - cable stiffness: solid - without cable end |
| Tightening torque                   | Control circuit: 1.7 N.m - on screw clamp terminals -<br>with screwdriver flat Ø 6 mm<br>Control circuit: 1.7 N.m - on screw clamp terminals -<br>with screwdriver Philips No 2<br>Power circuit: 1.7 N.m - on screw clamp terminals -<br>with screwdriver flat Ø 6 mm<br>Power circuit: 1.7 N.m - on screw clamp terminals -<br>with screwdriver Philips No 2   |
| Operating time                      | 16...24 ms opening<br>53.55...72.45 ms closing   |
| Safety reliability level            | B10d = 1369863 cycles contactor with nominal load<br>conforming to EN/ISO 13849-1<br>B10d = 20000000 cycles contactor with mechanical<br>load conforming to EN/ISO 13849-1   |
| Mechanical durability<br>(millions) | 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  |
| Inrush power in W              | 5.4 W at 20 °C   |
| 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 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  | 85 mm  |
| Width   | 45 mm  |
| Depth   | 99 mm  |
| Product weight  | 0.365 kg   |