

# LC1D098BL

## TeSys D contactor - 4P(2 NO + 2 NC) - AC-1 - <= 440 V 20 A - 24 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              | 2 NO + 2 NC   |
| [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 low consumption  |
| Control circuit voltage                     | 24 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 | 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 power circuit<br>210 A <= 40 °C 1 s power circuit<br>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  |
| 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 25 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   |

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|                                  |  |
|----------------------------------|--|
| 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          | Power circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Power circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Power circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Power circuit: screw clamp terminals 2 cable(s) 1...2.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Power circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Power circuit: screw clamp terminals 2 cable(s) 1...4 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 2 cable(s) 1...2.5 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                | 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 (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...0.3 U <sub>c</sub> at 60 °C drop-out<br>0.8...1.25 U <sub>c</sub> at 60 °C operational                                 |
| 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

|   |  |
|---|--|
| 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  | 0.525 kg   |