

## LC1D098MD

TeSys D contactor - 4P(2 NO + 2 NC) - AC-1 - ≤  
440 V 20 A - 220 V DC coil



### Main

|                                             |                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range                                       | TeSys                                                                                                                                                                                                                                                                                                         |
| Product name                                | TeSys D                                                                                                                                                                                                                                                                                                       |
| Product or component type                   | Contacteur                                                                                                                                                                                                                                                                                                    |
| Device short name                           | LC1D                                                                                                                                                                                                                                                                                                          |
| Contacteur application                      | Resistive load                                                                                                                                                                                                                                                                                                |
| Utilisation category                        | AC-1                                                                                                                                                                                                                                                                                                          |
| Poles description                           | 4P                                                                                                                                                                                                                                                                                                            |
| Pole contact composition                    | 2 NO + 2 NC                                                                                                                                                                                                                                                                                                   |
| [Ue] rated operational voltage              | ≤ 690 V AC 25...400 Hz for power circuit<br>≤ 300 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                                                                                                                                                                                                                                                                                                   |
| [Uc] control circuit voltage                | 220 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>30 A ≤ 40 °C 10 min power circuit<br>61 A ≤ 40 °C 1 min power circuit<br>100 A 1 s signalling circuit<br>120 A 500 ms signalling circuit<br>140 A 100 ms signalling circuit                                                            |
| Associated fuse rating                      | 20 A gG at ≤ 690 V coordination type 2 for power circuit<br>25 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                           | 2.5 mOhm at 50 Hz - Ith 25 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                       | 0.6 Mcycles 25 A AC-1 at Ue ≤ 440 V                                                                                                                                                                                                                                                                           |
| Power dissipation per pole                  | 1.56 W AC-1                                                                                                                                                                                                                                                                                                   |
| Protective cover                            | With                                                                                                                                                                                                                                                                                                          |
| Mounting support                            | Plate<br>Rail                                                                                                                                                                                                                                                                                                 |

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|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards                | UL 508<br>CSA C22.2 No 14<br>EN 60947-4-1<br>EN 60947-5-1<br>IEC 60947-4-1<br>IEC 60947-5-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Product certifications   | BV<br>CCC<br>CSA<br>DNV<br>GL<br>GOST<br>LROS (Lloyds register of shipping)<br>RINA<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 : 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 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 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>1...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Power circuit : screw clamp terminals 2 cable(s)<br>1...4 mm <sup>2</sup> - cable stiffness: flexible - without 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)<br>1...4 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Power circuit : screw clamp terminals 2 cable(s)<br>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           | 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 Uc drop-out at 60 °C, DC<br>0.7...1.25 Uc operational at 60 °C, DC |
| 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 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                               | IP20 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 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                                                                                                                                                                       |

## Offer Sustainability

|                                  |                                                                       |
|----------------------------------|-----------------------------------------------------------------------|
| Sustainable offer status         | Green Premium product                                                 |
| RoHS (date code: YYWW)           | Compliant - since 0702 - Schneider Electric declaration of conformity |
| REACH                            | Reference not containing SVHC above the threshold                     |
| Product environmental profile    | Available                                                             |
| Product end of life instructions | Available                                                             |