

# Product datasheet

Specifications



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

LC1D098M7

### Main

|                                |  |
|--------------------------------|--|
| Range of product               | TeSys Deca   |
| Product or component type      | Contactor  |
| Device short name              | LC1D   |
| Contactor application          | Resistive load   |
| Utilisation category           | AC-1<br>AC-3<br>AC-3e<br>AC-4  |
| Poles description              | 4P   |
| [Ue] rated operational voltage | Power circuit: <= 690 V AC 25...400 Hz<br>Power circuit: <= 250 V DC |
| [Ie] rated operational current | 20 A (at <60 °C) at <= 440 V AC AC-1 for power circuit               |
| [Uc] control circuit voltage   | 220 V AC 50/60 Hz  |

### Complementary

|   |  |
|---|--|
| Compatibility code                          | LC1D   |
| Pole contact composition                    | 2 NO + 2 NC  |
| Contact compatibility                       | M6   |
| Protective cover                            | With   |
| [Ith] conventional free air thermal current | 20 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 for power circuit<br>210 A 40 °C - 1 s for power circuit<br>30 A 40 °C - 10 min for power circuit<br>61 A 40 °C - 1 min for power circuit<br>100 A - 1 s for signalling circuit<br>120 A - 500 ms for signalling circuit<br>140 A - 100 ms for signalling 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 - Ith 25 A 50 Hz for power circuit  |
| Power dissipation per pole                  | 1.56 W AC-1  |

|   |  |
|---|--|
| <b>[Ui] rated insulation voltage</b>          | Power circuit: 690 V conforming to IEC 60947-4-1<br>Power circuit: 600 V CSA certified<br>Power circuit: 600 V UL certified<br>Signalling circuit: 690 V conforming to IEC 60947-1<br>Signalling circuit: 600 V CSA certified<br>Signalling circuit: 600 V UL certified  |
| <b>Overvoltage category</b>                   | III  |
| <b>Pollution degree</b>                       | 3  |
| <b>[Uimp] rated impulse withstand voltage</b> | 6 kV conforming to IEC 60947   |
| <b>Safety reliability level</b>               | 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   |
| <b>Mechanical durability</b>                  | 15 Mcycles   |
| <b>Electrical durability</b>                  | 0.3 Mcycles 20 A AC-1 at Ue ≤ 690 V  |
| <b>Control circuit type</b>                   | AC at 50/60 Hz   |
| <b>Coil technology</b>                        | Without built-in suppressor module   |
| <b>Control circuit voltage limits</b>         | 0.3...0.6 Uc (-40...60 °C):drop-out AC 50/60 Hz<br>0.8...1.1 Uc (-40...60 °C):operational AC 50 Hz<br>0.85...1.1 Uc (-40...60 °C):operational AC 60 Hz   |
| <b>Inrush power in VA</b>                     | 70 VA 60 Hz cos phi 0.75 (at 20 °C)<br>70 VA 50 Hz cos phi 0.75 (at 20 °C)   |
| <b>Hold-in power consumption in VA</b>        | 7.5 VA 60 Hz cos phi 0.3 (at 20 °C)<br>7 VA 50 Hz cos phi 0.3 (at 20 °C)   |
| <b>Heat dissipation</b>                       | 2...3 W at 50/60 Hz  |
| <b>Operating time</b>                         | 12...22 ms closing<br>4...19 ms opening  |
| <b>Maximum operating rate</b>                 | 3600 cyc/h 60 °C   |
| <b>Connections - terminals</b>                | Power circuit: screw clamp terminals 1 1...4 mm² - cable stiffness: flexible without cable end<br>Power circuit: screw clamp terminals 2 1...4 mm² - cable stiffness: flexible without cable end<br>Power circuit: screw clamp terminals 1 1...4 mm² - cable stiffness: flexible with cable end<br>Power circuit: screw clamp terminals 2 1...2.5 mm² - cable stiffness: flexible with cable end<br>Power circuit: screw clamp terminals 1 1...4 mm² - cable stiffness: solid without cable end<br>Power circuit: screw clamp terminals 2 1...4 mm² - cable stiffness: solid without cable end<br>Control circuit: screw clamp terminals 1 1...4 mm² - cable stiffness: flexible without cable end<br>Control circuit: screw clamp terminals 2 1...4 mm² - cable stiffness: flexible without cable end<br>Control circuit: screw clamp terminals 1 1...4 mm² - cable stiffness: flexible with cable end<br>Control circuit: screw clamp terminals 2 1...2.5 mm² - cable stiffness: flexible with cable end<br>Control circuit: screw clamp terminals 1 1...4 mm² - cable stiffness: solid without cable end<br>Control circuit: screw clamp terminals 2 1...4 mm² - cable stiffness: solid without cable end |
| <b>Tightening torque</b>                      | 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<br>Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver pozidriv No 2<br>Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver pozidriv No 2   |
| <b>Auxiliary contact composition</b>          | 1 NO + 1 NC  |
| <b>Auxiliary contacts type</b>                | 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   |
| <b>Signalling circuit frequency</b>           | 25...400 Hz  |
| <b>Minimum switching voltage</b>              | 17 V for signalling circuit  |
| <b>Minimum switching current</b>              | 5 mA for signalling circuit  |
| <b>Insulation resistance</b>                  | > 10 MOhm for signalling circuit   |
| <b>Non-overlap time</b>                       | 1.5 ms on de-energisation between NC and NO contact<br>1.5 ms on energisation between NC and NO contact  |
| <b>Mounting support</b>                       | Rail<br>Plate  |

## Environment

|                  |   |
|------------------|---|
| <b>Standards</b> | CSA C22.2 No 60947-4-1<br>EN 60947-4-1<br>EN 60947-5-1<br>IEC 60947-4-1 |
|------------------|---|

|   |  |
|---|--|
|   | IEC 60947-5-1<br>UL 60947-5-1<br>UL 60947-4-1<br>CSA C22.2 No 60947-5-1<br>GB/T 14048.4  |
| Product certifications                                | UL<br>CCC<br>CSA<br>UKCA<br>EAC<br>CB<br>EU-RO-MR by DNV-GL  |
| IP degree of protection                               | IP20 front face conforming to IEC 60529  |
| Protective treatment                                  | TH conforming to IEC 60068-2-30  |
| Climatic withstand                                    | conforming to IACS E10 exposure to damp heat<br>conforming to IEC 60947-1 Annex Q category D exposure to damp heat   |
| Permissible ambient air temperature around the device | -40...60 °C<br>60...70 °C with derating  |
| Operating altitude                                    | 0...3000 m   |
| 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   | 92 mm  |
| Net weight  | 0.365 kg   |

### Packing Units

|                              |          |
|------------------------------|----------|
| Unit Type of Package 1       | PCE      |
| Number of Units in Package 1 | 1        |
| Package 1 Height             | 5.5 cm   |
| Package 1 Width              | 9.5 cm   |
| Package 1 Length             | 12.0 cm  |
| Package 1 Weight             | 386.0 g  |
| Unit Type of Package 2       | S02      |
| Number of Units in Package 2 | 16       |
| Package 2 Height             | 15.0 cm  |
| Package 2 Width              | 30.0 cm  |
| Package 2 Length             | 40.0 cm  |
| Package 2 Weight             | 6.736 kg |

### Offer Sustainability

|                          |  |
|--------------------------|--|
| Sustainable offer status | Green Premium product                            |
| REACH Regulation         | <a href="#">REACH Declaration</a>                |
| REACH free of SVHC       | Yes  |
| EU RoHS Directive        | Compliant<br><a href="#">EU RoHS Declaration</a> |
| Toxic heavy metal free   | Yes  |
| Mercury free             | Yes  |

|                            |   |
|----------------------------|---|
| China RoHS Regulation      | <a href="#">China RoHS declaration</a><br>Pro-active China RoHS declaration (out of China RoHS legal scope)                 |
| RoHS exemption information | <a href="#">Yes</a>   |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>   |
| Circularity Profile        | <a href="#">End of Life Information</a>   |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
| PVC free                   | Yes   |

Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

Recommended replacement(s)