

# Product data sheet

Specifications



Contactor, TeSys Deca, 3P(3 NO), AC-3/AC-3e, 0 to 440V, 38A, 24 to 60VAC/DC coil

LC1D38BNE

## Main

|                                |  |
|--------------------------------|--|
| Range                          | TeSys<br>TeSys Deca  |
| Range of product               | TeSys Deca   |
| Product or component type      | Contactor  |
| Device short name              | LC1D   |
| Contactor application          | Motor control<br>Resistive load  |
| Utilisation category           | AC-3<br>AC-1<br>AC-3e  |
| Poles description              | 3P   |
| [Ue] rated operational voltage | Power circuit: <= 690 V AC 25...400 Hz   |
| [Ie] rated operational current | 50 A (at <60 °C) at <= 440 V AC-1 for power circuit<br>38 A (at <60 °C) at <= 440 V AC-3 for power circuit<br>38 A (at <60 °C) at <= 440 V AC-3e for power circuit |
| [Uc] control circuit voltage   | 24...60 V AC 50/60 Hz<br>24...60 V DC  |

## Complementary

|   |  |
|---|--|
| Motor power kW                              | 9 kW at 220...230 V AC 50 Hz (AC-3)<br>18.5 kW at 380...400 V AC 50 Hz (AC-3)<br>18.5 kW at 415 V AC 50 Hz (AC-3)<br>18.5 kW at 440 V AC 50 Hz (AC-3)<br>18.5 kW at 500 V AC 50 Hz (AC-3)<br>18.5 kW at 660...690 V AC 50 Hz (AC-3)<br>9 kW at 220...230 V AC 50 Hz (AC-3e)<br>18.5 kW at 380...400 V AC 50 Hz (AC-3e)<br>18.5 kW at 415 V AC 50 Hz (AC-3e)<br>18.5 kW at 440 V AC 50 Hz (AC-3e)<br>18.5 kW at 500 V AC 50 Hz (AC-3e)<br>18.5 kW at 660...690 V AC 50 Hz (AC-3e) |
| Motor power hp                              | 2 hp at 115 V AC 60 Hz for 1 phase motors<br>5 hp at 230/240 V AC 60 Hz for 1 phase motors<br>10 hp at 200/208 V AC 60 Hz for 3 phases motors<br>10 hp at 230/240 V AC 60 Hz for 3 phases motors<br>20 hp at 460/480 V AC 60 Hz for 3 phases motors<br>25 hp at 575/600 V AC 60 Hz for 3 phases motors   |
| Compatibility code                          | LC1D   |
| Pole contact composition                    | 3 NO   |
| Protective cover                            | With   |
| [Ith] conventional free air thermal current | 10 A (at 60 °C) for signalling circuit<br>50 A (at 60 °C) for power circuit  |

|   |   |
|---|---|
| <b>Irms rated making capacity</b>               | 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>550 A at 440 V for power circuit conforming to IEC 60947  |
| <b>Rated breaking capacity</b>                  | 550 A at 440 V for power circuit conforming to IEC 60947  |
| <b>[Icw] rated short-time withstand current</b> | 100 A - 1 s for signalling circuit<br>120 A - 500 ms for signalling circuit<br>140 A - 100 ms for signalling circuit<br>60 A 40 °C - 10 min for power circuit<br>150 A 40 °C - 1 min for power circuit<br>310 A 40 °C - 10 s for power circuit<br>430 A 40 °C - 1 s for power circuit   |
| <b>Associated fuse rating</b>                   | 10 A gG for signalling circuit conforming to IEC 60947-5-1<br>63 A gG at <= 690 V coordination type 1 for power circuit<br>63 A gG at <= 690 V coordination type 2 for power circuit  |
| <b>Average impedance</b>                        | 2 mOhm - Ith 50 A 50 Hz for power circuit   |
| <b>Power dissipation per pole</b>               | 5 W AC-1<br>3 W AC-3<br>3 W AC-3e   |
| <b>[Ui] rated insulation voltage</b>            | Power circuit: 690 V conforming to IEC 60947-4-1<br>Signalling circuit: 690 V conforming to IEC 60947-1   |
| <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>                    | 1.8 Mcycles 35 A AC-3 at Ue <= 440 V<br>0.9 Mcycles 50 A AC-1 at Ue <= 440 V<br>1.8 Mcycles 35 A AC-3e at Ue <= 440 V   |
| <b>Control circuit type</b>                     | AC/DC at 50/60 Hz AC/DC electronic  |
| <b>Coil technology</b>                          | Built-in bidirectional peak limiting  |
| <b>Control circuit voltage limits</b>           | <= 0.1 Uc (-40...70 °C):drop-out AC/DC<br>0.85...1.1 Uc (-40...60 °C):operational AC<br>0.8...1.1 Uc (-40...60 °C):operational DC<br>1...1.1 Uc (60...70 °C):operational AC/DC  |
| <b>Inrush power in VA</b>                       | 15 VA 50/60 Hz (at 20 °C)   |
| <b>Inrush power in W</b>                        | 14 W (at 20 °C)   |
| <b>Hold-in power consumption in VA</b>          | 0.9 VA 50/60 Hz (at 20 °C)  |
| <b>Hold-in power consumption in W</b>           | 0.6 W at 20 °C  |
| <b>Heat dissipation</b>                         | 0.6 W at 50/60 Hz   |
| <b>Operating time</b>                           | 45...55 ms closing<br>20...90 ms opening  |
| <b>Maximum operating rate</b>                   | 3600 cyc/h 60 °C  |
| <b>Connections - terminals</b>                  | 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<br>Control circuit: screw clamp terminals 2 1...4 mm² - cable stiffness: solid<br>Power circuit: screw clamp terminals 1 2.5...10 mm² - cable stiffness: flexible without cable end<br>Power circuit: screw clamp terminals 2 2.5...10 mm² - cable stiffness: flexible without cable end<br>Power circuit: screw clamp terminals 1 1...10 mm² - cable stiffness: flexible with cable end<br>Power circuit: screw clamp terminals 2 1.5...6 mm² - cable stiffness: flexible with cable end<br>Power circuit: screw clamp terminals 1 1.5...10 mm² - cable stiffness: solid<br>Power circuit: screw clamp terminals 2 2.5...10 mm² - cable stiffness: solid |
| <b>Tightening torque</b>                        | 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<br>Power circuit: 2.5 N.m - on screw clamp terminals - with screwdriver pozidriv No 2 M4<br>Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver pozidriv No 2 M3.5  |

|                               |  |
|-------------------------------|--|
| Auxiliary contact composition | 1 NO + 1 NC  |
| 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 voltage     | 17 V for signalling circuit  |
| Minimum switching current     | 5 mA for signalling circuit  |
| Insulation resistance         | > 10 MOhm 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                  |
| Mounting support              | Plate<br>Rail  |

## Environment

|   |   |
|---|---|
| Standards   | EN/IEC 60947-4-1<br>EN/IEC 60947-5-1<br>UL 60947-4-1<br>CSA C22.2 No 60947-4-1<br>IEC 60335-1   |
| Product certifications                                | CCC<br>CSA<br>EAC<br>UL<br>KC<br>DNV-GL<br>LROS (Lloyds register of shipping)<br>UKCA   |
| IP degree of protection                               | IP20 front face conforming to IEC 60529   |
| 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 closed (15 Gn for 11 ms)<br>Shocks contactor open (8 Gn for 11 ms) |
| Height  | 85 mm   |
| Width   | 45 mm   |
| Depth   | 92 mm   |
| Net weight  | 0.442 kg  |

## Packing Units

|                              |           |
|------------------------------|-----------|
| Unit Type of Package 1       | PCE       |
| Number of Units in Package 1 | 1         |
| Package 1 Height             | 5.200 cm  |
| Package 1 Width              | 9.200 cm  |
| Package 1 Length             | 11.200 cm |
| Package 1 Weight             | 458.000 g |
| Unit Type of Package 2       | S02       |
| Number of Units in Package 2 | 15        |
| Package 2 Height             | 15.000 cm |
| Package 2 Width              | 30.000 cm |

|                             |   |
|-----------------------------|---|
| Package 2 Length            | 40.000 cm   |
| Package 2 Weight            | 7.168 kg  |
| <b>Offer Sustainability</b> |   |
| Sustainable offer status    | Green Premium product   |
| REACH Regulation            | <a href="#">REACH Declaration</a>   |
| EU RoHS Directive           | Compliant<br><a href="#">EU RoHS Declaration</a>  |
| Mercury free                | Yes   |
| China RoHS Regulation       | <a href="#">China RoHS declaration</a><br>Product out of China RoHS scope. Substance declaration for your information       |
| 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 |
| Halogen content performance | Halogen free plastic parts & cables product   |

**Contractual warranty**

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

**Recommended replacement(s)**