

# LC1D38BNE

TeSys D contactor - 3P - ≤ 440 V - 38 A AC-3 -  
24...60 V AC/DC coil



## Main

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| Range                                  | TeSys                                                                                                                                                                                                                                                                                                  |
| Product name                           | TeSys D Green                                                                                                                                                                                                                                                                                          |
| Product or component type              | Contactor                                                                                                                                                                                                                                                                                              |
| Device short name                      | LC1D                                                                                                                                                                                                                                                                                                   |
| Contactor application                  | Motor control<br>Resistive load                                                                                                                                                                                                                                                                        |
| Utilisation category                   | AC-3<br>AC-1                                                                                                                                                                                                                                                                                           |
| Poles description                      | 3P                                                                                                                                                                                                                                                                                                     |
| Power pole contact composition         | 3 NO                                                                                                                                                                                                                                                                                                   |
| [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                                                                                                                                                                                               |
| 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)                                                                    |
| Motor power HP (UL / CSA)              | 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 |
| [Uc] control circuit voltage           | 24...60 V AC 50/60 Hz<br>24...60 V DC                                                                                                                                                                                                                                                                  |
| Coil type                              | AC/DC electronic                                                                                                                                                                                                                                                                                       |
| Auxiliary contact composition          | 1 NO + 1 NC                                                                                                                                                                                                                                                                                            |
| [Uimp] rated impulse withstand voltage | 6 kV conforming to IEC 60947                                                                                                                                                                                                                                                                           |
| Overvoltage category                   | III                                                                                                                                                                                                                                                                                                    |

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| [I <sub>th</sub> ] conventional free air thermal current | 10 A (at 60 °C) for signalling circuit<br>50 A (at 60 °C) for power circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| I <sub>rms</sub> 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>550 A at 440 V for power circuit conforming to IEC 60947                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Rated breaking capacity                                  | 550 A at 440 V for power circuit conforming to IEC 60947                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| [I <sub>cw</sub> ] rated short-time withstand current    | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Associated fuse rating                                   | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Average impedance                                        | 2 mOhm - I <sub>th</sub> 50 A 50 Hz for power circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| [U <sub>i</sub> ] rated insulation voltage               | Power circuit: 690 V conforming to IEC 60947-4-1<br>Signalling circuit: 690 V conforming to IEC 60947-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Electrical durability                                    | 1.8 Mcycles 35 A AC-3 at U <sub>e</sub> ≤ 440 V<br>0.9 Mcycles 50 A AC-1 at U <sub>e</sub> ≤ 440 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Power dissipation per pole                               | 5 W AC-1<br>3 W AC-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Safety cover                                             | With                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Mounting support                                         | Plate<br>Rail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Product certifications                                   | CCC<br>CSA<br>EAC<br>UL<br>KC<br>DNV-GL<br>LROS (Lloyds register of shipping)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Connections - terminals                                  | Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> flexible without cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> flexible without cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> flexible with cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1...2.5 mm <sup>2</sup> flexible with cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> solid<br>Control circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> solid<br>Power circuit: screw clamp terminals 1 cable(s) 2.5...10 mm <sup>2</sup> flexible without cable end<br>Power circuit: screw clamp terminals 2 cable(s) 2.5...10 mm <sup>2</sup> flexible without cable end<br>Power circuit: screw clamp terminals 1 cable(s) 1...10 mm <sup>2</sup> flexible with cable end<br>Power circuit: screw clamp terminals 2 cable(s) 1.5...6 mm <sup>2</sup> flexible with cable end<br>Power circuit: screw clamp terminals 1 cable(s) 1.5...10 mm <sup>2</sup> solid<br>Power circuit: screw clamp terminals 2 cable(s) 2.5...10 mm <sup>2</sup> solid |
| Tightening torque                                        | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Operating time                                           | 45...55 ms closing<br>20...90 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                                    | 15 Mcycles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Maximum operating rate                                   | 3600 cyc/h 60 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## Complementary

|                                |                                                                                                                                        |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Coil technology                | Built-in bidirectional peak limiting                                                                                                   |
| Control circuit voltage limits | ≤ 0.1 U <sub>c</sub> 60 °C drop-out<br>0.85...1.1 U <sub>c</sub> 60 °C operational AC<br>0.8...1.2 U <sub>c</sub> 60 °C operational DC |

|                                 |                                                                                                                          |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Inrush power in VA              | 15 VA 50/60 Hz (at 20 °C)                                                                                                |
| Inrush power in W               | 14 W at 20 °C                                                                                                            |
| Hold-in power consumption in VA | 0.9 VA (at 20 °C) 50/60 Hz                                                                                               |
| Hold-in power consumption in W  | 0.6 W at 20 °C                                                                                                           |
| Heat dissipation                | 0.6 W at 50/60 Hz                                                                                                        |
| 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                               | IP20 front face conforming to IEC 60529                                                                                                                                           |
| Protective treatment                                  | TH conforming to IEC 60068-2-30                                                                                                                                                   |
| Pollution degree                                      | 3                                                                                                                                                                                 |
| Ambient air temperature for operation                 | -25...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                                                                                                                                                                    |
| 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                                                                                                                                                                             |
| Product weight                                        | 0.442 kg                                                                                                                                                                          |
| Colour                                                | Grey (SE GREY 6)<br>Green (SE GREEN 2)                                                                                                                                            |

## Offer Sustainability

|                             |                                                                                                                             |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status    | Green Premium product                                                                                                       |
| EU RoHS Directive           | Compliant<br><a href="#">EU RoHS Declaration</a>                                                                            |
| Mercury free                | Yes                                                                                                                         |
| RoHS exemption information  | <a href="#">Yes</a>                                                                                                         |
| China RoHS Regulation       | <a href="#">China RoHS declaration</a><br>Product out of China RoHS scope. Substance declaration for your information       |
| 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 |
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