

## Product data sheet

### Characteristics

# LC1D38N7

TeSys D contactor - 3P(3 NO) - AC-3 -  $\leq 440$  V 38 A - 415 V AC 50/60 Hz coil



### Main

|                                |                                                                                                                                                                                                           |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range                          | TeSys<br>TeSys Deca                                                                                                                                                                                       |
| Range of product               | TeSys Deca                                                                                                                                                                                                |
| Product or component type      | Contactor                                                                                                                                                                                                 |
| Device short name              | LC1D                                                                                                                                                                                                      |
| Contactor application          | Resistive load<br>Motor control                                                                                                                                                                           |
| Utilisation category           | AC-4<br>AC-1<br>AC-3<br>AC-3e                                                                                                                                                                             |
| Poles description              | 3P                                                                                                                                                                                                        |
| [Ue] rated operational voltage | Power circuit: $\leq 690$ V AC 25...400 Hz<br>Power circuit: $\leq 300$ V DC                                                                                                                              |
| [Ie] rated operational current | 50 A (at $\leq 60$ °C) at $\leq 440$ V AC AC-1 for power circuit<br>38 A (at $\leq 60$ °C) at $\leq 440$ V AC AC-3 for power circuit<br>38 A (at $\leq 60$ °C) at $\leq 440$ V AC AC-3e for power circuit |
| [Uc] control circuit voltage   | 415 V AC 50/60 Hz                                                                                                                                                                                         |

### Complementary

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Motor power kW                              | 18.5 kW at 500 V AC 50/60 Hz (AC-3)<br>18.5 kW at 660...690 V AC 50/60 Hz (AC-3)<br>7.5 kW at 400 V AC 50/60 Hz (AC-4)<br>18.5 kW at 380...400 V AC 50/60 Hz (AC-3)<br>9 kW at 220...230 V AC 50/60 Hz (AC-3)<br>18.5 kW at 415...440 V AC 50/60 Hz (AC-3)<br>18.5 kW at 500 V AC 50/60 Hz (AC-3e)<br>18.5 kW at 660...690 V AC 50/60 Hz (AC-3e)<br>18.5 kW at 380...400 V AC 50/60 Hz (AC-3e)<br>9 kW at 220...230 V AC 50/60 Hz (AC-3e)<br>18.5 kW at 415...440 V AC 50/60 Hz (AC-3e) |
| Motor power hp                              | 10 Hp at 230/240 V AC 50/60 Hz for 3 phases motors<br>10 Hp at 200/208 V AC 50/60 Hz for 3 phases motors<br>5 Hp at 240 V AC 50/60 Hz for 1 phase motors<br>20 Hp at 480 V AC 50/60 Hz for 3 phases motors<br>25 hp at 600 V AC 50/60 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                                                                                                                                                                                                                                                                                                                                                                                                             |
| Irms 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                                                                                                                                                                                                                                                                                                                                                                                                                                |

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|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [I <sub>cw</sub> ] rated short-time withstand current | 60 A 40 °C - 10 min for power circuit<br>430 A 40 °C - 1 s for power circuit<br>150 A 40 °C - 1 min for power circuit<br>310 A 40 °C - 10 s 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>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 - Ith 50 A 50 Hz for power circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Power dissipation per pole                            | 5 W AC-1<br>3 W AC-3<br>3 W AC-3e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| [U <sub>i</sub> ] rated insulation voltage            | 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<br>Power circuit: 690 V conforming to IEC 60947-4-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Overvoltage category                                  | III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Pollution degree                                      | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| [U <sub>imp</sub> ] rated impulse withstand voltage   | 6 kV conforming to IEC 60947                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Electrical durability                                 | 1.4 Mcycles 50 A AC-1 at U <sub>e</sub> ≤ 440 V<br>1.4 Mcycles 38 A AC-3 at U <sub>e</sub> ≤ 440 V<br>1.4 Mcycles 38 A AC-3e at U <sub>e</sub> ≤ 440 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Control circuit type                                  | AC at 50/60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Coil technology                                       | Without built-in suppressor module                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Control circuit voltage limits                        | 0.3...0.6 U <sub>c</sub> (-40...70 °C):drop-out AC 50/60 Hz<br>0.8...1.1 U <sub>c</sub> (-40...60 °C):operational AC 50 Hz<br>0.85...1.1 U <sub>c</sub> (-40...60 °C):operational AC 60 Hz<br>1...1.1 U <sub>c</sub> (60...70 °C):operational AC 50/60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Inrush power in VA                                    | 70 VA 60 Hz cos phi 0.75 (at 20 °C)<br>70 VA 50 Hz cos phi 0.75 (at 20 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Hold-in power consumption in VA                       | 7.5 VA 60 Hz cos phi 0.3 (at 20 °C)<br>7 VA 50 Hz cos phi 0.3 (at 20 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Heat dissipation                                      | 2...3 W at 50/60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Operating time                                        | 4...19 ms opening<br>12...22 ms closing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Maximum operating rate                                | 3600 cyc/h 60 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Connections - terminals                               | Control circuit: screw clamp terminals 2 1...2.5 mm <sup>2</sup> - cable stiffness: flexible with cable end<br>Control circuit: screw clamp terminals 1 1...4 mm <sup>2</sup> - cable stiffness: flexible without cable end<br>Control circuit: screw clamp terminals 2 1...4 mm <sup>2</sup> - cable stiffness: flexible without cable end<br>Control circuit: screw clamp terminals 1 1...4 mm <sup>2</sup> - cable stiffness: flexible with cable end<br>Control circuit: screw clamp terminals 1 1...4 mm <sup>2</sup> - cable stiffness: solid without cable end<br>Control circuit: screw clamp terminals 2 1...4 mm <sup>2</sup> - cable stiffness: solid without cable end<br>Power circuit: screw clamp terminals 1 2.5...10 mm <sup>2</sup> - cable stiffness: flexible without cable end<br>Power circuit: screw clamp terminals 2 2.5...10 mm <sup>2</sup> - cable stiffness: flexible without cable end<br>Power circuit: screw clamp terminals 1 1...10 mm <sup>2</sup> - cable stiffness: flexible with cable end<br>Power circuit: screw clamp terminals 2 1.5...6 mm <sup>2</sup> - cable stiffness: flexible with cable end<br>Power circuit: screw clamp terminals 1 1.5...10 mm <sup>2</sup> - cable stiffness: solid without cable end<br>Power circuit: screw clamp terminals 2 2.5...10 mm <sup>2</sup> - cable stiffness: solid without cable end |

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| 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<br>Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver pozidriv No 2<br>Power circuit: 2.5 N.m - on screw clamp terminals - with screwdriver pozidriv No 2 |
| 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              | Rail<br>Plate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## Environment

|                                                       |                                                                                                                                                                                       |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards                                             | 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<br>UL 508<br>IEC 60335-1                                                                            |
| Product certifications                                | CSA[RETURN]LROS (Lloyds register of shipping)<br>[RETURN]CCC[RETURN]GL[RETURN]DNV[RETURN]BV[RETURN]RINA[RETURN]JUL[RETURN]                                                            |
| 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 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                                            | 0.38 kg                                                                                                                                                                               |

## Packing Units

|                              |         |
|------------------------------|---------|
| Unit Type of Package 1       | PCE     |
| Number of Units in Package 1 | 1       |
| Package 1 Height             | 4.9 cm  |
| Package 1 Width              | 11.1 cm |
| Package 1 Length             | 8.9 cm  |
| Package 1 Weight             | 414.0 g |

## Offer Sustainability

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