# Product Datasheet

## Characteristic

# LC1D12P7

Contactor, TeSys Deca, 3P(3NO), AC-3/ AC-3e, <=440V, 12A, 230V AC 50/60Hz coil, screw clamp terminals


## Main

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|---|---|
| Range of product | TeSys Deca |
| product or component type | Contactor |
| Device short name | LC1D |
| contactor application | Resistive load<br>Motor control |
| Utilisation category | AC-3<br>AC-1<br>AC-4<br>AC-3e |
| poles description | 3P |
| [Ue] rated operational voltage | Power circuit: <= 690 V AC 25...400 Hz<br>Power circuit: <= 300 V DC |
| [Ie] rated operational current | 25 A (at <60 °C) at <= 440 V AC AC-1 for power circuit<br>12 A (at <60 °C) at <= 440 V AC AC-3 for power circuit<br>12 A (at <60 °C) at <= 440 V AC AC-3e for power circuit |
| [Uc] control circuit voltage | 230 V AC 50/60 Hz |

## Complementary

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|---|---|
| Motor power kW | 3 kW at 220...230 V AC 50/60 Hz (AC-3)<br>5.5 kW at 380...400 V AC 50/60 Hz (AC-3)<br>5.5 kW at 415...440 V AC 50/60 Hz (AC-3)<br>7.5 kW at 500 V AC 50/60 Hz (AC-3)<br>7.5 kW at 660...690 V AC 50/60 Hz (AC-3)<br>3.7 kW at 400 V AC 50/60 Hz (AC-4)<br>3 kW at 220...230 V AC 50/60 Hz (AC-3e)<br>5.5 kW at 380...400 V AC 50/60 Hz (AC-3e)<br>5.5 kW at 415...440 V AC 50/60 Hz (AC-3e)<br>7.5 kW at 500 V AC 50/60 Hz (AC-3e)<br>7.5 kW at 660...690 V AC 50/60 Hz (AC-3e) |
| Motor power hp | 0.5 hp at 115 V AC 50/60 Hz for 1 phase motors<br>2 hp at 230/240 V AC 50/60 Hz for 1 phase motors<br>3 hp at 200/208 V AC 50/60 Hz for 3 phases motors<br>3 hp at 230/240 V AC 50/60 Hz for 3 phases motors<br>7.5 hp at 460/480 V AC 50/60 Hz for 3 phases motors<br>10 hp at 575/600 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 | 25 A (at 60 °C) for power circuit<br>10 A (at 60 °C) for signalling circuit |
| Irms rated making capacity | 250 A at 440 V for power circuit conforming to IEC 60947<br>140 A AC for signalling circuit conforming to IEC 60947-5-1<br>250 A DC for signalling circuit conforming to IEC 60947-5-1 |
| Rated breaking capacity | 250 A at 440 V for power circuit conforming to IEC 60947 |
| [Icw] rated short-time withstand current | 105 A 40 °C - 10 s for power circuit<br>210 A 40 °C - 1 s for power circuit<br>30 A 40 °C - 10 min for power circuit<br>61 A 40 °C - 1 min for power circuit<br>100 A - 1 s for signalling circuit<br>120 A - 500 ms for signalling circuit<br>140 A - 100 ms for signalling circuit |
| Associated fuse rating | 10 A gG for signalling circuit conforming to IEC 60947-5-1<br>40 A gG at <= 690 V coordination type 1 for power circuit<br>25 A gG at <= 690 V coordination type 2 for power circuit |
| Average impedance | 2.5 mOhm - Ith 25 A 50 Hz for power circuit |
| Power dissipation per pole | 0.36 W AC-3<br>1.56 W AC-1<br>0.36 W AC-3e |
| [Ui] rated insulation voltage | Power circuit: 690 V conforming to IEC 60947-4-1<br>Power circuit: 600 V CSA certified<br>Power circuit: 600 V UL certified<br>Signalling circuit: 690 V conforming to IEC 60947-1<br>Signalling circuit: 600 V CSA certified<br>Signalling circuit: 600 V UL certified |
| Overvoltage category | III |
| Pollution degree | 3 |
| [Uimp] 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 | 2 Mcycles 12 A AC-3 at Ue <= 440 V<br>0.8 Mcycles 25 A AC-1 at Ue <= 440 V<br>2 Mcycles 12 A AC-3e at Ue <= 440 V |
| Control circuit type | AC at 50/60 Hz standard |
| Coil technology | Without built-in suppressor module |
| Control circuit voltage limits | 0.3...0.6 Uc (-40…70 °C):drop-out AC 50/60 Hz<br>0.8...1.1 Uc (-40…60 °C):operational AC 50 Hz<br>0.85...1.1 Uc (-40…60 °C):operational AC 60 Hz<br>1...1.1 Uc (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 | 12...22 ms closing<br>4...19 ms opening |
| Maximum operating rate | 3600 cyc/h 60 °C |
| Connections - terminals | Power circuit: screw clamp terminals 1 1…4 mm² - cable stiffness: flexible without cable end<br>Power circuit: screw clamp terminals 2 1…4 mm² - cable stiffness: flexible without cable end<br>Power circuit: screw clamp terminals 1 1…4 mm² - cable stiffness: flexible with cable end<br>Power circuit: screw clamp terminals 2 1…2.5 mm² - cable stiffness: flexible with cable end<br>Power circuit: screw clamp terminals 1 1…4 mm² - cable stiffness: solid without cable end<br>Power circuit: screw clamp terminals 2 1…4 mm² - cable stiffness: solid without cable end<br>Control circuit: screw clamp terminals 1 1…4 mm² - cable stiffness: flexible without cable end<br>Control circuit: screw clamp terminals 2 1…4 mm² - cable stiffness: flexible without cable end<br>Control circuit: screw clamp terminals 1 1…4 mm² - cable stiffness: flexible with cable end<br>Control circuit: screw clamp terminals 2 1…2.5 mm² - cable stiffness: flexible with cable end |

| | |
|---|---|
| | Control circuit: screw clamp terminals 1 1…4 mm² - cable stiffness: solid without cable end<br>Control circuit: screw clamp terminals 2 1…4 mm² - cable stiffness: solid without cable end |
| Tightening torque | Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm<br>Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver Philips No 2<br>Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm<br>Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver Philips No 2<br>Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver pozidriv No 2<br>Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver pozidriv No 2 |
| 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

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|---|---|
| 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 | GL<br>BV<br>DNV<br>LROS (Lloyds register of shipping)<br>RINA<br>UL<br>CCC<br>CSA<br>GOST<br>UKCA<br>CB |
| IP degree of protection | IP20 front face conforming to IEC 60529 |
| Protective treatment | TH conforming to IEC 60068-2-30 |
| Climatic withstand | conforming to IACS E10 exposure to damp heat<br>conforming to IEC 60947-1 Annex Q category D exposure to damp heat |
| Permissible ambient air temperature around the device | -40…60 °C<br>60…70 °C with derating |
| Operating altitude | 0...3000 m |
| Fire resistance | 850 °C conforming to IEC 60695-2-1 |
| Flame retardance | V1 conforming to UL 94 |
| Mechanical robustness | Vibrations contactor open (2 Gn, 5...300 Hz)<br>Vibrations contactor closed (4 Gn, 5...300 Hz)<br>Shocks contactor open (10 Gn for 11 ms)<br>Shocks contactor closed (15 Gn for 11 ms) |
| Height | 77 mm |
| Width | 45 mm |
| Depth | 86 mm |
| net weight | 0.325 kg |

## Packing Units

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|---|---|
| Unit Type of Package 1 | PCE |
| Number of Units in Package 1 | 1 |
| Package 1 Height | 5.000 cm |
| Package 1 Width | 9.200 cm |
| Package 1 Length | 11.200 cm |
| Package 1 Weight | 353.000 g |
| Unit Type of Package 2 | S02 |
| Number of Units in Package 2 | 20 |
| Package 2 Height | 15.000 cm |
| Package 2 Width | 30.000 cm |
| Package 2 Length | 40.000 cm |
| Package 2 Weight | 7.388 kg |

## Offer Sustainability

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|---|---|
| Sustainable offer status | Green Premium product |
| REACh Regulation | Free of Substances of Very High Concern above the threshold |
| REACh free of SVHC | Yes |
| EU RoHS Directive | Compliant |
| Toxic heavy metal free | Yes |
| Mercury free | Yes |
| China RoHS Regulation |  Pro-active China RoHS declaration (out of China RoHS legal scope) |
| RoHS exemption information | Yes |
| Environmental Disclosure | ENVPEP1501004 |
| Circularity Profile | ENVEOLI1501004 |
| WEEE | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
| PVC free | Yes |