# Product data sheet
## Characteristics

# LC1D09EL
Contactor, TeSys Deca, 3P(3NO), AC-3/3e, <=440V, 9A, 48V DC low consumption coil, screw clamp terminals




## Main

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|---|---|
| Range of product | TeSys Deca Advanced |
| Product or component type | Contactor |
| Device short name | LC1D |
| Contactor application | Motor control<br>Resistive load |
| Utilisation category | AC-3<br>AC-3e<br>AC-1<br>AC-4 |
| 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 | 9 A (at <60 °C) at <= 440 V AC AC-3 for power circuit<br>25 A (at <60 °C) at <= 440 V AC AC-1 for power circuit<br>9 A (at <60 °C) at <= 440 V AC AC-3e for power circuit |
| [Uc] control circuit voltage | 48 V DC |

## Complementary

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|---|---|
| Motor power kW | 2.2 KW at 220/230 V AC 50/60 Hz (AC-3)<br>4 KW at 380/400 V AC 50/60 Hz (AC-3)<br>4 KW at 415/440 V AC 50/60 Hz (AC-3)<br>5.5 KW at 500 V AC 50/60 Hz (AC-3)<br>5.5 KW at 660/690 V AC 50/60 Hz (AC-3)<br>2.2 KW at 220/230 V AC 50/60 Hz (AC-3e)<br>4 KW at 380/400 V AC 50/60 Hz (AC-3e)<br>4 KW at 415/440 V AC 50/60 Hz (AC-3e)<br>5.5 KW at 500 V AC 50/60 Hz (AC-3e)<br>5.5 KW at 660/690 V AC 50/60 Hz (AC-3e)<br>2.2 KW at 400 V AC 50/60 Hz (AC-4) |
| Motor power hp | 1 Hp at 230/240 V AC 50/60 Hz for 1 phase motors<br>2 Hp at 200/208 V AC 50/60 Hz for 3 phases motors<br>2 Hp at 230/240 V AC 50/60 Hz for 3 phases motors<br>5 Hp at 460/480 V AC 50/60 Hz for 3 phases motors<br>7.5 Hp at 575/600 V AC 50/60 Hz for 3 phases motors<br>0.33 Hp at 115 V AC 50/60 Hz for 1 phase 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 |

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| Rated breaking capacity | 250 A at 440 V for power circuit conforming to IEC 60947 |
| [Icw] rated short-time withstand current | 105 A 40 °C - 10 s for power circuit<br>210 A 40 °C - 1 s for power circuit<br>30 A 40 °C - 10 min for power circuit<br>61 A 40 °C - 1 min for power circuit<br>100 A - 1 s for signalling circuit<br>120 A - 500 ms for signalling circuit<br>140 A - 100 ms for signalling circuit |
| Associated fuse rating | 10 A gG for signalling circuit conforming to IEC 60947-5-1<br>25 A gG at <= 690 V coordination type 1 for power circuit<br>20 A gG at <= 690 V coordination type 2 for power circuit |
| Average impedance | 2.5 MOhm - Ith 25 A 50 Hz for power circuit |
| Power dissipation per pole | 1.56 W AC-1<br>0.2 W AC-3<br>0.2 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 | 30 Mcycles |
| Electrical durability | 0.6 Mcycles 25 A AC-1 at Ue <= 440 V<br>2 Mcycles 9 A AC-3 at Ue <= 440 V<br>2 Mcycles 9 A AC-3e at Ue <= 440 V |
| Control circuit type | DC low consumption |
| Coil technology | Built-in bidirectional peak limiting diode suppressor |
| Control circuit voltage limits | 0.1...0.3 Uc (-40…70 °C):drop-out DC<br>0.8...1.25 Uc (-40…60 °C):operational DC<br>1...1.25 Uc (60…70 °C):operational DC |
| Inrush power in W | 2.4 W (at 20 °C) |
| Hold-in power consumption in W | 2.4 W at 20 °C |
| Operating time | 77 ±15 % ms closing<br>25 ±20 % ms opening |
| Time constant | 40 Ms |
| Maximum operating rate | 3600 Cyc/H at 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<br>Control circuit: screw clamp terminals 1 1…4 mm² - cable stiffness: solid without cable end<br>Control circuit: screw clamp terminals 2 1…4 mm² - cable stiffness: solid without cable end |
| 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 |

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| 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 60947-4-1<br>IEC 60335-1:Clause 30.2<br>IEC 60335-2-40:Annex JJ<br>UL 60335-2-40:Annex JJ<br>CSA C22.2 No 60947-4-1 |
| Product certifications | UL[RETURN]CCC[RETURN]CSA[RETURN]Marine[RETURN]UKCA[RETURN]EAC[RETURN]C |
| 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 | 95 Mm |
| Net weight | 0.48 Kg |

## Packing Units

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|---|---|
| Unit Type of Package 1 | PCE |
| Number of Units in Package 1 | 1 |
| Package 1 Height | 5.700 Cm |
| Package 1 Width | 9.600 Cm |
| Package 1 Length | 11.700 Cm |
| Package 1 Weight | 522.000 G |

## Offer Sustainability

| | |
|---|---|
| Recyclability potential, in % | 75 |
| Total lifecycle Carbon footprint | 19 kg CO2 eq. |
| Carbon footprint of the manufacturing phase [A1 to A3] | 2.6596552952376262 |
| Carbon footprint of the manufacturing phase [A1 to A3] | 3 kg CO2 eq. |
| Carbon footprint of the distribution phase [A4] | 0.14699424706398806 |
| Carbon footprint of the distribution phase [A4] | 0.1 kg CO2 eq. |
| Carbon footprint of the installation phase [A5] | 0.04070520226073894 |
| Carbon footprint of the installation phase [A5] | 0 kg CO2 eq. |
| Carbon footprint of the use phase [B2, B3, B4, B6] | 14.925081081081082 |
| Carbon footprint of the use phase [B2, B3, B4, B6] | 15 kg CO2 eq. |
| Toxic heavy metal free | Yes |
| Mercury free | Yes |
| Sustainable packaging | Yes |
| Carbon footprint of the end-of-life phase [C1 to C4] | 1.2880458349287582 |
| Carbon footprint of the end-of-life phase [C1 to C4] | 1 kg CO2 eq. |
| Environmental Disclosure | Product Environmental Profile |

| | |
|---|---|
| Total lifecycle Carbon footprint | 19 |
| Packaging made with recycled cardboard | Yes |
| Packaging without single use plastic | Yes |
| SCIP Number | 50ae7612-fd2e-41e4-a369-50d0dea6e592 |
| REACh Regulation | Reference contains Substances of Very High Concern above the threshold |
| EU RoHS Directive | Compliant By Exemption |
| PVC free | Yes |
| End of life manual availability | End Of Life Information |
| Take-back | No |
| WEEE Label | The product must be disposed on European Union markets following specific waste collection and |

## Contractual warranty

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|---|---|
| Warranty (in months) | 18 |

Product Life Status : Commercialised