

Product datasheet

Specifications



TeSys D contactor - 3P(3 NO) - AC-3 - <= 440 V 12 A - 24 V AC coil

LC1D12B7

Main

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|--------------------------------|---|
| Range of product | TeSys Deca |
| Product or component type | Contactor |
| Device short name | LC1D |
| Contactor application | Resistive load Motor control |
| Utilisation category | AC-3 AC-1 AC-4 AC-3e |
| Poles description | 3P |
| [Ue] rated operational voltage | Power circuit: <= 690 V AC 25...400 Hz Power circuit: <= 300 V DC |
| [Ie] rated operational current | 25 A (at <60 °C) at <= 440 V AC AC-1 for power circuit 12 A (at <60 °C) at <= 440 V AC AC-3 for power circuit 12 A (at <60 °C) at <= 440 V AC AC-3e for power circuit |
| [Uc] control circuit voltage | 24 V AC 50/60 Hz |

Complementary

| | |
|---|---|
| Motor power kW | 3 kW at 220...230 V AC 50/60 Hz (AC-3) 5.5 kW at 380...400 V AC 50/60 Hz (AC-3) 5.5 kW at 415...440 V AC 50/60 Hz (AC-3) 7.5 kW at 500 V AC 50/60 Hz (AC-3) 7.5 kW at 660...690 V AC 50/60 Hz (AC-3) 3.7 kW at 400 V AC 50/60 Hz (AC-4) 3 kW at 220...230 V AC 50/60 Hz (AC-3e) 5.5 kW at 380...400 V AC 50/60 Hz (AC-3e) 5.5 kW at 415...440 V AC 50/60 Hz (AC-3e) 7.5 kW at 500 V AC 50/60 Hz (AC-3e) 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 2 hp at 230/240 V AC 50/60 Hz for 1 phase motors 3 hp at 200/208 V AC 50/60 Hz for 3 phases motors 3 hp at 230/240 V AC 50/60 Hz for 3 phases motors 7.5 hp at 460/480 V AC 50/60 Hz for 3 phases motors 10 hp at 575/600 V AC 50/60 Hz for 3 phases motors |
| Compatibility code | LC1D |
| Pole contact composition | 3 NO |
| Contact compatibility | M2 |
| Protective cover | With |
| [Ith] conventional free air thermal current | 25 A (at 60 °C) for power circuit 10 A (at 60 °C) for signalling circuit |
| Irms rated making capacity | 250 A at 440 V for power circuit conforming to IEC 60947 |

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| | 140 A AC for signalling circuit conforming to IEC 60947-5-1 250 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 210 A 40 °C - 1 s for power circuit 30 A 40 °C - 10 min for power circuit 61 A 40 °C - 1 min for power circuit 100 A - 1 s for signalling circuit 120 A - 500 ms for signalling circuit 140 A - 100 ms for signalling circuit |
| Associated fuse rating | 10 A gG for signalling circuit conforming to IEC 60947-5-1 40 A gG at <= 690 V coordination type 1 for power circuit 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 1.56 W AC-1 0.36 W AC-3e |
| [Ui] rated insulation voltage | Power circuit: 690 V conforming to IEC 60947-4-1 Power circuit: 600 V CSA certified Power circuit: 600 V UL certified Signalling circuit: 690 V conforming to IEC 60947-1 Signalling circuit: 600 V CSA certified 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 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 0.8 Mcycles 25 A AC-1 at Ue <= 440 V 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 0.8...1.1 Uc (-40...60 °C):operational AC 50 Hz 0.85...1.1 Uc (-40...60 °C):operational AC 60 Hz 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) 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) 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 4...19 ms opening |
| Maximum operating rate | 3600 cyc/h 60 °C |
| Connections - terminals | Power circuit: screw clamp terminals 1 1...4 mm ² - cable stiffness: flexible without cable end Power circuit: screw clamp terminals 2 1...4 mm ² - cable stiffness: flexible without cable end Power circuit: screw clamp terminals 1 1...4 mm ² - cable stiffness: flexible with cable end Power circuit: screw clamp terminals 2 1...2.5 mm ² - cable stiffness: flexible with cable end Power circuit: screw clamp terminals 1 1...4 mm ² - cable stiffness: solid without cable end Power circuit: screw clamp terminals 2 1...4 mm ² - cable stiffness: solid without cable end Control circuit: screw clamp terminals 1 1...4 mm ² - cable stiffness: flexible without cable end Control circuit: screw clamp terminals 2 1...4 mm ² - cable stiffness: flexible without cable end Control circuit: screw clamp terminals 1 1...4 mm ² - cable stiffness: flexible with cable end Control circuit: screw clamp terminals 2 1...2.5 mm ² - cable stiffness: flexible with cable end Control circuit: screw clamp terminals 1 1...4 mm ² - cable stiffness: solid without cable end Control circuit: screw clamp terminals 2 1...4 mm ² - cable stiffness: solid without cable end |
| Tightening torque | Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver Philips No 2 Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver Philips No 2 Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver pozidriv No 2 Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver pozidriv No 2 |
| Auxiliary contact composition | 1 NO + 1 NC |

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|------------------------------|--|
| Auxiliary contacts type | type mechanically linked 1 NO + 1 NC conforming to IEC 60947-5-1 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 1.5 ms on energisation between NC and NO contact |
| Mounting support | Rail Plate |

Environment

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| Standards | CSA C22.2 No 14 EN 60947-4-1 EN 60947-5-1 IEC 60947-4-1 IEC 60947-5-1 UL 508 IEC 60335-1 |
| Product certifications | CCC CSA GL GOST BV DNV RINA LROS (Lloyds register of shipping) UL UKCA |
| 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 conforming to IEC 60947-1 Annex Q category D exposure to damp heat |
| Permissible ambient air temperature around the device | -40...60 °C 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) Vibrations contactor closed (4 Gn, 5...300 Hz) Shocks contactor open (10 Gn for 11 ms) 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 | 9.000 cm |
| Package 1 Length | 11.000 cm |
| Package 1 Weight | 359.000 g |
| Unit Type of Package 2 | S02 |
| Number of Units in Package 2 | 20 |

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| Package 2 Height | 15.000 cm |
| Package 2 Width | 30.000 cm |
| Package 2 Length | 40.000 cm |
| Package 2 Weight | 7.417 kg |
| Unit Type of Package 3 | P06 |
| Number of Units in Package 3 | 320 |
| Package 3 Height | 75.000 cm |
| Package 3 Width | 80.000 cm |
| Package 3 Length | 60.000 cm |
| Package 3 Weight | 126.672 kg |

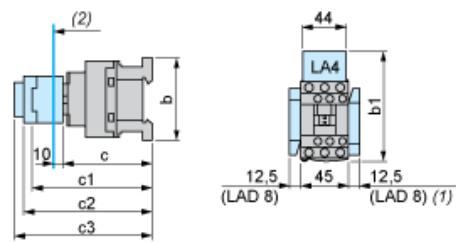
Offer Sustainability

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|----------------------------|---|
| Sustainable offer status | Green Premium product |
| REACH Regulation | REACH Declaration |
| REACH free of SVHC | Yes |
| EU RoHS Directive | Compliant EU RoHS Declaration |
| Toxic heavy metal free | Yes |
| Mercury free | Yes |
| China RoHS Regulation | China RoHS declaration Pro-active China RoHS declaration (out of China RoHS legal scope) |
| RoHS exemption information | Yes |
| Environmental Disclosure | Product Environmental Profile |
| Circularity Profile | End of Life Information |
| 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

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| Warranty | 18 months |
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Dimensions



- (1) Including LAD 4BB
- (2) Minimum electrical clearance

| LC1 | | D09...D18 | D093...D123 | D099...D129 |
|-----|------------------------------------|--------------------|--------------------|----------------------|
| b | without add-on blocks | 77 | 99 | 80 |
| b1 | with LAD 4BB | 94 | 107 | 95.5 |
| | with LA4 D•2 | 110 ⁽¹⁾ | 123 ⁽¹⁾ | 111.5 ⁽¹⁾ |
| | with LA4 DF, DT | 119 ⁽¹⁾ | 132 ⁽¹⁾ | 120.5 ⁽¹⁾ |
| | with LA4 DW, DL | 126 ⁽¹⁾ | 139 ⁽¹⁾ | 127.5 ⁽¹⁾ |
| c | without cover or add-on blocks | 84 | 84 | 84 |
| | with cover, without add-on blocks | 86 | 86 | 86 |
| c1 | with LAD N or C (2 or 4 contacts) | 117 | 117 | 117 |
| c2 | with LA6 DK10, LAD 6K10 | 129 | 129 | 129 |
| c3 | with LAD T, R, S | 137 | 137 | 137 |
| | with LAD T, R, S and sealing cover | 141 | 141 | 141 |
| (1) | Including LAD 4BB. | | | |

Wiring



Recommended replacement(s)