# Product data sheet
## Characteristics

# LC1D1156E5
## TeSys D contactor - 3P(3 NO) - AC-3 - <= 440 V 115 A - 48 V AC 50 Hz coil


## Main

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|---|---|
| Range | TeSys |
| Product name | TeSys D |
| Product or component type | Contactor |
| Device short name | LC1D |
| Contactor application | Motor control<br>Resistive load |
| Utilisation category | AC-4<br>AC-1<br>AC-3 |
| Poles description | 3P |
| Power pole contact composition | 3 NO |
| [Ue] rated operational voltage | Power circuit: <= 1000 V AC 25...400 Hz<br>Power circuit: <= 300 V DC |
| [Ie] rated operational current | 200 A (at <60 °C) at <= 440 V AC AC-1 for power circuit<br>115 A (at <60 °C) at <= 440 V AC AC-3 for power circuit |
| Motor power kW | 30 kW at 220...230 V AC 50/60 Hz (AC-3)<br>55 kW at 380...400 V AC 50/60 Hz (AC-3)<br>59 kW at 415...440 V AC 50/60 Hz (AC-3)<br>75 kW at 500 V AC 50/60 Hz (AC-3)<br>80 kW at 660...690 V AC 50/60 Hz (AC-3)<br>65 kW at 1000 V AC 50/60 Hz (AC-3)<br>18.5 kW at 400 V AC 50/60 Hz (AC-4) |
| Motor power HP (UL / CSA) | 30 hp at 200/208 V AC 50/60 Hz for 3 phases motors<br>40 hp at 230/240 V AC 50/60 Hz for 3 phases motors<br>75 hp at 460/480 V AC 50/60 Hz for 3 phases motors<br>100 hp at 575/600 V AC 50/60 Hz for 3 phases motors |
| Control circuit type | AC at 50 Hz |
| [Uc] control circuit voltage | 48 V AC 50 Hz |
| Auxiliary contact composition | 1 NO + 1 NC |
| [Uimp] rated impulse withstand voltage | 8 kV conforming to IEC 60947 |
| Overvoltage category | III |

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|---|---|
| [Ith] conventional free air thermal current | 200 A (at 60 °C) for power circuit |
| Irms rated making capacity | 1260 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 | 1100 A at 440 V for power circuit conforming to IEC 60947 |
| [Icw] rated short-time withstand current | 250 A 40 °C - 10 min for power circuit<br>550 A 40 °C - 1 min for power circuit<br>950 A 40 °C - 10 s for power circuit<br>1100 A 40 °C - 1 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 | 250 A gG at <= 690 V coordination type 1 for power circuit<br>200 A gG at <= 690 V coordination type 2 for power circuit<br>10 A gG for signalling circuit |
| Average impedance | 0.6 mOhm - Ith 200 A 50 Hz for power circuit |
| [Ui] rated insulation voltage | Power circuit: 600 V CSA certified<br>Power circuit: 600 V UL certified<br>Power circuit: 1000 V conforming to IEC 60947-4-1<br>Signalling circuit: 690 V conforming to IEC 60947-1<br>Signalling circuit: 600 V CSA certified<br>Signalling circuit: 600 V UL certified |
| Electrical durability | 0.8 Mcycles 200 A AC-1 at Ue <= 440 V<br>0.95 Mcycles 115 A AC-3 at Ue <= 440 V |
| Power dissipation per pole | 24 W AC-1<br>7.9 W AC-3 |
| Safety cover | With |
| Mounting support | Plate<br>Rail |
| 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 |
| Product certifications | GOST<br>BV<br>RINA<br>GL<br>CSA<br>LROS (Lloyds register of shipping)<br>CCC<br>UL<br>DNV |
| Connections - terminals | Control circuit: lugs-ring terminals (external diameter: 8 mm)<br>Power circuit: lugs-ring terminals (external diameter: 25 mm)<br>Power circuit: bars 1 cable(s) - busbar cross section: 5 x 25 mm |
| Tightening torque | Control circuit: 1.2 N.m - on lugs-ring terminals - with screwdriver flat Ø 6 mm M3.5<br>Control circuit: 1.2 N.m - on lugs-ring terminals - with screwdriver Philips No 2 M3.5<br>Power circuit: 12 N.m - on lugs-ring terminals hexagonal screw head 13 mm M8<br>Power circuit: 12 N.m - on bars hexagonal screw head 13 mm M8 |
| Operating time | 6...20 ms opening<br>20...50 ms closing |
| 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 | 8 Mcycles |
| Maximum operating rate | 2400 cyc/h 60 °C |

## Complementary

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| Coil technology | Without built-in suppressor module |
| Control circuit voltage limits | Drop-out: 0.3...0.6 Uc AC 50 Hz (at 55 °C)<br>Operational: 0.85...1.1 Uc AC 50 Hz (at 55 °C) |
| Inrush power in VA | 300 VA 50 Hz cos phi 0.8 (at 20 °C) |
| Hold-in power consumption in VA | 22 VA 50 Hz cos phi 0.3 (at 20 °C) |

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| Heat dissipation | 3…8 W at 50 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

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|---|---|
| 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 | -5…60 °C |
| Ambient air temperature for storage | -60…80 °C |
| Permissible ambient air temperature around the device | -40…70 °C at Uc |
| 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: 6 Gn for 11 ms |
| Height | 158 mm |
| Width | 120 mm |
| Depth | 136 mm |
| Net weight | 2.5 kg |

## Offer Sustainability

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

## Contractual warranty

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| Warranty | 18 months |