# Product data sheet
## Characteristics

# LC1DT40N7
## TeSys D contactor - 4P(4 NO) - AC-1 - <= 440 V 40 A - 415 V AC 50/60 Hz coil

## Main

| | |
|---|---|
| Range | TeSys |
| Product name | TeSys D |
| Product or component type | Contactor |
| Device short name | LC1D |
| Contactor application | Resistive load |
| Utilisation category | AC-1 |
| Poles description | 4P |
| Power pole contact composition | 4 NO |
| [Ue] rated operational voltage | Power circuit: <= 690 V AC 25...400 Hz<br>Power circuit: <= 300 V DC |
| [Ie] rated operational current | 40 A (at <60 °C) at <= 440 V AC AC-1 for power circuit |
| Control circuit type | AC at 50/60 Hz |
| [Uc] control circuit voltage | 415 V AC 50/60 Hz |
| Auxiliary contact composition | 1 NO + 1 NC |
| [Uimp] rated impulse withstand voltage | 6 kV conforming to IEC 60947 |
| Overvoltage category | III |
| [Ith] conventional free air thermal current | 10 A (at 60 °C) for signalling circuit<br>40 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>450 A at 440 V for power circuit conforming to IEC 60947 |
| Rated breaking capacity | 450 A at 440 V for power circuit conforming to IEC 60947 |
| [Icw] rated short-time withstand current | 50 A 40 °C - 10 min for power circuit<br>120 A 40 °C - 1 min for power circuit<br>240 A 40 °C - 10 s for power circuit<br>380 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 | 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 |

| | |
|---|---|
| | 40 A gG at <= 690 V coordination type 2 for power circuit |
| Average impedance | 2 mOhm - Ith 40 A 50 Hz for power circuit |
| [Ui] 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 |
| Electrical durability | 1.4 Mcycles 40 A AC-1 at Ue <= 440 V |
| Power dissipation per pole | 3.2 W AC-1 |
| Front 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 | GL<br>RINA<br>UL<br>CCC<br>BV<br>DNV<br>GOST<br>CSA<br>LROS (Lloyds register of shipping) |
| Connections - terminals | Control circuit: screw clamp terminals 2 cable(s) 1…2.5 mm²flexible with cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1…4 mm²flexible without cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1…4 mm²flexible without cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1…4 mm²flexible with cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1…4 mm²solid without cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1…4 mm²solid without cable end<br>Power circuit: connector 1 cable(s) 2.5…10 mm²flexible without cable end<br>Power circuit: connector 2 cable(s) 2.5…10 mm²flexible without cable end<br>Power circuit: connector 1 cable(s) 2.5…10 mm²flexible with cable end<br>Power circuit: connector 2 cable(s) 2.5…10 mm²flexible with cable end<br>Power circuit: connector 1 cable(s) 2.5…16 mm²solid without cable end<br>Power circuit: connector 2 cable(s) 2.5…16 mm²solid without cable end |
| 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: 1.7 N.m - on connector - with screwdriver flat Ø 6 mm<br>Power circuit: 1.7 N.m - on connector - with screwdriver Philips No 2 |
| Operating time | 4...19 ms opening<br>12...22 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 | 15 Mcycles |
| Maximum operating rate | 3600 cyc/h 60 °C |

## Complementary

| | |
|---|---|
| Coil technology | Without built-in suppressor module |
| Control circuit voltage limits | Drop-out: 0.3...0.6 Uc AC 50/60 Hz (at 60 °C)<br>Operational: 0.8...1.1 Uc AC 50 Hz (at 60 °C)<br>Operational: 0.85...1.1 Uc AC 60 Hz (at 60 °C) |
| 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 |
| 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

| | |
|---|---|
| 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: 8 Gn for 11 ms |
| Height | 91 mm |
| Width | 45 mm |
| Depth | 99 mm |
| Net weight | 0.425 kg |

## Offer Sustainability

| | |
|---|---|
| Sustainable offer status | Green Premium product |
| REACh Regulation | REACh Declaration |
| REACh free of SVHC | Yes |
| EU RoHS Directive | Compliant<br>EU RoHS Declaration |
| Toxic heavy metal free | Yes |
| Mercury free | Yes |
| RoHS exemption information | Yes |
| China RoHS Regulation | China RoHS declaration |
| 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

| | |
|---|---|
| Warranty | 18 months |