



### 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              | 2 NO + 2 NC  |
| [Ue] rated operational voltage              | ≤ 300 V DC for power circuit<br>≤ 690 V AC 25...400 Hz for power circuit   |
| [Ie] rated operational current              | 32 A (≤ 60 °C) at ≤ 440 V AC AC-1 for power circuit  |
| Control circuit type                        | AC 50/60 Hz  |
| [Uc] control circuit voltage                | 48 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 | 32 A at ≤ 60 °C for power circuit<br>10 A at ≤ 60 °C for signalling circuit  |
| Rms rated making capacity                   | 300 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                     | 300 A at 440 V for power circuit conforming to IEC 60947   |
| [Icw] rated short-time withstand current    | 145 A ≤ 40 °C 10 s power circuit<br>240 A ≤ 40 °C 1 s power circuit<br>40 A ≤ 40 °C 10 min power circuit<br>84 A ≤ 40 °C 1 min power circuit<br>100 A 1 s signalling circuit<br>120 A 500 ms signalling circuit<br>140 A 100 ms signalling circuit |
| Associated fuse rating                      | 35 A gG at ≤ 690 V coordination type 2 for power circuit<br>50 A gG at ≤ 690 V coordination type 1 for power circuit<br>10 A gG for signalling circuit conforming to IEC 60947-5-1   |
| Average impedance                           | 2.5 mOhm at 50 Hz - Ith 32 A for power circuit   |
| [Ui] rated insulation voltage               | 600 V for power circuit certifications CSA<br>600 V for power circuit certifications UL<br>690 V for power circuit conforming to IEC 60947-4-1   |

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690 V for signalling circuit conforming to IEC 60947-1  
 600 V for signalling circuit certifications CSA  
 600 V for signalling circuit certifications UL

|                            |  |
|----------------------------|--|
| Electrical durability      | 1 Mcycles 32 A AC-1 at $U_e \leq 440$ V  |
| Power dissipation per pole | 2.5 W AC-1   |
| 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     | BV<br>CCC<br>CSA<br>DNV<br>GL<br>GOST<br>LROS (Lloyds register of shipping)<br>RINA<br>UL  |
| Connections - terminals    | Control circuit : screw clamp terminals 2 cable(s) 1...2.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Control circuit : screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Control circuit : screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Control circuit : screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Control circuit : screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Control circuit : screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Power circuit : connector 1 cable(s) 2.5...10 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Power circuit : connector 2 cable(s) 2.5...10 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Power circuit : connector 1 cable(s) 2.5...10 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Power circuit : connector 2 cable(s) 2.5...10 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Power circuit : connector 1 cable(s) 2.5...16 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Power circuit : connector 2 cable(s) 2.5...16 mm <sup>2</sup> - cable stiffness: solid - without cable end |
| Tightening torque          | Control circuit : 1.7 N.m - on screw clamp terminals - with screwdriver flat $\varnothing$ 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 $\varnothing$ 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   |
| Operating rate             | 3600 cyc/h at $\leq 60$ °C   |

## Complementary

|                                 |   |
|---------------------------------|---|
| Coil technology                 | Without built-in suppressor module  |
| Control circuit voltage limits  | 0.3...0.6 $U_c$ drop-out at 60 °C, AC 50/60 Hz<br>0.8...1.1 $U_c$ operational at 60 °C, AC 50 Hz<br>0.85...1.1 $U_c$ operational at 60 °C, AC 60 Hz |
| Inrush power in VA              | 70 VA at 20 °C ( $\cos \phi$ 0.75) 60 Hz<br>70 VA at 20 °C ( $\cos \phi$ 0.75) 50 Hz  |
| Hold-in power consumption in VA | 7.5 VA at 20 °C ( $\cos \phi$ 0.3) 60 Hz<br>7 VA at 20 °C ( $\cos \phi$ 0.3) 50 Hz  |
| 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 energisation between NC and NO contact  |

1.5 ms on de-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 derating in temperature

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 105 mm

Width 45 mm

Depth 99 mm

Product weight 0.425 kg

## Contractual warranty

Warranty period 18 months