



## Main

|   |   |
|---|---|
| Range                                       | TeSys   |
| Product name                                | TeSys D   |
| Product or component type                   | Contacteur  |
| Device short name                           | LC1D  |
| Contacteur application                      | Motor control<br>Resistive load   |
| Utilisation category                        | AC-1<br>AC-3<br>AC-4  |
| Poles description                           | 3P  |
| Pole contact composition                    | 3 NO  |
| System Voltage                              | <= 690 V AC power circuit<br><= 300 V DC 25...400 Hz power circuit  |
| [Ie] rated operational current              | 125 A (<= 140 °F (60 °C)) at <= 440 V AC AC-1 power circuit<br>80 A (<= 140 °F (60 °C)) at <= 440 V AC AC-3 power circuit   |
| Motor power kW                              | 22 kW at 220...230 V AC 50/60 Hz AC-3<br>37 kW at 380...400 V AC 50/60 Hz AC-3<br>45 kW at 660...690 V AC 50/60 Hz AC-3<br>45 kW at 415...440 V AC 50/60 Hz AC-3<br>55 kW at 500 V AC 50/60 Hz AC-3<br>45 kW at 1000 V AC 50/60 Hz AC-3<br>15 kW at 400 V AC 50/60 Hz AC-4                          |
| Motor power hp                              | 20 hp at 200/208 V AC 50/60 Hz 3 phases motors<br>7.5 hp at 115 V AC 50/60 Hz 1 phase motors<br>15 hp at 230/240 V AC 50/60 Hz 1 phase motors<br>25 hp at 230/240 V AC 50/60 Hz 3 phases motors<br>60 hp at 460/480 V AC 50/60 Hz 3 phases motors<br>60 hp at 575/600 V AC 50/60 Hz 3 phases motors |
| Control circuit type                        | AC 50/60 Hz   |
| [Uc] control circuit voltage                | 220 V AC 50/60 Hz   |
| Auxiliary contact composition               | 1 NO + 1 NC   |
| [Uimp] rated impulse withstand voltage      | Conforming to IEC 60947   |
| Overvoltage category                        | III   |
| [Ith] conventional free air thermal current | 125 A at <= 140 °F (60 °C) power circuit<br>10 A at <= 140 °F (60 °C) signalling circuit  |
| Irms rated making capacity                  | 1100 A at 440 V power circuit conforming to IEC 60947<br>140 A AC signalling circuit conforming to IEC 60947-5-1<br>250 A DC signalling circuit conforming to IEC 60947-5-1   |
| Rated breaking capacity                     | 1100 A at 440 V power circuit conforming to IEC 60947   |
| [Icw] rated short-time withstand current    | 135 A <= 104 °F (40 °C) 10 min power circuit<br>100 A 1 s signalling circuit<br>120 A 500 ms signalling circuit<br>140 A 100 ms signalling circuit<br>640 A <= 104 °F (40 °C) 10 s power circuit<br>990 A <= 104 °F (40 °C) 1 s power circuit<br>320 A <= 104 °F (40 °C) 1 min power circuit        |
| Associated fuse rating                      | 160 A gG at <= 690 V coordination type 2 power circuit<br>200 A gG at <= 690 V coordination type 1 power circuit<br>10 A gG signalling circuit conforming to IEC  |

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|  |  |
|--|--|
|  | 60947-5-1  |
| Average impedance                          | 0.8 mOhm at 50 Hz - lth 125 A power circuit  |
| [U <sub>i</sub> ] rated insulation voltage | 1000 V power circuit conforming to IEC 60947-4-1<br>600 V power circuit certifications CSA<br>600 V power circuit certifications UL<br>690 V signalling circuit conforming to IEC 60947-1<br>600 V signalling circuit certifications CSA<br>600 V signalling circuit certifications UL   |
| Electrical durability                      | 0.8 Mcycles 125 A AC-1 at U <sub>e</sub> ≤ 440 V<br>1.5 Mcycles 80 A AC-3 at U <sub>e</sub> ≤ 440 V  |
| Power dissipation per pole                 | 5.1 W AC-3<br>12.5 W AC-1  |
| Protective cover                           | With   |
| Mounting support                           | Plate<br>Rail  |
| Standards                                  | UL 508<br>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  |
| 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)<br>0...0 in <sup>2</sup> (1...2.5 mm <sup>2</sup> ) - cable stiffness: flexible - with cable end<br>Control circuit: screw clamp terminals 1 cable(s)<br>0...0.01 in <sup>2</sup> (1...4 mm <sup>2</sup> ) - cable stiffness: flexible - without cable end<br>Control circuit: screw clamp terminals 2 cable(s)<br>0...0.01 in <sup>2</sup> (1...4 mm <sup>2</sup> ) - cable stiffness: flexible - without cable end<br>Control circuit: screw clamp terminals 1 cable(s)<br>0...0.01 in <sup>2</sup> (1...4 mm <sup>2</sup> ) - cable stiffness: solid - without cable end<br>Control circuit: screw clamp terminals 2 cable(s)<br>0...0.01 in <sup>2</sup> (1...4 mm <sup>2</sup> ) - cable stiffness: solid - without cable end<br>Control circuit: screw clamp terminals 1 cable(s)<br>0...0 in <sup>2</sup> (1...2.5 mm <sup>2</sup> ) - cable stiffness: flexible - with cable end<br>Power circuit: connector 1 cable(s) 0.01...0.08 in <sup>2</sup><br>(4...50 mm <sup>2</sup> ) - cable stiffness: flexible - without cable end<br>Power circuit: connector 2 cable(s) 0.01...0.04 in <sup>2</sup><br>(4...25 mm <sup>2</sup> ) - cable stiffness: flexible - without cable end<br>Power circuit: connector 1 cable(s) 0.01...0.08 in <sup>2</sup><br>(4...50 mm <sup>2</sup> ) - cable stiffness: flexible - with cable end<br>Power circuit: connector 2 cable(s) 0.01...0.02 in <sup>2</sup><br>(4...16 mm <sup>2</sup> ) - cable stiffness: flexible - with cable end<br>Power circuit: connector 1 cable(s) 0.01...0.08 in <sup>2</sup><br>(4...50 mm <sup>2</sup> ) - cable stiffness: solid - without cable end<br>Power circuit: connector 2 cable(s) 0.01...0.04 in <sup>2</sup><br>(4...25 mm <sup>2</sup> ) - cable stiffness: solid - without cable end |
| Tightening torque                          | Power circuit: 79.65 lbf.in (9 N.m) - on connector - with screwdriver flat Ø 6 to Ø 8 mm<br>Power circuit: 79.65 lbf.in (9 N.m) - on connector hexagonal 0.16 in (4 mm)<br>Control circuit: 10.62 lbf.in (1.2 N.m) - on screw clamp terminals - with screwdriver flat Ø 6 mm<br>Control circuit: 10.62 lbf.in (1.2 N.m) - on screw clamp terminals - with screwdriver Philips No 2   |
| Operating time                             | 20...35 ms closing   |

|                          |  |
|--------------------------|--|
|                          | 6...20 ms opening  |
| 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    | 4 Mcycles  |
| Operating rate           | 3600 cyc/h at <= 140 °F (60 °C)  |

## Complementary

|                                 |  |
|---------------------------------|--|
| Coil technology                 | Without built-in suppressor module   |
| Control circuit voltage limits  | 0.85...1.1 Uc operational at 131 °F (55 °C), AC 60 Hz<br>0.3...0.6 Uc drop-out at 131 °F (55 °C), AC 50/60 Hz<br>0.8...1.1 Uc operational at 55 °C, AC 50 Hz |
| Inrush power in VA              | 245 VA at 68 °F (20 °C) (cos $\phi$ 0.75) 60 Hz<br>245 VA at 68 °F (20 °C) (cos $\phi$ 0.75) 50 Hz   |
| Hold-in power consumption in VA | 26 VA at 68 °F (20 °C) (cos $\phi$ 0.3) 60 Hz<br>26 VA at 68 °F (20 °C) (cos $\phi$ 0.3) 50 Hz   |
| Heat dissipation                | 6...10 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 signalling circuit  |
| Minimum switching voltage       | 17 V 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 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                 | 23...140 °F (-5...60 °C)  |
| ambient air temperature for storage                   | -76...176 °F (-60...80 °C)  |
| permissible ambient air temperature around the device | -40...158 °F (-40...70 °C) at Uc  |
| operating altitude                                    | 9842.52 ft (3000 m) without derating in temperature   |
| fire resistance                                       | 1562 °F (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>Shocks contactor open 8 Gn for 11 ms<br>Vibrations contactor closed 3 Gn, 5...300 Hz<br>Shocks contactor closed 10 Gn for 11 ms |
| height  | 5 in (127 mm)   |
| width   | 3.35 in (85 mm)   |
| depth   | 5.12 in (130 mm)  |
| product weight  | 3.51 lb(US) (1.59 kg)   |

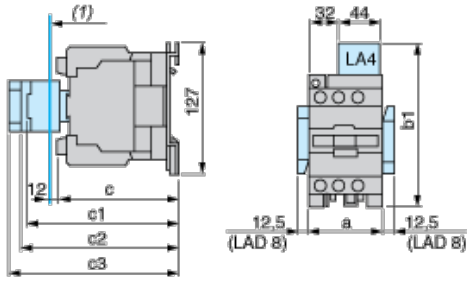
## Offer Sustainability

|   |   |
|---|---|
| Green Premium product   | Green Premium product   |
| Compliant - since 0701 - Schneider Electric declaration of conformity | Compliant - since 0701 - Schneider Electric declaration of conformity |
| Reference not containing SVHC above the threshold                     | Reference not containing SVHC above the threshold                     |
| Available   | Available   |
| Need no specific recycling operations                                 | Need no specific recycling operations                                 |

## Contractual warranty

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

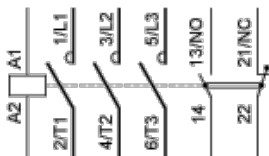
## Dimensions







(1) Minimum electrical clearance

| LC1 |                                    | D80 | D95 |
|-----|------------------------------------|-----|-----|
| a   |                                    | 85  | 85  |
| b1  | with LA4 D•2                       | 135 | 135 |
|     | with LA4 DB3 or LAD 4BB3           | 135 | –   |
|     | with LA4 DF, DT                    | 142 | 142 |
|     | with LA4 DM, DW, DL                | 150 | 150 |
| c   | without cover or add-on blocks     | 125 | 125 |
|     | with cover, without add-on blocks  | 130 | 130 |
| c1  | with LAD N (1 contact)             | 150 | 150 |
|     | with LAD N or C (2 or 4 contacts)  | 158 | 158 |
| c2  | with LA6 DK10, LAD 6DK             | 170 | 170 |
| c3  | with LAD T, R, S                   | 178 | 178 |
|     | with LAD T, R, S and sealing cover | 182 | 182 |

## Wiring



## Our Proposal - Type 1 : Circuit Breaker + Contactor for Motor Power 37 kW and 415 VAC

| Motor Power (kW) | Icu (kA) | Breaker  | Contactor   |
|------------------|----------|--|---|
| 37               | 36       | <br>GV7RE80 | <br>LC1D80M7 |
| 37               | 15       | <br>GV3ME80 | <br>LC1D80M7 |

Non contractual pictures. Type 1 coordination requires that in a short-circuit condition, the contactor or starter must not present any danger to personnel or installations and must not be able to resume operation without repair or the replacement of parts.