



### 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 25...400 Hz power circuit<br><= 300 V DC power circuit  |
| [Ie] rated operational current              | 25 A (<= 140 °F (60 °C)) at <= 440 V AC AC-1 power circuit<br>9 A (<= 140 °F (60 °C)) at <= 440 V AC AC-3 power circuit   |
| Motor power kW                              | 2.2 kW at 400 V AC 50/60 Hz AC-4<br>2.2 kW at 220...230 V AC 50/60 Hz AC-3<br>4 kW at 380...400 V AC 50/60 Hz AC-3<br>5.5 kW at 500 V AC 50/60 Hz AC-3<br>5.5 kW at 660...690 V AC 50/60 Hz AC-3<br>4 kW at 415...440 V AC 50/60 Hz AC-3  |
| Motor power hp                              | 1 hp at 230/240 V AC 50/60 Hz 1 phase motors<br>2 hp at 200/208 V AC 50/60 Hz 3 phases motors<br>2 hp at 230/240 V AC 50/60 Hz 3 phases motors<br>5 hp at 460/480 V AC 50/60 Hz 3 phases motors<br>7.5 hp at 575/600 V AC 50/60 Hz 3 phases motors<br>0.33 hp at 115 V AC 50/60 Hz for 1 phase motors |
| 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 | 25 A at <= 140 °F (60 °C) power circuit<br>10 A at <= 140 °F (60 °C) signalling circuit   |
| Irms rated making capacity                  | 250 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                     | 250 A at 440 V power circuit conforming to IEC 60947  |
| [Icw] rated short-time withstand current    | 105 A <= 104 °F (40 °C) 10 s power circuit<br>210 A <= 104 °F (40 °C) 1 s power circuit<br>30 A <= 104 °F (40 °C) 10 min power circuit<br>61 A <= 104 °F (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                      | 20 A gG at <= 690 V coordination type 2 power circuit<br>25 A gG at <= 690 V coordination type 1 power circuit<br>10 A gG signalling circuit conforming to IEC 60947-5-1  |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

|  |  |
|--|--|
| Average impedance                          | 2.5 mOhm at 50 Hz - lth 25 A power circuit   |
| [U <sub>i</sub> ] rated insulation voltage | 600 V power circuit certifications CSA<br>600 V power circuit certifications UL<br>690 V power circuit conforming to IEC 60947-4-1<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                      | 0.6 Mcycles 25 A AC-1 at U <sub>e</sub> ≤ 440 V<br>2 Mcycles 9 A AC-3 at U <sub>e</sub> ≤ 440 V  |
| Power dissipation per pole                 | 0.2 W AC-3<br>1.56 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>Power circuit: screw clamp terminals 1 cable(s)<br>0...0.01 in <sup>2</sup> (1...4 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: 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: 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>Power 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>Power 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>Power 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>Power 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>Power 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 |
| Tightening torque                          | Power circuit: 15.04 lbf.in (1.7 N.m) - on screw clamp terminals - with screwdriver flat Ø 6 mm<br>Power circuit: 15.04 lbf.in (1.7 N.m) - on screw clamp terminals - with screwdriver Philips No 2<br>Control circuit: 15.04 lbf.in (1.7 N.m) - on screw clamp terminals - with screwdriver flat Ø 6 mm<br>Control circuit: 15.04 lbf.in (1.7 N.m) - on screw clamp terminals - 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 <= 140 °F (60 °C)  |

## Complementary

|                                 |   |
|---------------------------------|---|
| Coil technology                 | Without built-in suppressor module  |
| Control circuit voltage limits  | 0.3...0.6 Uc drop-out at 140 °F (60 °C), AC 50/60 Hz<br>0.8...1.1 Uc operational at 140 °F (60 °C), AC 50 Hz<br>0.85...1.1 Uc operational at 140 °F (60 °C), AC 60 Hz |
| Inrush power in VA              | 70 VA at 68 °F (20 °C) (cos φ 0.75) 60 Hz<br>70 VA at 68 °F (20 °C) (cos φ 0.75) 50 Hz  |
| Hold-in power consumption in VA | 7.5 VA at 68 °F (20 °C) (cos φ 0.3) 60 Hz<br>7 VA at 68 °F (20 °C) (cos φ 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 signalling circuit   |
| Minimum switching voltage       | 17 V signalling circuit   |
| Non-overlap time                | 1.5 ms on energisation between NC and NO contact<br>1.5 ms on de-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>Vibrations contactor closed 4 Gn, 5...300 Hz<br>Shocks contactor open 10 Gn for 11 ms<br>Shocks contactor closed 15 Gn for 11 ms |
| height  | 3.03 in (77 mm)  |
| width   | 1.77 in (45 mm)  |
| depth   | 3.39 in (86 mm)  |
| product weight  | 0.71 lb(US) (0.32 kg)  |

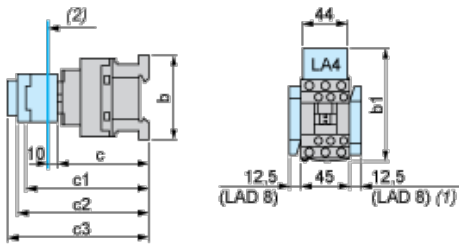
## Offer Sustainability

|   |   |
|---|---|
| Green Premium product   | Green Premium product   |
| Compliant - since 0627 - Schneider Electric declaration of conformity | Compliant - since 0627 - Schneider Electric declaration of conformity |
| Reference not containing SVHC above the threshold                     | Reference not containing SVHC above the threshold                     |
| Available   | Available   |
| Available   | Available   |

## Contractual warranty

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

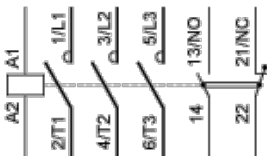
## Dimensions









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













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

### Wiring



### Our Proposal - Type 1 : Circuit Breaker + Contactor for Motor Power from 0,06 to 4 kW and 415 VAC

| Motor Power (kW) | Icu (kA) | Breaker  | Contactor   |
|------------------|----------|--|---|
| 0.06             | > 100    | <br>GV2ME02 | <br>LC1D09E7 |
| 0.09             | > 100    | <br>GV2ME03 | <br>LC1D09E7 |
| 0,12 to 0,18     | > 100    | <br>GV2ME04 | <br>LC1D09E7 |

|              |       |   |  |
|--------------|-------|---|--|
| 0,25 to 0,37 | > 100 | <br>GV2ME05   | <br>LC1D09E7   |
| 0.55         | > 100 | <br>GV2ME06  | <br>LC1D09E7  |
| 0.75         | > 100 | <br>GV2ME07  | <br>LC1D09E7  |
| 1,1 to 1,5   | > 100 | <br>GV2ME08  | <br>LC1D09E7  |
| 2.2          | > 100 | <br>GV2ME10  | <br>LC1D09E7  |
| 3 to 4       | > 100 | <br>GV2ME14 | <br>LC1D09E7 |

*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.*