



### Main

|  |   |
|--|---|
| Range                                  | TeSys   |
| Product name                           | TeSys D   |
| Product or component type              | Contactors  |
| Device short name                      | LC1D  |
| Contactors application                 | Resistive load<br>Motor control   |
| Utilisation category                   | AC-3<br>AC-1<br>AC-4  |
| Poles description                      | 3P  |
| Power pole contact composition         | 3 NO  |
| [Ue] rated operational voltage         | Power circuit: $\leq 690$ V AC 25...400 Hz<br>Power circuit: $\leq 300$ V DC  |
| [Ie] rated operational current         | 9 A (at $\leq 60$ °C) at $\leq 440$ V AC AC-3 for power circuit<br>25 A (at $\leq 60$ °C) at $\leq 440$ V AC AC-1 for power circuit   |
| Motor power kW                         | 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>4 kW at 415...440 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>2.2 kW at 400 V AC 50/60 Hz (AC-4)  |
| Motor power HP (UL / CSA)              | 1 hp at 230/240 V AC 50/60 Hz for 1 phase motors<br>2 hp at 200/208 V AC 50/60 Hz for 3 phases motors<br>2 hp at 230/240 V AC 50/60 Hz for 3 phases motors<br>5 hp at 460/480 V AC 50/60 Hz for 3 phases motors<br>7.5 hp at 575/600 V AC 50/60 Hz for 3 phases motors<br>0.33 hp at 115 V AC 50/60 Hz for 1 phase motors |
| Control circuit type                   | DC low consumption  |
| [Uc] control circuit voltage           | 24 V DC   |
| Auxiliary contact composition          | 1 NO + 1 NC   |
| [Uimp] rated impulse withstand voltage | 6 kV conforming to IEC 60947  |

Disclaimer: 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

|   |  |
|---|--|
| Overvoltage category                        | III  |
| [Ith] conventional free air thermal current | 25 A (at 60 °C) for power circuit<br>10 A (at 60 °C) for signalling circuit  |
| Irms rated making capacity                  | 250 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                     | 250 A at 440 V for power circuit conforming to IEC 60947   |
| [Icw] rated short-time withstand current    | 105 A 40 °C - 10 s for power circuit<br>210 A 40 °C - 1 s for power circuit<br>30 A 40 °C - 10 min for power circuit<br>61 A 40 °C - 1 min 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>25 A gG at <= 690 V coordination type 1 for power circuit<br>20 A gG at <= 690 V coordination type 2 for power circuit   |
| Average impedance                           | 2.5 mOhm - Ith 25 A 50 Hz for power circuit  |
| [Ui] rated insulation voltage               | Power circuit: 690 V conforming to IEC 60947-4-1<br>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  |
| Electrical durability                       | 0.6 Mcycles 25 A AC-1 at Ue <= 440 V<br>2 Mcycles 9 A AC-3 at Ue <= 440 V  |
| Power dissipation per pole                  | 1.56 W AC-1<br>0.2 W AC-3  |
| 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>UL<br>LROS (Lloyds register of shipping)<br>CCC<br>RINA<br>BV<br>GOST<br>DNV<br>CSA  |
| Connections - terminals                     | Power circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> flexible without cable end<br>Power circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> flexible without cable end<br>Power circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> flexible with cable end<br>Power circuit: screw clamp terminals 2 cable(s) 1...2.5 mm <sup>2</sup> flexible with cable end<br>Power circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> solid without cable end<br>Power circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> solid without cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> flexible without cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> flexible without cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> flexible with cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1...2.5 mm <sup>2</sup> flexible with cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> solid without cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> solid without cable end |
| Tightening torque                           | Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm<br>Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver Philips No 2<br>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   |
| Operating time                              | 65.45...88.55 ms closing<br>20...30 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                       | 30 Mcycles   |

|                        |                  |
|------------------------|------------------|
| Maximum operating rate | 3600 cyc/h 60 °C |
|------------------------|------------------|

## Complementary

|                                |   |
|--------------------------------|---|
| Coil technology                | Built-in bidirectional peak limiting diode suppressor   |
| Control circuit voltage limits | 0.1...0.3 U <sub>c</sub> (-40...70 °C):drop-out DC<br>0.8...1.25 U <sub>c</sub> (-40...60 °C):operational DC<br>1...1.25 U <sub>c</sub> (60...70 °C):operational DC |
| Time constant                  | 40 ms   |
| Inrush power in W              | 2.4 W (at 20 °C)  |
| Hold-in power consumption in W | 2.4 W at 20 °C  |
| 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 | -40...60 °C<br>60...70 °C with derating  |
| Ambient air temperature for storage   | -60...80 °C  |
| Operating altitude                    | 0...3000 m   |
| 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 open: 10 Gn for 11 ms<br>Shocks contactor closed: 15 Gn for 11 ms |
| Height                                | 77 mm  |
| Width                                 | 45 mm  |
| Depth                                 | 95 mm  |
| Net weight                            | 0.48 kg  |

## Packing Units

|                              |           |
|------------------------------|-----------|
| Unit Type of Package 1       | PCE       |
| Number of Units in Package 1 | 1         |
| Package 1 Weight             | 532 g     |
| Package 1 Height             | 5.2 cm    |
| Package 1 width              | 9.2 cm    |
| Package 1 Length             | 11.2 cm   |
| Unit Type of Package 2       | S02       |
| Number of Units in Package 2 | 15        |
| Package 2 Weight             | 8.405 kg  |
| Package 2 Height             | 15 cm     |
| Package 2 width              | 30 cm     |
| Package 2 Length             | 40 cm     |
| Unit Type of Package 3       | P06       |
| Number of Units in Package 3 | 240       |
| Package 3 Weight             | 142.74 kg |

|                  |       |
|------------------|-------|
| Package 3 Height | 80 cm |
| Package 3 width  | 80 cm |
| Package 3 Length | 60 cm |

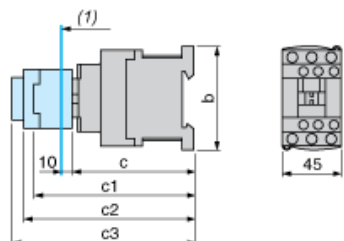
### Offer Sustainability

|                            |   |
|----------------------------|---|
| Sustainable offer status   | Green Premium product   |
| REACH Regulation           | <a href="#">REACH Declaration</a>   |
| REACH free of SVHC         | Yes   |
| EU RoHS Directive          | Compliant<br><a href="#">EU RoHS Declaration</a>  |
| Toxic heavy metal free     | Yes   |
| Mercury free               | Yes   |
| RoHS exemption information | <a href="#">Yes</a>   |
| China RoHS Regulation      | <a href="#">China RoHS declaration</a><br>Pro-active China RoHS declaration (out of China RoHS legal scope)   |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>   |
| Circularity Profile        | <a href="#">End of Life Information</a>   |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins   |
| PVC free                   | Yes   |
| California proposition 65  | WARNING: This product can expose you to chemicals including: Antimony oxide & Antimony trioxide, which is known to the State of California to cause cancer. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |

### Contractual warranty

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

Dimensions



(1) Minimum electrical clearance

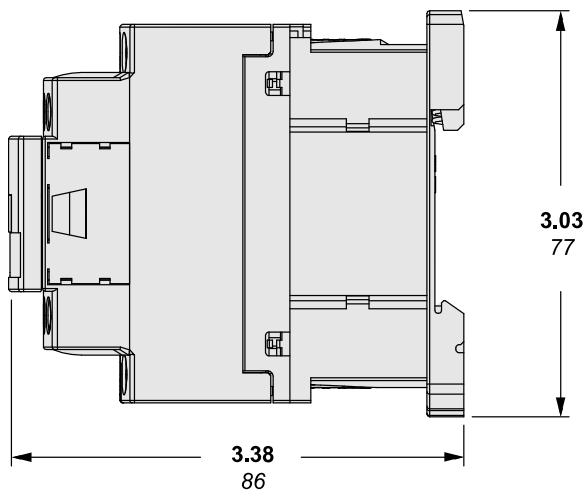
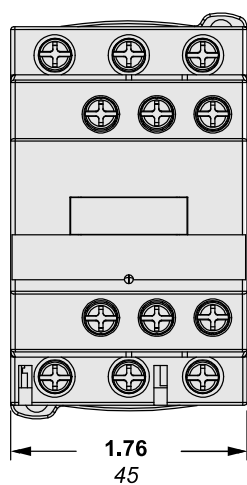
| LC1 |                                    | D09...D18 | D093...D123 | D099...D129 |
|-----|------------------------------------|-----------|-------------|-------------|
| b   |                                    | 77        | 99          | 80          |
| c   | without cover or add-on blocks     | 93        | 93          | 93          |
|     | with cover, without add-on blocks  | 95        | 95          | 95          |
| c1  | with LAD N or C (2 or 4 contacts)  | 126       | 126         | 126         |
| c2  | with LA6 DK10                      | 138       | 138         | 138         |
| c3  | with LAD T, R, S                   | 146       | 146         | 146         |
|     | with LAD T, R, S and sealing cover | 150       | 150         | 150         |

Wiring



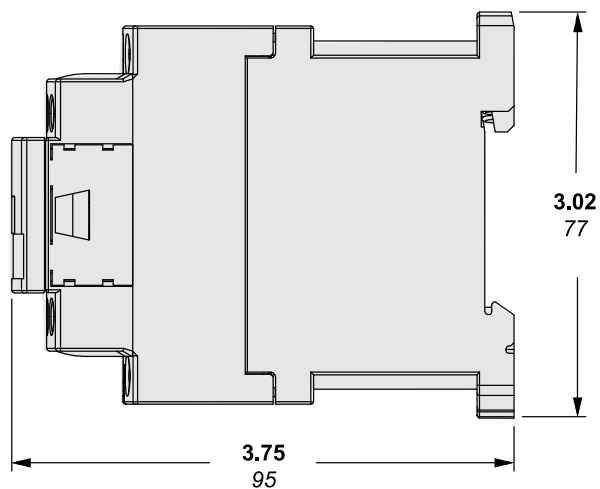
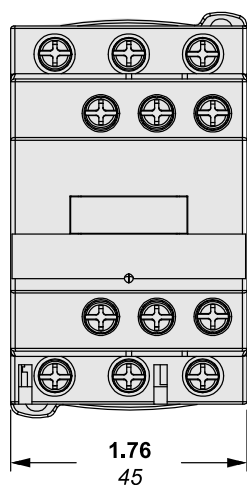
Dimensions

CONTACTOR WITH AC COIL



in.  
mm

CONTACTOR WITH DC COIL



All dimensions are approximate. Also refer to technical drawings and documentation.