

# Product data sheet

Specifications



## TeSys Deca contactor - 3P(3 NO) - AC-3/AC-3e - $\leq 440$ V 12 A - 220 V AC coil

LC1D12M7

### Main

|   |   |
|---|---|
| <b>Range</b>                                  | TeSys<br>TeSys Deca   |
| <b>Product name</b>                           | TeSys D<br>TeSys Deca   |
| <b>Product or component type</b>              | Contacteur  |
| <b>Device short name</b>                      | LC1D  |
| <b>Contacteur application</b>                 | Resistive load<br>Motor control   |
| <b>Utilisation category</b>                   | AC-4<br>AC-1<br>AC-3<br>AC-3e   |
| <b>Poles description</b>                      | 3P  |
| <b>Power pole contact composition</b>         | 3 NO  |
| <b>[Ue] rated operational voltage</b>         | Power circuit: $\leq 690$ V AC 25...400 Hz<br>Power circuit: $\leq 300$ V DC  |
| <b>[Ie] rated operational current</b>         | 25 A (at $\leq 60$ °C) at $\leq 440$ V AC AC-1 for power circuit<br>12 A (at $\leq 60$ °C) at $\leq 440$ V AC AC-3 for power circuit<br>12 A (at $\leq 60$ °C) at $\leq 440$ V AC AC-3e for power circuit   |
| <b>Motor power kW</b>                         | 3 kW at 220...230 V AC 50/60 Hz (AC-3)<br>5.5 kW at 380...400 V AC 50/60 Hz (AC-3)<br>5.5 kW at 415...440 V AC 50/60 Hz (AC-3)<br>7.5 kW at 500 V AC 50/60 Hz (AC-3)<br>7.5 kW at 660...690 V AC 50/60 Hz (AC-3)<br>3.7 kW at 400 V AC 50/60 Hz (AC-4)<br>3 kW at 220...230 V AC 50/60 Hz (AC-3e)<br>5.5 kW at 380...400 V AC 50/60 Hz (AC-3e)<br>5.5 kW at 415...440 V AC 50/60 Hz (AC-3e)<br>7.5 kW at 500 V AC 50/60 Hz (AC-3e)<br>7.5 kW at 660...690 V AC 50/60 Hz (AC-3e) |
| <b>Motor power HP (UL / CSA)</b>              | 0.5 hp at 115 V AC 50/60 Hz for 1 phase motors<br>2 hp at 230/240 V AC 50/60 Hz for 1 phase motors<br>3 hp at 200/208 V AC 50/60 Hz for 3 phases motors<br>3 hp at 230/240 V AC 50/60 Hz for 3 phases motors<br>7.5 hp at 460/480 V AC 50/60 Hz for 3 phases motors<br>10 hp at 575/600 V AC 50/60 Hz for 3 phases motors   |
| <b>Control circuit type</b>                   | AC at 50/60 Hz  |
| <b>[Uc] control circuit voltage</b>           | 220 V AC 50/60 Hz   |
| <b>Auxiliary contact composition</b>          | 1 NO + 1 NC   |
| <b>[Uimp] rated impulse withstand voltage</b> | 6 kV conforming to IEC 60947  |
| <b>Overvoltage category</b>                   | III   |

|  |  |
|--|--|
| <b>[Ith] conventional free air thermal current</b> | 25 A (at 60 °C) for power circuit<br>10 A (at 60 °C) for signalling circuit  |
| <b>Irms rated making capacity</b>                  | 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   |
| <b>Rated breaking capacity</b>                     | 250 A at 440 V for power circuit conforming to IEC 60947   |
| <b>[Icw] rated short-time withstand current</b>    | 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   |
| <b>Associated fuse rating</b>                      | 10 A gG for signalling circuit conforming to IEC 60947-5-1<br>40 A gG at <= 690 V coordination type 1 for power circuit<br>25 A gG at <= 690 V coordination type 2 for power circuit   |
| <b>Average impedance</b>                           | 2.5 mOhm - Ith 25 A 50 Hz for power circuit  |
| <b>[Ui] rated insulation voltage</b>               | 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  |
| <b>Electrical durability</b>                       | 2 Mcycles 12 A AC-3 at Ue <= 440 V<br>0.8 Mcycles 25 A AC-1 at Ue <= 440 V<br>2 Mcycles 12 A AC-3e at Ue <= 440 V  |
| <b>Power dissipation per pole</b>                  | 0.36 W AC-3<br>1.56 W AC-1<br>0.36 W AC-3e   |
| <b>Front cover</b>                                 | With   |
| <b>Mounting support</b>                            | Rail<br>Plate  |
| <b>Standards</b>                                   | 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<br>IEC 60335-1   |
| <b>Product certifications</b>                      | BV<br>GOST<br>CSA<br>RINA<br>LROS (Lloyds register of shipping)<br>DNV<br>UL<br>GL<br>CCC<br>UKCA  |
| <b>Connections - terminals</b>                     | 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 |
| <b>Tightening torque</b>                           | 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<br>Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver pozidriv No 2<br>Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver pozidriv No 2   |
| <b>Operating time</b>                              | 12...22 ms closing<br>4...19 ms opening  |
| <b>Safety reliability level</b>                    | 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   |
| <b>Mechanical durability</b>                       | 15 Mcycles   |

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

## Complementary

|                                 |   |
|---------------------------------|---|
| Coil technology                 | Without built-in suppressor module  |
| Control circuit voltage limits  | 0.3...0.6 Uc (-40...70 °C):drop-out AC 50/60 Hz<br>0.8...1.1 Uc (-40...60 °C):operational AC 50 Hz<br>0.85...1.1 Uc (-40...60 °C):operational AC 60 Hz<br>1...1.1 Uc (60...70 °C):operational AC 50/60 Hz |
| 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  |
| Climatic withstand                    | conforming to IACS E10<br>conforming to IEC 60947-1 Annex Q category D   |
| 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   |
| 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                                 | 86 mm  |
| Net weight                            | 0.325 kg   |

## Packing Units

|                              |         |
|------------------------------|---------|
| Unit Type of Package 1       | PCE     |
| Number of Units in Package 1 | 1       |
| Package 1 Weight             | 352.6 g |
| Package 1 Height             | 5.0 cm  |
| Package 1 width              | 9.2 cm  |
| Package 1 Length             | 11.3 cm |
| Unit Type of Package 2       | S02     |

|                              |            |
|------------------------------|------------|
| Number of Units in Package 2 | 20         |
| Package 2 Weight             | 7.312 kg   |
| Package 2 Height             | 15.0 cm    |
| Package 2 width              | 30.0 cm    |
| Package 2 Length             | 40.0 cm    |
| Unit Type of Package 3       | P06        |
| Number of Units in Package 3 | 320        |
| Package 3 Weight             | 124.992 kg |
| Package 3 Height             | 75.0 cm    |
| Package 3 width              | 80.0 cm    |
| Package 3 Length             | 60.0 cm    |

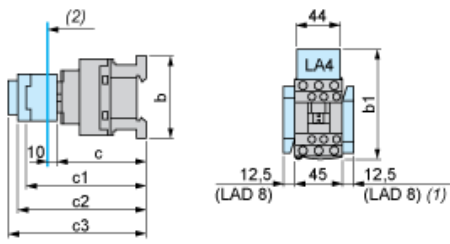
## Offer Sustainability

|                            |   |
|----------------------------|---|
| 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) 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

---

