





## Main

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|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range                                       | TeSys                                                                                                                                                                                                                                                                                                     |
| Product name                                | TeSys D                                                                                                                                                                                                                                                                                                   |
| Product or component type                   | Contactor                                                                                                                                                                                                                                                                                                 |
| Device short name                           | LC1D                                                                                                                                                                                                                                                                                                      |
| Contactor application                       | Resistive load<br>Motor control                                                                                                                                                                                                                                                                           |
| Utilisation category                        | AC-3<br>AC-4<br>AC-1                                                                                                                                                                                                                                                                                      |
| Poles description                           | 3P                                                                                                                                                                                                                                                                                                        |
| Power pole contact composition              | 3 NO                                                                                                                                                                                                                                                                                                      |
| [Ue] rated operational voltage              | Power circuit: 1000 V AC 25...400 Hz                                                                                                                                                                                                                                                                      |
| [Ie] rated operational current              | 95 A (at <60 °C) at ≤ 440 V AC-3 for power circuit<br>125 A (at <60 °C) at ≤ 690 V AC-1 for power circuit                                                                                                                                                                                                 |
| Motor power kW                              | 25 kW at 220...230 V AC 50 Hz (AC-3)<br>45 kW at 380...400 V AC 50 Hz (AC-3)<br>45 kW at 415...440 V AC 50 Hz (AC-3)<br>55 kW at 500 V AC 50 Hz (AC-3)<br>45 kW at 660...690 V AC 50 Hz (AC-3)<br>45 kW at 1000 V AC 50 Hz (AC-3)                                                                         |
| Motor power HP (UL / CSA)                   | 7.5 Hp at 115 V AC 60 Hz for 1 phase motors<br>15 Hp at 230/240 V AC 60 Hz for 1 phase motors<br>25 Hp at 200/208 V AC 60 Hz for 3 phases motors<br>30 Hp at 230/240 V AC 60 Hz for 3 phases motors<br>60 Hp at 460/480 V AC 60 Hz for 3 phases motors<br>60 hp at 575/600 V AC 60 Hz for 3 phases motors |
| Control circuit type                        | DC standard                                                                                                                                                                                                                                                                                               |
| [Uc] control circuit voltage                | 48 V DC                                                                                                                                                                                                                                                                                                   |
| Auxiliary contact composition               | 1 NO + 1 NC                                                                                                                                                                                                                                                                                               |
| [Uimp] rated impulse withstand voltage      | 8 kV conforming to IEC 60947                                                                                                                                                                                                                                                                              |
| Overvoltage category                        | III                                                                                                                                                                                                                                                                                                       |
| [Ith] conventional free air thermal current | 10 A (at 60 °C) for signalling circuit<br>125 A (at 60 °C) for power circuit                                                                                                                                                                                                                              |
| Irms rated making capacity                  | 1100 A at 440 V AC 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                     | 1100 A at 440 V for power circuit conforming to IEC 60947                                                                                                                                                                                                                                                 |
| [Icw] rated short-time withstand current    | 1100 A 40 °C - 1 s for power circuit<br>800 A 40 °C - 10 s for power circuit<br>400 A 40 °C - 1 min for power circuit<br>135 A 40 °C - 10 min for power circuit<br>140 A - 100 ms for signalling circuit<br>120 A - 500 ms for signalling circuit<br>100 A - 1 s for signalling circuit                   |
| Associated fuse rating                      | 10 A gG for signalling circuit conforming to IEC 60947-5-1<br>200 A gG at ≤ 690 V coordination type 1 for power circuit<br>160 A gG at ≤ 690 V coordination type 2 for power circuit                                                                                                                      |
| Average impedance                           | 0.8 mOhm - Ith 125 A 50 Hz for power circuit                                                                                                                                                                                                                                                              |
| [Ui] rated insulation voltage               | Power circuit: 1000 V conforming to IEC 60947-4-1<br>Signalling circuit: 690 V conforming to IEC 60947-1                                                                                                                                                                                                  |
| Electrical durability                       | 1.2 Mcycles 95 A AC-3<br>1.3 Mcycles 125 A AC-1                                                                                                                                                                                                                                                           |

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|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power dissipation per pole | 12.5 W AC-1<br>7.2 W AC-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Front cover                | With                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Mounting support           | Rail<br>Plate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Standards                  | EN/IEC 60947-1<br>EN/IEC 60947-4-1<br>EN/IEC 60947-5-1<br>GB/T 14048.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Product certifications     | IECEE CB Scheme<br>CCC<br>EAC<br>LROS (Lloyds register of shipping)<br>RINA<br>BV<br>DNV-GL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Connections - terminals    | 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... 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> 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> solid without cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1... 4 mm <sup>2</sup> solid without cable end<br>Power circuit: connector 1 cable(s) 4... 50 mm <sup>2</sup> flexible without cable end<br>Power circuit: connector 2 cable(s) 4... 25 mm <sup>2</sup> flexible without cable end<br>Power circuit: connector 1 cable(s) 4... 50 mm <sup>2</sup> flexible with cable end<br>Power circuit: connector 2 cable(s) 4... 16 mm <sup>2</sup> flexible with cable end<br>Power circuit: connector 1 cable(s) 4...50 mm <sup>2</sup> solid without cable end<br>Power circuit: connector 2 cable(s) 4...25 mm <sup>2</sup> solid without cable end |
| Tightening torque          | Control circuit: 1.2 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm<br>Control circuit: 1.2 N.m - on screw clamp terminals - with screwdriver Philips No 2<br>Power circuit: 12 N.m - on connector - with screwdriver flat Ø 6 to Ø 8 mm<br>Power circuit: 12 N.m - on connector hexagonal screw head 4 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Operating time             | 95...130 ms closing<br>20...35 ms opening                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Safety reliability level   | B10d = 1.3 Mcycles contactor with nominal load conforming to EN/ISO 13849-1<br>B10d = 20 Mcycles contactor with mechanical load conforming to EN/ISO 13849-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Mechanical durability      | 10 Mcycles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Maximum operating rate     | 3600 cyc/h 60 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## Complementary

|                                |                                                                                                                                                                    |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Coil technology                | Without built-in suppressor module                                                                                                                                 |
| Control circuit voltage limits | 0.1...0.3 U <sub>c</sub> (-40...70 °C):drop-out DC<br>0.85...1.1 U <sub>c</sub> (-40...55 °C):operational DC<br>1...1.1 U <sub>c</sub> (55...70 °C):operational DC |
| Time constant                  | 75 ms                                                                                                                                                              |
| Inrush power in W              | 22 W (at 20 °C)                                                                                                                                                    |
| Hold-in power consumption in W | 22 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>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                                | 127 mm                                                                                                                                                                            |
| Width                                 | 85 mm                                                                                                                                                                             |
| Depth                                 | 186 mm                                                                                                                                                                            |
| Net weight                            | 2.61 kg                                                                                                                                                                           |

## Packing Units

|                  |          |
|------------------|----------|
| Package 1 Weight | 2.489 kg |
| Package 1 Height | 2.100 dm |
| Package 1 width  | 1.000 dm |
| Package 1 Length | 1.400 dm |

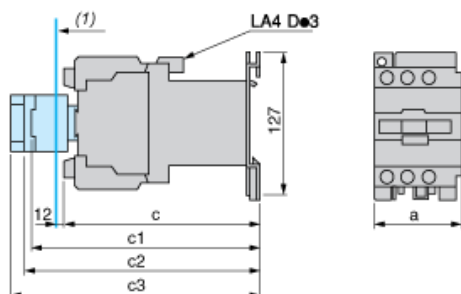
## Offer Sustainability

|                            |                                                                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                             |
| REACH Regulation           |  <a href="#">REACH Declaration</a>             |
| REACH free of SVHC         | Yes                                                                                                                               |
| EU RoHS Directive          | Compliant  <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>        |
| Environmental Disclosure   |  <a href="#">Product Environmental Profile</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                                                                                                                               |

## Contractual warranty

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

## Dimensions



(1) Minimum electrical clearance

| LC1                                |                                | D80 and D95 |
|------------------------------------|--------------------------------|-------------|
| a                                  |                                | 85          |
| b1                                 | with LAD 4BB3                  | –           |
| with LA4 DF, DT                    | –                              |             |
| c                                  | without cover or add-on blocks | 181         |
| with cover, without add-on blocks  | 186                            |             |
| c1                                 | with LAD N (1 contact)         | 204         |
| with LAD N or C (2 or 4 contacts)  | 210                            |             |
| c2                                 | with LA6 DK10                  | 221         |
| c3                                 | with LAD T, R, S               | 229         |
| with LAD T, R, S and sealing cover | 233                            |             |

Wiring

