



## Main

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|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range                                  | TeSys                                                                                                                                                                                                                                                                   |
| Product name                           | TeSys D                                                                                                                                                                                                                                                                 |
| Product or component type              | Star delta starter                                                                                                                                                                                                                                                      |
| Device short name                      | LC3D                                                                                                                                                                                                                                                                    |
| Contactor application                  | Motor control                                                                                                                                                                                                                                                           |
| Utilisation category                   | AC-3                                                                                                                                                                                                                                                                    |
| Device presentation                    | Pre-wired                                                                                                                                                                                                                                                               |
| Poles description                      | 3 x 3P                                                                                                                                                                                                                                                                  |
| Power pole contact composition         | 3 x 3 NO                                                                                                                                                                                                                                                                |
| [Ue] rated operational voltage         | Power circuit: ≤ 690 V AC 25...400 Hz                                                                                                                                                                                                                                   |
| [Ie] rated operational current         | 18 A (at ≤60 °C) at ≤ 440 V AC AC-3 for power circuit                                                                                                                                                                                                                   |
| Motor power kW                         | 11 kW at 220/230 V AC 50/60 Hz<br>22 kW at 415 V AC 50/60 Hz<br>22 kW at 440 V AC 50/60 Hz<br>18.5 kW at 380/400 V AC 50/60 Hz                                                                                                                                          |
| Control circuit type                   | AC at 50/60 Hz                                                                                                                                                                                                                                                          |
| [Uc] control circuit voltage           | 48 V AC 50/60 Hz                                                                                                                                                                                                                                                        |
| Auxiliary contact composition          | 1 NC for KM1 star contactor                                                                                                                                                                                                                                             |
| [Uimp] rated impulse withstand voltage | 6 kV conforming to IEC 60947                                                                                                                                                                                                                                            |
| Overvoltage category                   | III                                                                                                                                                                                                                                                                     |
| [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                  | 1.65 Mcycles 18 A AC-3 at Ue ≤ 440 V                                                                                                                                                                                                                                    |
| Safety cover                           | Protective cover                                                                                                                                                                                                                                                        |
| Interlocking type                      | Mechanical                                                                                                                                                                                                                                                              |
| Mounting support                       | Plate                                                                                                                                                                                                                                                                   |

|                        |                                                                                             |
|------------------------|---------------------------------------------------------------------------------------------|
| Standards              | CSA C22.2 No 14<br>EN 60947-4-1<br>IEC 60947-5-1<br>EN 60947-5-1<br>UL 508<br>IEC 60947-4-1 |
| Product certifications | CSA<br>LROS (Lloyds register of shipping)<br>RINA<br>BV<br>DNV<br>GOST<br>GL<br>UL<br>CCC   |

## Complementary

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connections - terminals         | Control circuit: screw clamp terminals 1 1...4 mm <sup>2</sup> - cable stiffness: flexible without cable end<br>Control circuit: screw clamp terminals 2 1...4 mm <sup>2</sup> - cable stiffness: flexible without cable end<br>Control circuit: screw clamp terminals 1 1...4 mm <sup>2</sup> - cable stiffness: flexible with cable end<br>Control circuit: screw clamp terminals 2 1...2.5 mm <sup>2</sup> - cable stiffness: flexible with cable end<br>Control circuit: screw clamp terminals 1 1...4 mm <sup>2</sup> - cable stiffness: solid without cable end<br>Control circuit: screw clamp terminals 2 1...4 mm <sup>2</sup> - cable stiffness: solid without cable end<br>Power circuit: screw clamp terminals 1 1.5...6 mm <sup>2</sup> - cable stiffness: flexible without cable end<br>Power circuit: screw clamp terminals 2 1.5...6 mm <sup>2</sup> - cable stiffness: flexible without cable end<br>Power circuit: screw clamp terminals 1 1...6 mm <sup>2</sup> - cable stiffness: flexible with cable end<br>Power circuit: screw clamp terminals 2 1...4 mm <sup>2</sup> - cable stiffness: flexible with cable end<br>Power circuit: screw clamp terminals 1 1.5...6 mm <sup>2</sup> - cable stiffness: solid without cable end<br>Power circuit: screw clamp terminals 2 1.5...6 mm <sup>2</sup> - cable stiffness: 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Maximum operating rate          | 30 cyc/h 60 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Starting time                   | 30 s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Coil technology                 | Without built-in suppressor module                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Control circuit voltage limits  | Drop-out: 0.3...0.6 U <sub>c</sub> at 50/60 Hz (at <60 °C)<br>Operational: 0.8...1.1 U <sub>c</sub> at 50 Hz (at <60 °C)<br>Operational: 0.85...1.1 U <sub>c</sub> at 60 Hz (at <60 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 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         | Mechanically linked conforming to IEC 60947-5-1 3 x 1 NO + 1 NC<br>Mirror contact conforming to IEC 60947-4-1 3 x 1 NC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Width                           | 144 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Height                          | 124 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Depth                           | 143 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Net weight                      | 1.73 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## Environment

|                                     |                                         |
|-------------------------------------|-----------------------------------------|
| Insulation resistance               | > 10 MOhm for signalling circuit        |
| 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 storage | -60...80 °C                             |

|                                       |                                                                                                                                                                                    |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ambient air temperature for operation | -40...70 °C at Uc                                                                                                                                                                  |
| Operating altitude                    | 3000 m without                                                                                                                                                                     |
| 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 |

### 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>                                                                                      |
| 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 |

### Contractual warranty

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