





## Main

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|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range                                       | TeSys                                                                                                                                                                                                                                                                                   |
| Product name                                | TeSys D                                                                                                                                                                                                                                                                                 |
| Product or component type                   | Reversing contactor                                                                                                                                                                                                                                                                     |
| Device short name                           | LC2D                                                                                                                                                                                                                                                                                    |
| Contactor application                       | Motor control<br>Resistive load                                                                                                                                                                                                                                                         |
| Utilisation category                        | AC-3<br>AC-1                                                                                                                                                                                                                                                                            |
| Device presentation                         | Preassembled with reversing power busbar                                                                                                                                                                                                                                                |
| Poles description                           | 3P                                                                                                                                                                                                                                                                                      |
| Power pole contact composition              | 3 NO                                                                                                                                                                                                                                                                                    |
| [Ue] rated operational voltage              | Power circuit: ≤ 1000 V AC 25...400 Hz<br>Power circuit: ≤ 300 V DC                                                                                                                                                                                                                     |
| [Ie] rated operational current              | 200 A (at <60 °C) at ≤ 440 V AC AC-1 for power circuit<br>115 A (at <60 °C) at ≤ 440 V AC AC-3 for power circuit                                                                                                                                                                        |
| Motor power kW                              | 30 kW at 220...230 V AC 50 Hz<br>55 kW at 380...400 V AC 50 Hz<br>59 kW at 415...440 V AC 50 Hz<br>75 kW at 500 V AC 50 Hz<br>80 kW at 660...690 V AC 50 Hz<br>65 kW at 1000 V AC 50 Hz                                                                                                 |
| Motor power HP (UL / CSA)                   | 30 Hp at 200/208 V AC 60 Hz for 3 phases motors<br>40 Hp at 230/240 V AC 60 Hz for 3 phases motors<br>75 Hp at 460/480 V AC 60 Hz for 3 phases motors<br>100 hp at 575/600 V AC 60 Hz for 3 phases motors                                                                               |
| Control circuit type                        | AC at 50/60 Hz                                                                                                                                                                                                                                                                          |
| [Uc] control circuit voltage                | 48 V AC 50/60 Hz                                                                                                                                                                                                                                                                        |
| Auxiliary contact composition               | 1 NO + 1 NC                                                                                                                                                                                                                                                                             |
| [Uimp] rated impulse withstand voltage      | 8 kV conforming to IEC 60947                                                                                                                                                                                                                                                            |
| Overvoltage category                        | III                                                                                                                                                                                                                                                                                     |
| [Ith] conventional free air thermal current | 200 A (at 60 °C) for power circuit                                                                                                                                                                                                                                                      |
| Irms rated making capacity                  | 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<br>1260 A at 440 V for power circuit conforming to IEC 60947                                                                                                 |
| Rated breaking capacity                     | 1100 A at 440 V for power circuit conforming to IEC 60947                                                                                                                                                                                                                               |
| [Icw] rated short-time withstand current    | 250 A 40 °C - 10 min for power circuit<br>550 A 40 °C - 1 min for power circuit<br>950 A 40 °C - 10 s for power circuit<br>1100 A 40 °C - 1 s 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>250 A gG at ≤ 690 V coordination type 1 for power circuit<br>200 A gG at ≤ 690 V coordination type 2 for power circuit                                                                                                    |
| Average impedance                           | 0.6 mOhm - Ith 200 A 50 Hz for power circuit                                                                                                                                                                                                                                            |

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|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [Ui] rated insulation voltage | 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<br>Power circuit: 1000 V conforming to IEC 60947-4-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Electrical durability         | 0.8 Mcycles 200 A AC-1 at $U_e \leq 440$ V<br>0.95 Mcycles 115 A AC-3 at $U_e \leq 440$ V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Power dissipation per pole    | 24 W AC-1<br>7.9 W AC-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Front cover                   | With                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Interlocking type             | Mechanical<br>Electrical                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Mounting support              | Rail<br>Plate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 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        | BV<br>CCC<br>CSA<br>DNV<br>GL<br>RINA<br>UL<br>EAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Connections - terminals       | Control circuit: screw clamp terminals 2 cable(s) 1...<br>2.5 mm <sup>2</sup> flexible with cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...<br>2.5 mm <sup>2</sup> flexible without cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1...<br>2.5 mm <sup>2</sup> flexible without cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...<br>2.5 mm <sup>2</sup> flexible with cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...<br>2.5 mm <sup>2</sup> solid without cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1...<br>2.5 mm <sup>2</sup> solid without cable end<br>Power circuit: connector 1 cable(s) 10...<br>120 mm <sup>2</sup> flexible without cable end<br>Power circuit: connector 2 cable(s) 10...<br>50 mm <sup>2</sup> flexible without cable end<br>Power circuit: connector 1 cable(s) 10...<br>120 mm <sup>2</sup> flexible with cable end<br>Power circuit: connector 2 cable(s) 10...<br>50 mm <sup>2</sup> flexible with cable end<br>Power circuit: connector 1 cable(s) 10...<br>120 mm <sup>2</sup> solid without cable end<br>Power circuit: connector 2 cable(s) 10...50 mm <sup>2</sup> solid<br>without cable end |
| Tightening torque             | Control circuit: 1.2 N.m - on screw clamp terminals -<br>with screwdriver flat Ø 6 mm<br>Control circuit: 1.2 N.m - on screw clamp terminals -<br>with screwdriver Philips No 2<br>Power circuit: 12 N.m - on connector hexagonal<br>screw head 4 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Operating time                | 20...50 ms closing<br>6...20 ms opening                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Safety reliability level      | B10d = 1369863 cycles contactor with nominal load<br>conforming to EN/ISO 13849-1<br>B10d = 20000000 cycles contactor with mechanical<br>load conforming to EN/ISO 13849-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Mechanical durability         | 8000000 cycles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Maximum operating rate        | 2400 cyc/h 60 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## Complementary

|                                 |                                                                                                                                                                                                |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Coil technology                 | Built-in bidirectional peak limiting diode suppressor                                                                                                                                          |
| Control circuit voltage limits  | 0.3...0.5 U <sub>c</sub> (-40...70 °C):drop-out AC 50/60 Hz<br>0.8...1.15 U <sub>c</sub> (-40...55 °C):operational AC 50/60 Hz<br>1...1.15 U <sub>c</sub> (55...70 °C):operational AC 50/60 Hz |
| Inrush power in VA              | 280...350 VA 60 Hz cos phi 0.8 (at 20 °C)<br>280...350 VA 50 Hz cos phi 0.8 (at 20 °C)                                                                                                         |
| Hold-in power consumption in VA | 2...18 VA (at 20 °C) cos phi 0.3 60 Hz<br>2...18 VA (at 20 °C) cos phi 0.3 50 Hz                                                                                                               |
| Heat dissipation                | 3...8 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                                                                                                                                           |
| 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 closed: 15 Gn for 11 ms<br>Shocks contactor open: 6 Gn for 11 ms |
| Height                                | 158 mm                                                                                                                                                                            |
| Width                                 | 266 mm                                                                                                                                                                            |
| Depth                                 | 148 mm                                                                                                                                                                            |
| Net weight                            | 6.35 kg                                                                                                                                                                           |

## Packing Units

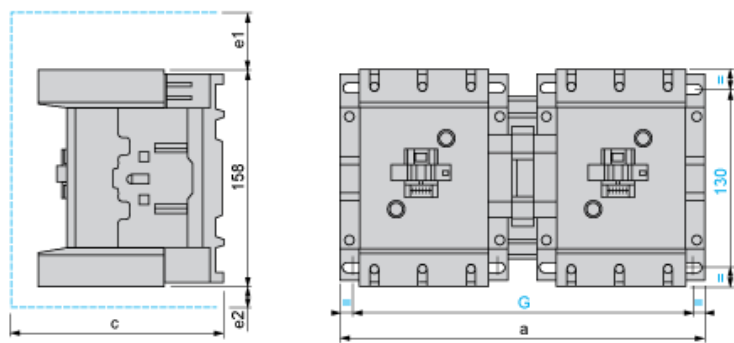
|                              |         |
|------------------------------|---------|
| Unit Type of Package 1       | PCE     |
| Number of Units in Package 1 | 1       |
| Package 1 Weight             | 6.5 kg  |
| Package 1 Height             | 23 cm   |
| Package 1 width              | 31.5 cm |
| Package 1 Length             | 37 cm   |

## Offer Sustainability

|                            |                                               |
|----------------------------|-----------------------------------------------|
| Sustainable offer status   | Green Premium product                         |
| REACH Regulation           | <a href="#">REACH Declaration</a>             |
| EU RoHS Directive          | Compliant <a href="#">EU RoHS Declaration</a> |
| 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 |
| PVC free                    | Yes                                                                                                                         |
| <b>Contractual warranty</b> |                                                                                                                             |
| Warranty                    | 18 months                                                                                                                   |

Dimensions



|                                  |     |     |    |    |         |
|----------------------------------|-----|-----|----|----|---------|
| LC2 or 2 x LC1                   | a   | c   | e1 | e2 | G       |
| D115 and D150                    | 266 | 148 | 56 | 18 | 242/256 |
| c, e1 and e2: including cabling. |     |     |    |    |         |

## Wiring

