



## Main

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|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range                                       | TeSys                                                                                                                                                                                                                                                                                         |
| Product name                                | TeSys D                                                                                                                                                                                                                                                                                       |
| Product or component type                   | Reversing contactor                                                                                                                                                                                                                                                                           |
| Device short name                           | LC2D                                                                                                                                                                                                                                                                                          |
| Contactors application                      | Motor control<br>Resistive load                                                                                                                                                                                                                                                               |
| Utilisation category                        | AC-1<br>AC-3                                                                                                                                                                                                                                                                                  |
| Device presentation                         | Preassembled with reversing power busbar                                                                                                                                                                                                                                                      |
| Poles description                           | 3P                                                                                                                                                                                                                                                                                            |
| Pole contact composition                    | 3 NO                                                                                                                                                                                                                                                                                          |
| System Voltage                              | <= 1000 V AC 25...400 Hz power circuit<br><= 300 V DC power circuit                                                                                                                                                                                                                           |
| [Ie] rated operational current              | 200 A (<= 140 °F (60 °C)) at <= 440 V AC AC-1 power circuit<br>115 A (<= 140 °F (60 °C)) at <= 440 V AC AC-3 power circuit                                                                                                                                                                    |
| Motor power kW                              | 30 kW at 220...230 V AC 50/60 Hz<br>55 kW at 380...400 V AC 50/60 Hz<br>65 kW at 1000 V AC 50/60 Hz<br>75 kW at 500 V AC 50/60 Hz<br>80 kW at 660...690 V AC 50/60 Hz<br>59 kW at 415...440 V AC 50/60 Hz                                                                                     |
| Motor power hp                              | 30 hp at 200/208 V AC 50/60 Hz 3 phases motors<br>40 hp at 230/240 V AC 50/60 Hz 3 phases motors<br>75 hp at 460/480 V AC 50/60 Hz 3 phases motors<br>100 hp at 575/600 V AC 50/60 Hz 3 phases motors                                                                                         |
| Control circuit type                        | AC 50/60 Hz                                                                                                                                                                                                                                                                                   |
| [Uc] control circuit voltage                | 24 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 <= 140 °F (60 °C) power circuit                                                                                                                                                                                                                                                      |
| Irms rated making capacity                  | 1260 A at 440 V power circuit conforming to IEC 60947<br>140 A AC signalling circuit conforming to IEC 60947-5-1<br>250 A DC signalling circuit conforming to IEC 60947-5-1                                                                                                                   |
| Rated breaking capacity                     | 1100 A at 440 V power circuit conforming to IEC 60947                                                                                                                                                                                                                                         |
| [Icw] rated short-time withstand current    | 1100 A <= 104 °F (40 °C) 1 s power circuit<br>100 A 1 s signalling circuit<br>120 A 500 ms signalling circuit<br>140 A 100 ms signalling circuit<br>250 A <= 104 °F (40 °C) 10 min power circuit<br>550 A <= 104 °F (40 °C) 1 min power circuit<br>950 A <= 104 °F (40 °C) 10 s power circuit |
| Associated fuse rating                      | 200 A gG at <= 690 V coordination type 2 power circuit<br>250 A gG at <= 690 V coordination type 1 power circuit<br>10 A gG signalling circuit conforming to IEC 60947-5-1                                                                                                                    |
| Average impedance                           | 0.6 mOhm at 50 Hz - Ith 200 A power circuit                                                                                                                                                                                                                                                   |
| [Ui] rated insulation voltage               | 1000 V power circuit conforming to IEC 60947-4-1                                                                                                                                                                                                                                              |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

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|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | 600 V power circuit certifications CSA<br>600 V power circuit certifications UL<br>690 V signalling circuit conforming to IEC 60947-1<br>600 V signalling circuit certifications CSA<br>600 V signalling circuit certifications UL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Electrical durability      | 0.95 Mcycles 115 A AC-3 <= 440 V<br>0.8 Mcycles 200 A AC-1 <= 440 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Power dissipation per pole | 24 W AC-1<br>7.9 W AC-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Protective cover           | With                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Interlocking type          | Electrical<br>Mechanical                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Mounting support           | Plate<br>Rail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Standards                  | UL 508<br>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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Product certifications     | UL<br>CSA<br>CCC<br>EAC<br>GL<br>BV<br>DNV<br>RINA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Connections - terminals    | Control circuit: screw clamp terminals 2 cable(s)<br>0...0 in <sup>2</sup> (1...2.5 mm <sup>2</sup> ) - cable stiffness: flexible - without cable end<br>Control circuit: screw clamp terminals 2 cable(s)<br>0...0 in <sup>2</sup> (1...2.5 mm <sup>2</sup> ) - cable stiffness: flexible - with cable end<br>Control circuit: screw clamp terminals 2 cable(s)<br>0...0 in <sup>2</sup> (1...2.5 mm <sup>2</sup> ) - cable stiffness: solid - without cable end<br>Control circuit: screw clamp terminals 1 cable(s)<br>0...0 in <sup>2</sup> (1...2.5 mm <sup>2</sup> ) - cable stiffness: flexible - with cable end<br>Control circuit: screw clamp terminals 1 cable(s)<br>0...0 in <sup>2</sup> (1...2.5 mm <sup>2</sup> ) - cable stiffness: flexible - without cable end<br>Control circuit: screw clamp terminals 1 cable(s)<br>0...0 in <sup>2</sup> (1...2.5 mm <sup>2</sup> ) - cable stiffness: solid - without cable end<br>Power circuit: connector 1 cable(s) 0.02...0.19 in <sup>2</sup><br>(10...120 mm <sup>2</sup> ) - cable stiffness: flexible - without cable end<br>Power circuit: connector 2 cable(s) 0.02...0.08 in <sup>2</sup><br>(10...50 mm <sup>2</sup> ) - cable stiffness: flexible - without cable end<br>Power circuit: connector 1 cable(s) 0.02...0.19 in <sup>2</sup><br>(10...120 mm <sup>2</sup> ) - cable stiffness: flexible - with cable end<br>Power circuit: connector 2 cable(s) 0.02...0.08 in <sup>2</sup><br>(10...50 mm <sup>2</sup> ) - cable stiffness: flexible - with cable end<br>Power circuit: connector 1 cable(s) 0.02...0.19 in <sup>2</sup><br>(10...120 mm <sup>2</sup> ) - cable stiffness: solid - without cable end<br>Power circuit: connector 2 cable(s) 0.02...0.08 in <sup>2</sup><br>(10...50 mm <sup>2</sup> ) - cable stiffness: solid - without cable end |
| Tightening torque          | Control circuit: 10.62 lbf.in (1.2 N.m) - on screw clamp terminals - with screwdriver flat Ø 6 mm<br>Control circuit: 10.62 lbf.in (1.2 N.m) - on screw clamp terminals - with screwdriver Philips No 2<br>Power circuit: 106.19 lbf.in (12 N.m) - on connector hexagonal 0.16 in (4 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Operating time             | 6...20 ms opening<br>20...50 ms closing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Safety reliability level   | B10d = 1369863 cycles contactor with nominal load conforming to EN/ISO 13849-1<br>B10d = 20000000 cycles contactor with                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|                       |                                              |
|-----------------------|----------------------------------------------|
|                       | mechanical load conforming to EN/ISO 13849-1 |
| Mechanical durability | 8000000 cycles                               |
| Operating rate        | 2400 cyc/h at ≤ 140 °F (60 °C)               |

## Complementary

|                                 |                                                                                                                                          |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Coil technology                 | Built-in bidirectional peak limiting diode suppressor                                                                                    |
| Control circuit voltage limits  | 0.3...0.5 U <sub>c</sub> drop-out at 131 °F (55 °C), AC 50/60 Hz<br>0.8...1.15 U <sub>c</sub> operational at 131 °F (55 °C), AC 50/60 Hz |
| Inrush power in VA              | 280...350 VA at 68 °F (20 °C) (cos φ 0.8) 60 Hz<br>280...350 VA at 68 °F (20 °C) (cos φ 0.8) 50 Hz                                       |
| Hold-in power consumption in VA | 2...18 VA at 68 °F (20 °C) (cos φ 0.3) 60 Hz<br>2...18 VA at 68 °F (20 °C) (cos φ 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 signalling circuit                                                                                                                  |
| Minimum switching voltage       | 17 V 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 signalling circuit                                                                                                             |

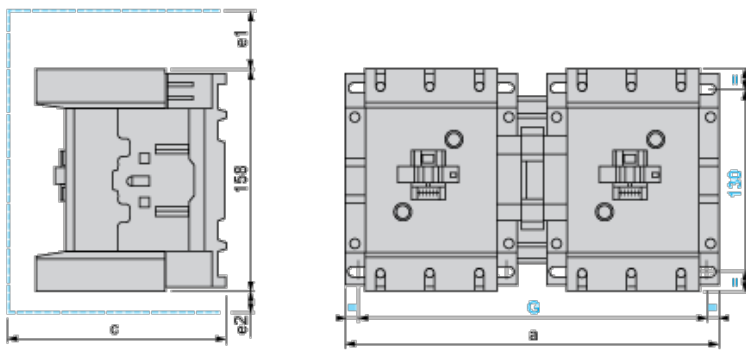
## Environment

|                                                       |                                                                                                                                                                               |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                 | 23...140 °F (-5...60 °C)                                                                                                                                                      |
| ambient air temperature for storage                   | -76...176 °F (-60...80 °C)                                                                                                                                                    |
| permissible ambient air temperature around the device | -40...158 °F (-40...70 °C) at U <sub>c</sub>                                                                                                                                  |
| operating altitude                                    | 9842.52 ft (3000 m) without derating in temperature                                                                                                                           |
| fire resistance                                       | 1562 °F (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                                                | 6.22 in (158 mm)                                                                                                                                                              |
| width                                                 | 10.47 in (266 mm)                                                                                                                                                             |
| depth                                                 | 5.83 in (148 mm)                                                                                                                                                              |
| product weight                                        | 14 lb(US) (6.35 kg)                                                                                                                                                           |

## Contractual warranty

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

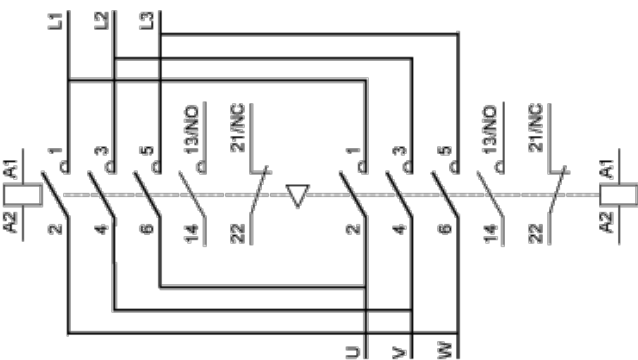
## Dimensions



| 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



### Our Proposal - Type 1 : Circuit Breaker + Contactor for Motor Power 55 kW and 415 VAC

| Motor Power (kW) | Icu (kA) | Breaker                                                                                         | Contactor                                                                                        |
|------------------|----------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| 55               | 35       | <br>GV7RE150 | <br>LC2D115B7 |

Non contractual pictures. Type 1 coordination requires that in a short-circuit condition, the contactor or starter must not present any danger to personnel or installations and must not be able to resume operation without repair or the replacement of parts.