# **Product datasheet**

Specification





# TeSys D reversing contactor - 3P(3 NO) - AC-3 - <= 440 V 9 A - 24 V DC coil

Local distributor code: 389755461

LC2D09BDV

EAN Code: 3389110413472

#### Main

| Mani   |   |
|--|---|
| Range  | TeSys<br>TeSys Deca   |
| Product Name                                   | TeSys D<br>TeSys Deca   |
| Product Or Component Type                      | Reversing contactor   |
| Device Short Name                              | LC2D  |
| Contactor Application                          | Resistive load<br>Motor control   |
| Utilisation Category                           | AC-1<br>AC-3  |
| Device Presentation                            | Preassembled with reversing power busbar  |
| Poles Description                              | 3P  |
| Power Pole Contact Composition                 | 3 NO  |
| [Ue] Rated Operational Voltage                 | Power circuit: <= 690 V AC 25400 Hz<br>Power circuit: <= 300 V DC   |
| [le] Rated Operational Current                 | 9 A (at <60 °C) at <= 440 V AC AC-3 for power circuit<br>25 A (at <60 °C) at <= 440 V AC AC-1 for power circuit   |
| Motor Power Kw                                 | 2.2 kW at 220230 V AC 50 Hz<br>4 kW at 380400 V AC 50 Hz<br>4 kW at 415440 V AC 50 Hz<br>5.5 kW at 500 V AC 50 Hz<br>5.5 kW at 660690 V AC 50 Hz  |
| Motor Power Hp (UI / Csa)                      | 0.5 hp at 115 V AC 60 Hz for 1 phase motors 1 hp at 230/240 V AC 60 Hz for 1 phase motors 2 hp at 200/208 V AC 60 Hz for 3 phases motors 2 hp at 230/240 V AC 60 Hz for 3 phases motors 5 hp at 460/480 V AC 60 Hz for 3 phases motors 7.5 hp at 575/600 V AC 60 Hz for 3 phases motors |
| Control Circuit Type                           | DC standard   |
| [Uc] Control Circuit Voltage                   | 24 V DC   |
| Auxiliary Contact Composition                  | 1 NO + 1 NC   |
| [Uimp] Rated Impulse Withstand Voltage         | 6 kV conforming to IEC 60947  |
| Overvoltage Category                           | III   |
| [Ith] Conventional Free Air<br>Thermal Current | 10 A (at 60 °C) for signalling circuit<br>25 A (at 60 °C) for power circuit   |
| Irms Rated Making Capacity                     | 250 A at 440 V for power circuit conforming to IEC 60947 140 A AC for signalling circuit conforming to IEC 60947-5-1 250 A DC for signalling circuit conforming to IEC 60947-5-1  |
| Rated Breaking Capacity                        | 250 A at 440 V for power circuit conforming to IEC 60947  |

| [Icw] Rated Short-Time Withstand<br>Current | 30 A 40 °C - 10 min for power circuit 61 A 40 °C - 1 min for power circuit 105 A 40 °C - 10 s for power circuit 210 A 40 °C - 1 s for power circuit 100 A - 1 s for signalling circuit 120 A - 500 ms for signalling circuit   |
|---|--|
|   | 140 A - 100 ms for signalling circuit  |
| Associated Fuse Rating                      | 25 A gG at <= 690 V coordination type 1 for power circuit 20 A gG at <= 690 V coordination type 2 for power circuit 10 A gG for signalling circuit conforming to IEC 60947-5-1   |
| Average Impedance                           | 2.5 mOhm - Ith 25 A 50 Hz for power circuit  |
| [Ui] Rated Insulation Voltage               | Power circuit: 690 V conforming to IEC 60947-4-1 Power circuit: 600 V CSA certified Power circuit: 600 V UL certified Signalling circuit: 690 V conforming to IEC 60947-1 Signalling circuit: 600 V CSA certified Signalling circuit: 600 V UL certified   |
| Electrical Durability                       | 0.6 Mcycles 25 A AC-1 at Ue <= 440 V<br>2 Mcycles 9 A AC-3 at Ue <= 440 V  |
| Power Dissipation Per Pole                  | 0.2 W AC-3<br>1.56 W AC-1  |
| Front Cover                                 | With   |
| Interlocking Type                           | Electrical and mechanical  |
| Mounting Support                            | Rail<br>Plate  |
| Standards                                   | CSA C22.2 No 14 EN 60947-4-1 EN 60947-5-1 IEC 60947-4-1 IEC 60947-5-1 UL 508 IEC 60335-1   |
| Product Certifications                      | DNV CSA CCC UL GL LROS (Lloyds register of shipping) BV RINA GOST UKCA   |
| Connections - Terminals                     | Power circuit: screw clamp terminals 1 cable(s) 14 mm²flexible without cable end Power circuit: screw clamp terminals 2 cable(s) 14 mm²flexible without cable end Power circuit: screw clamp terminals 1 cable(s) 14 mm²flexible with cable end Power circuit: screw clamp terminals 2 cable(s) 12.5 mm²flexible with cable end Power circuit: screw clamp terminals 1 cable(s) 14 mm²solid Power circuit: screw clamp terminals 2 cable(s) 14 mm²flexible without cable end Control circuit: screw clamp terminals 1 cable(s) 14 mm²flexible without cable end Control circuit: screw clamp terminals 2 cable(s) 14 mm²flexible without cable end Control circuit: screw clamp terminals 1 cable(s) 14 mm²flexible with cable end Control circuit: screw clamp terminals 2 cable(s) 12.5 mm²flexible with cable end Control circuit: screw clamp terminals 1 cable(s) 14 mm²solid Control circuit: screw clamp terminals 2 cable(s) 14 mm²solid |
| Tightening Torque                           | Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver Philips No 2 Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver Philips No 2 Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver pozidriv No 2 Power circuit: 2.5 N.m - on screw clamp terminals - with screwdriver pozidriv No 2  |
| Operating Time                              | 53.5572.45 ms closing<br>1624 ms opening   |
| 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<br>13849-1  |

| Mechanical Durability  | 30 Mcycles       |
|------------------------|------------------|
| Maximum Operating Rate | 3600 cvc/h 60 °C |

# Complementary

| Coil Technology                | Built-in bidirectional peak limiting diode suppressor   |
|--------------------------------|---|
| Control Circuit Voltage Limits | 0.10.25 Uc (-4070 °C):drop-out DC<br>0.71.25 Uc (-4060 °C):operational DC<br>11.25 Uc (6070 °C):operational DC        |
| Time Constant                  | 28 ms   |
| Inrush Power In W              | 5.4 W (at 20 °C)  |
| Hold-In Power Consumption In W | 5.4 W at 20 °C  |
| Auxiliary Contacts Type        | type mechanically linked 1 NO + 1 NC conforming to IEC 60947-5-1 type mirror contact 1 NC conforming to IEC 60947-4-1 |
| Signalling Circuit Frequency   | 25400 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 1.5 ms on energisation between NC and NO contact                  |
| Insulation Resistance          | > 10 MOhm for signalling circuit  |

### **Environment**

| Ip Degree Of Protection               | IP20 front face conforming to IEC 60529  |
|---------------------------------------|--|
| Climatic Withstand                    | conforming to IACS E10 conforming to IEC 60947-1 Annex Q category D  |
| Protective Treatment                  | TH conforming to IEC 60068-2-30  |
| Pollution Degree                      | 3  |
| Ambient Air Temperature For Operation | -4060 °C<br>6070 °C with derating  |
| Ambient Air Temperature For Storage   | -6080 °C   |
| Operating Altitude                    | 03000 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, 5300 Hz<br>Vibrations contactor closed: 4 Gn, 5300 Hz<br>Shocks contactor open: 10 Gn for 11 ms<br>Shocks contactor closed: 15 Gn for 11 ms |
| Height                                | 77 mm  |
| Width                                 | 90 mm  |
| Depth                                 | 95 mm  |
| Net Weight                            | 1.017 kg   |

## **Packing Units**

| Unit Type Of Package 1       | PCE     |
|------------------------------|---------|
| Number Of Units In Package 1 | 1       |
| Package 1 Height             | 9.4 cm  |
| Package 1 Width              | 11.4 cm |

| Package 1 Length | 11.0 cm |  |
|------------------|---------|--|
| Package 1 Weight | 1.08 ka |  |

## **Contractual warranty**

Warranty 18 months



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Transparency RoHS/REACh

#### Well-being performance

| <b>⊘</b> | Reach Free Of Svhc             |
|----------|--------------------------------|
| <b>②</b> | Toxic Heavy Metal Free         |
| <b>⊘</b> | Mercury Free                   |
| <b>⊘</b> | Rohs Exemption Information Yes |
| <b>②</b> | Pvc Free                       |

#### **Certifications & Standards**

| Reach Regulation         | REACh Declaration   |
|--------------------------|---|
| Eu Rohs Directive        | Compliant EU RoHS Declaration   |
| China Rohs Regulation    | China RoHS declaration Pro-active China RoHS declaration (out of China RoHS legal scope)                                    |
| Environmental Disclosure | Product Environmental Profile   |
| Weee                     | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
| Circularity Profile      | End of Life Information   |