

# LP2K0910SD3

TeSys K reversing contactor - 3P(3 NO) - AC-3  
- ≤ 440 V 9 A - 72 V DC coil



## Main

|                                             |                                                                                                                                                                                                                                                                                                                                                         |
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| Range                                       | TeSys                                                                                                                                                                                                                                                                                                                                                   |
| Product name                                | TeSys K                                                                                                                                                                                                                                                                                                                                                 |
| Product or component type                   | Reversing contactor                                                                                                                                                                                                                                                                                                                                     |
| Device short name                           | LP2K                                                                                                                                                                                                                                                                                                                                                    |
| Contactor application                       | Motor control<br>Resistive load                                                                                                                                                                                                                                                                                                                         |
| Utilisation category                        | AC-1<br>AC-3<br>AC-4                                                                                                                                                                                                                                                                                                                                    |
| Device presentation                         | Preamsembled with reversing power busbar                                                                                                                                                                                                                                                                                                                |
| Poles description                           | 3P                                                                                                                                                                                                                                                                                                                                                      |
| Power pole contact composition              | 3 NO                                                                                                                                                                                                                                                                                                                                                    |
| [Ue] rated operational voltage              | ≤ 690 V AC 50/60 Hz for signalling circuit<br>690 V AC 50/60 Hz for power circuit                                                                                                                                                                                                                                                                       |
| [Ie] rated operational current              | 16 A (≤ 70 °C) at 690 V AC AC-1 for power circuit<br>20 A (≤ 50 °C) at ≤ 440 V AC AC-1 for power circuit<br>9 A at ≤ 440 V AC AC-3 for power circuit                                                                                                                                                                                                    |
| Motor power kW                              | 4 kW at 660...690 V AC 50/60 Hz<br>4 kW at 500...600 V AC 50/60 Hz<br>4 kW at 480 V AC 50/60 Hz<br>4 kW at 440 V AC 50/60 Hz<br>4 kW at 380...415 V AC 50/60 Hz<br>2.2 kW at 220...230 V AC 50/60 Hz                                                                                                                                                    |
| Control circuit type                        | DC standard                                                                                                                                                                                                                                                                                                                                             |
| Control circuit voltage                     | 72 V DC                                                                                                                                                                                                                                                                                                                                                 |
| Auxiliary contact composition               | 1 NO                                                                                                                                                                                                                                                                                                                                                    |
| [Uimp] rated impulse withstand voltage      | 8 kV                                                                                                                                                                                                                                                                                                                                                    |
| Overvoltage category                        | III                                                                                                                                                                                                                                                                                                                                                     |
| [Ith] conventional free air thermal current | 10 A at ≤ 50 °C for signalling circuit<br>20 A at ≤ 50 °C for power circuit                                                                                                                                                                                                                                                                             |
| Irms rated making capacity                  | 110 A AC for signalling circuit conforming to IEC 60947<br>110 A AC for power circuit conforming to IEC 60947<br>110 A AC for power circuit conforming to NF C 63-110                                                                                                                                                                                   |
| Rated breaking capacity                     | 70 A at 660...690 V conforming to IEC 60947<br>110 A at 380...400 V conforming to IEC 60947<br>110 A at 220...230 V conforming to IEC 60947<br>80 A at 500 V conforming to IEC 60947<br>110 A at 440 V conforming to IEC 60947<br>110 A at 415 V conforming to IEC 60947                                                                                |
| [Icw] rated short-time withstand current    | 20 A ≤ 50 °C ≥ 15 s power circuit<br>110 A 100 ms signalling circuit<br>90 A 500 ms signalling circuit<br>80 A 1 s signalling circuit<br>40 A ≤ 50 °C 3 min power circuit<br>45 A ≤ 50 °C 1 min power circuit<br>60 A ≤ 50 °C 30 s power circuit<br>80 A ≤ 50 °C 10 s power circuit<br>85 A ≤ 50 °C 5 s power circuit<br>90 A ≤ 50 °C 1 s power circuit |

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| Associated fuse rating        | 10 A gG for signalling circuit conforming to VDE 0660<br>10 A gG for signalling circuit conforming to IEC 60947<br>25 A aM for power circuit<br>25 A gG at ≤ 440 V for power circuit                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Average impedance             | 3 mOhm at 50 Hz - lth 20 A for power circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| [Ui] rated insulation voltage | 600 V for signalling circuit conforming to CSA C22.2 No 14<br>600 V for power circuit conforming to CSA C22.2 No 14<br>600 V for signalling circuit conforming to UL 508<br>690 V for signalling circuit conforming to IEC 60947-5-1<br>690 V for signalling circuit conforming to IEC 60947-4-1<br>690 V for power circuit conforming to IEC 60947-4-1<br>600 V for power circuit conforming to UL 508                                                                                                                                                                                                                  |
| Electrical durability         | 1.3 Mcycles 9 A AC-3 at Ue ≤ 440 V<br>0.18 Mcycles 20 A AC-1 at Ue ≤ 440 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Interlocking type             | Mechanical                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Mounting support              | Plate<br>Rail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Standards                     | BS 5424<br>IEC 60947<br>NF C 63-110<br>VDE 0660                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Product certifications        | CSA<br>UL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Connections - terminals       | Screw clamp terminals 2 cable(s) 0.34...1.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Screw clamp terminals 2 cable(s) 0.75...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Screw clamp terminals 2 cable(s) 1.5...4 mm <sup>2</sup> - cable stiffness: solid<br>Screw clamp terminals 1 cable(s) 0.34...2.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Screw clamp terminals 1 cable(s) 0.75...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Screw clamp terminals 1 cable(s) 1.5...4 mm <sup>2</sup> - cable stiffness: solid |
| Tightening torque             | 1.3 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm<br>1.3 N.m - on screw clamp terminals - with screwdriver Philips No 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Operating time                | 10 ms coil de-energisation and NO opening<br>30...40 ms coil energisation and NO closing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Safety reliability level      | B10d = 20000000 cycles contactor with mechanical load conforming to EN/ISO 13849-1<br>B10d = 1369863 cycles contactor with nominal load conforming to EN/ISO 13849-1                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Mechanical durability         | 5 Mcycles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Operating rate                | 3600 cyc/h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## Complementary

|                                |                                                                           |
|--------------------------------|---------------------------------------------------------------------------|
| Coil technology                | Built-in bidirectional peak limiting diode suppressor                     |
| Control circuit voltage limits | 0.1...0.75 Uc at ≤ 50 °C drop-out<br>0.8...1.15 Uc at ≤ 50 °C operational |
| Inrush power in W              | 3 W at 20 °C                                                              |
| Hold-in power consumption in W | 3 W at 20 °C                                                              |
| Heat dissipation               | 3 W                                                                       |
| Auxiliary contacts type        | Type instantaneous 1 NO                                                   |
| Minimum switching current      | 5 mA for signalling circuit                                               |
| Minimum switching voltage      | 17 V for signalling circuit                                               |
| Non overlap distance           | 0.5 mm                                                                    |
| Insulation resistance          | > 10 MOhm for signalling circuit                                          |

## Environment

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| IP degree of protection               | IP2x conforming to VDE 0106                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Protective treatment                  | TC conforming to DIN 50016<br>TC conforming to IEC 60068                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Ambient air temperature for operation | -25...50 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Ambient air temperature for storage   | -50...80 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Operating altitude                    | 2000 m without derating in temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Flame retardance                      | Requirement 2 conforming to NF F 16-102<br>Requirement 2 conforming to NF F 16-101<br>V1 conforming to UL 94                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Mechanical robustness                 | Shocks contactor closed, on Y axis 10 Gn for 11 ms IEC 60068-2-27<br>Shocks contactor closed, on X axis 15 Gn for 11 ms IEC 60068-2-27<br>Shocks contactor opened, on Y axis 6 Gn for 11 ms IEC 60068-2-27<br>Shocks contactor opened, on X axis 10 Gn for 11 ms IEC 60068-2-27<br>Vibrations contactor opened 2 Gn, 5...300 Hz IEC 60068-2-6<br>Vibrations contactor closed 4 Gn, 5...300 Hz IEC 60068-2-6<br>Shocks contactor opened, on Z axis 10 Gn for 11 ms IEC 60068-2-27<br>Shocks contactor closed, on Z axis 15 Gn for 11 ms IEC 60068-2-27 |
| Height                                | 58 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Width                                 | 90 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Depth                                 | 57 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Product weight                        | 0.48 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |