

# LP1K12004MD3

TeSys K contactor - 4P(4 NO) - AC-1 - ≤ 440 V 20 A - 220 V DC coil



## Main

|                                             |                                                                                                                                                                                                                                                        |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range                                       | TeSys                                                                                                                                                                                                                                                  |
| Product name                                | TeSys K                                                                                                                                                                                                                                                |
| Product or component type                   | Contactor                                                                                                                                                                                                                                              |
| Device short name                           | LP1K                                                                                                                                                                                                                                                   |
| Contactor application                       | Resistive load                                                                                                                                                                                                                                         |
| Utilisation category                        | AC-1                                                                                                                                                                                                                                                   |
| Poles description                           | 4P                                                                                                                                                                                                                                                     |
| Power pole contact composition              | 4 NO                                                                                                                                                                                                                                                   |
| [Ue] rated operational voltage              | 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                                                                                                                                               |
| Control circuit type                        | DC standard                                                                                                                                                                                                                                            |
| Control circuit voltage                     | 220 V DC                                                                                                                                                                                                                                               |
| [Uimp] rated impulse withstand voltage      | 8 kV                                                                                                                                                                                                                                                   |
| Overvoltage category                        | III                                                                                                                                                                                                                                                    |
| [Ith] conventional free air thermal current | 20 A at ≤ 50 °C for power circuit                                                                                                                                                                                                                      |
| Irms rated making capacity                  | 144 A AC for power circuit conforming to IEC 60947<br>144 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>80 A at 500 V conforming to IEC 60947<br>110 A at 440 V conforming to IEC 60947                                                                                                                         |
| [Icw] rated short-time withstand current    | 25 A ≤ 50 °C ≥ 15 s power circuit<br>50 A ≤ 50 °C 3 min power circuit<br>55 A ≤ 50 °C 1 min power circuit<br>75 A ≤ 50 °C 30 s power circuit<br>100 A ≤ 50 °C 10 s power circuit<br>105 A ≤ 50 °C 5 s power circuit<br>115 A ≤ 50 °C 1 s power circuit |
| Associated fuse rating                      | 25 A aM for power circuit<br>25 A gG at ≤ 440 V for power circuit                                                                                                                                                                                      |
| Average impedance                           | 3 mOhm at 50 Hz - Ith 20 A for power circuit                                                                                                                                                                                                           |
| [Ui] rated insulation voltage               | 600 V for power circuit conforming to CSA C22.2 No 14<br>690 V for power circuit conforming to IEC 60947-4-1<br>600 V for power circuit conforming to UL 508                                                                                           |
| Electrical durability                       | 0.3 Mcycles 20 A AC-1 at Ue ≤ 440 V                                                                                                                                                                                                                    |
| Mounting support                            | Plate<br>Rail                                                                                                                                                                                                                                          |
| Standards                                   | BS 5424<br>IEC 60947<br>NF C 63-110<br>VDE 0660                                                                                                                                                                                                        |
| Product certifications                      | CSA<br>UL                                                                                                                                                                                                                                              |

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| 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    | 10 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                                                                       |

## Environment

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                                 | 45 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Depth                                 | 57 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Product weight                        | 0.225 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |