

# LP4K12015EW3

TeSys K contactor - 3P(3 NO) - AC-3 - ≤ 440 V 12 A - 48 V DC coil



## Main

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| Range                                       | TeSys                                                                                                                                                                                                                                                                                                                                                      |
| Product name                                | TeSys K                                                                                                                                                                                                                                                                                                                                                    |
| Product or component type                   | Contactor                                                                                                                                                                                                                                                                                                                                                  |
| Device short name                           | LP4K                                                                                                                                                                                                                                                                                                                                                       |
| Contactor application                       | Motor control<br>Resistive load                                                                                                                                                                                                                                                                                                                            |
| Utilisation category                        | AC-1<br>AC-3<br>AC-4                                                                                                                                                                                                                                                                                                                                       |
| 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              | 12 A at ≤ 440 V AC AC-3 for power circuit<br>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                                                                                                                                                                                                      |
| Motor power kW                              | 5.5 kW at 440 V AC 50/60 Hz<br>5.5 kW at 380...415 V AC 50/60 Hz<br>3 kW at 220...230 V AC 50/60 Hz<br>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                                                                                                                                                     |
| Control circuit type                        | DC low consumption                                                                                                                                                                                                                                                                                                                                         |
| Control circuit voltage                     | 48 V DC                                                                                                                                                                                                                                                                                                                                                    |
| Auxiliary contact composition               | 1 NC                                                                                                                                                                                                                                                                                                                                                       |
| [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                  | 144 A AC for power circuit conforming to IEC 60947<br>144 A AC for power circuit conforming to NF C 63-110<br>110 A AC for signalling circuit conforming to IEC 60947                                                                                                                                                                                      |
| 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<br>110 A 100 ms signalling circuit<br>90 A 500 ms signalling circuit<br>80 A 1 s signalling circuit |
| 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 - Ith 20 A for power circuit                                                                                                                                                                                                                                                                                                               |

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| [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 12 A AC-3 at $U_e \leq 440$ V<br>0.3 Mcycles 20 A AC-1 at $U_e \leq 440$ V                                                                                                                                                                                                                                                                                                                  |
| Mounting support              | Printed circuit boards                                                                                                                                                                                                                                                                                                                                                                                  |
| Standards                     | BS 5424<br>IEC 60947<br>NF C 63-110<br>VDE 0660                                                                                                                                                                                                                                                                                                                                                         |
| Product certifications        | CSA<br>UL                                                                                                                                                                                                                                                                                                                                                                                               |
| Connections - terminals       | Solder pins 1.5 x 0.9 mm                                                                                                                                                                                                                                                                                                                                                                                |
| Operating time                | 30...40 ms coil energisation and NO closing<br>10...20 ms coil de-energisation and NO opening                                                                                                                                                                                                                                                                                                           |
| 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         | 30 Mcycles                                                                                                                                                                                                                                                                                                                                                                                              |
| Operating rate                | 3600 cyc/h                                                                                                                                                                                                                                                                                                                                                                                              |

## Complementary

|                                |                                                                                          |
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| Coil technology                | Built-in bidirectional peak limiting diode suppressor                                    |
| Control circuit voltage limits | 0.1...0.7 $U_c$ at $\leq 50$ °C drop-out<br>0.7...1.30 $U_c$ at $\leq 50$ °C operational |
| Inrush power in W              | 1.8 W at 20 °C                                                                           |
| Hold-in power consumption in W | 1.8 W at 20 °C                                                                           |
| Heat dissipation               | 1.8 W                                                                                    |
| Auxiliary contacts type        | Type instantaneous (1 NC)                                                                |
| 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                                 | 45 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Depth                                 | 57 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Product weight                        | 0.235 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |