

# LC1K0910J7

TeSys K contactor - 3P(3 NO) - AC-3 - <= 440 V 9 A - 12 V AC coil



## Main

|   |   |
|---|---|
| Range of product                            | TeSys K   |
| Product or component type                   | Contactor   |
| Device short name                           | LC1K  |
| 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              | 9 A AC AC-3 for power circuit at <= 440 V<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                              | 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                        | AC 50/60 Hz   |
| Control circuit voltage                     | 12 V AC 50/60 Hz  |
| 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 |
| 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 aM for power circuit<br>25 A gG at <= 440 V for power circuit   |

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|                               |  |
|-------------------------------|--|
| Average impedance             | 3 mOhm at 50 Hz - Ith 20 A for power circuit   |
| [Ui] rated insulation voltage | 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 signalling circuit conforming to CSA 22-2 No 14<br>600 V for power circuit conforming to CSA 22-2 No 14<br>600 V for power circuit conforming to UL 508  |
| Electrical durability         | 1.3 Mcycles 9 A AC-3 at $U_e \leq 440$ V<br>0.18 Mcycles 20 A AC-1 at $U_e \leq 440$ 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  |
| 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...20 ms coil energisation and NO closing<br>10...20 ms coil de-energisation and NO opening  |
| Safety reliability level      | B10d = 2000000 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

|                                 |   |
|---------------------------------|---|
| Control circuit voltage limits  | 0.2...0.75 $U_c$ at $\leq 50$ °C drop-out<br>0.8...1.15 $U_c$ at $\leq 50$ °C operational |
| Inrush power in VA              | 30 VA at 20 °C  |
| Hold-in power consumption in VA | 4.5 VA at 20 °C   |
| Heat dissipation                | 1.3 W   |
| Auxiliary contacts type         | Type instantaneous (1 NO)   |
| Signalling circuit frequency    | $\leq 400$ Hz   |
| 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

|                                       |   |
|---------------------------------------|---|
| 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                 | 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 opened, on Y axis 10 Gn for 11 ms IEC 60068-2-27<br>Shocks contactor opened, on X axis 6 Gn for 11 ms IEC 60068-2-27<br>Shocks contactor closed, on Z axis 15 Gn for 11 ms IEC 60068-2-27<br>Shocks contactor closed, on Y axis 15 Gn for 11 ms IEC 60068-2-27<br>Shocks contactor closed, on X axis 10 Gn for 11 ms IEC 60068-2-27 |
| Height                                | 58 mm   |
| Width                                 | 45 mm   |
| Depth                                 | 57 mm   |
| Product weight                        | 0.18 kg   |

## RoHS compliance

|                          |           |
|--------------------------|-----------|
| RoHS EUR status          | Compliant |
| RoHS EUR conformity date | 0640      |