

# Product datasheet

Specifications



## TeSys K contactor 3P 9A AC-3 <= 440V - aux 1NO - coil 230V 50Hz

LC1K0910P5

### Main

|                           |                                 |
|---------------------------|---------------------------------|
| Range                     | TeSys                           |
| Product or component type | Contactor                       |
| Product name              | TeSys K                         |
| Device application        | Control                         |
| Contactor application     | Resistive load<br>Motor control |

### Complementary

|                                             |                                                                                                                                                                                                                                                                          |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 Hz                                                                                                                                                                                                                                                           |
| [Ie] rated operational current              | 9 A at <= 440 V AC AC-3 for power circuit<br>20 A (at <50 °C) at <= 440 V AC AC-1 for power circuit<br>16 A (at <70 °C) at 690 V AC AC-1 for power circuit                                                                                                               |
| Control circuit type                        | AC at 50 Hz                                                                                                                                                                                                                                                              |
| [Uc] control circuit voltage                | 230 V AC 50 Hz                                                                                                                                                                                                                                                           |
| Motor power kW                              | 2.2 kW at 220...230 V AC 50 Hz AC-3<br>4 kW at 380...415 V AC 50 Hz AC-3<br>4 kW at 440 V AC 50 Hz AC-3<br>4 kW at 480 V AC 50 Hz AC-3<br>4 kW at 500...600 V AC 50 Hz AC-3<br>4 kW at 660...690 V AC 50 Hz AC-3<br>2.2 kW at 400 V AC 50 Hz AC-4                        |
| Auxiliary contact composition               | 1 NO                                                                                                                                                                                                                                                                     |
| Overvoltage category                        | III                                                                                                                                                                                                                                                                      |
| [Ith] conventional free air thermal current | 20 A (at 50 °C) for power circuit<br>10 A (at 50 °C) for signalling circuit                                                                                                                                                                                              |
| Irms rated making capacity                  | 110 A AC for power circuit conforming to NF C 63-110<br>110 A AC for power circuit conforming to IEC 60947<br>110 A AC for signalling circuit conforming to IEC 60947                                                                                                    |
| Rated breaking capacity                     | 110 A at 220...230 V conforming to IEC 60947<br>110 A at 380...400 V conforming to IEC 60947<br>110 A at 415 V conforming to IEC 60947<br>110 A at 440 V conforming to IEC 60947<br>80 A at 500 V conforming to IEC 60947<br>70 A at 660...690 V conforming to IEC 60947 |
| Associated fuse rating                      | 25 A gG at <= 440 V for power circuit                                                                                                                                                                                                                                    |

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 | 25 A aM for power circuit<br>10 A gG for signalling circuit conforming to IEC 60947<br>10 A gG for signalling circuit conforming to VDE 0660                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Average impedance               | 3 mOhm - lth 20 A 50 Hz for power circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| [Ui] rated insulation voltage   | Power circuit: 690 V conforming to IEC 60947-4-1<br>Power circuit: 600 V conforming to UL 60947-4-1<br>Power circuit: 600 V conforming to CSA C22.2 No 60947-4-1<br>Signalling circuit: 690 V conforming to IEC 60947-4-1<br>Signalling circuit: 600 V conforming to UL 60947-4-1<br>Signalling circuit: 600 V conforming to CSA C22.2 No 60947-4-1                                                                                                                                                                                                                                                                                                                           |
| Insulation resistance           | > 10 MOhm for signalling circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Control circuit voltage limits  | Operational: 0.8...1.15 Uc (at <50 °C)<br>Drop-out: 0.2...0.75 Uc (at <50 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Connections - terminals         | Screw clamp terminals 1 cable(s) 1.5...4 mm²solid<br>Screw clamp terminals 1 cable(s) 0.75...4 mm²flexible without cable end<br>Screw clamp terminals 1 cable(s) 0.34...2.5 mm²flexible with cable end<br>Screw clamp terminals 2 cable(s) 1.5...4 mm²solid<br>Screw clamp terminals 2 cable(s) 0.75...4 mm²flexible without cable end<br>Screw clamp terminals 2 cable(s) 0.34...1.5 mm²flexible with cable end                                                                                                                                                                                                                                                              |
| Maximum operating rate          | 3600 cyc/h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Auxiliary contacts type         | type instantaneous 1 NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Signalling circuit frequency    | <= 400 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Minimum switching current       | 5 mA for signalling circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Minimum switching voltage       | 17 V for signalling circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Mounting support                | Rail<br>Plate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Tightening torque               | 1.3 N.m - on screw clamp terminals - with screwdriver Philips No 2<br>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 pozidriv No 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Operating time                  | 10...20 ms coil de-energisation and NO opening<br>10...20 ms coil energisation and NO closing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 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 13849-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Non overlap distance            | 0.5 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Mechanical robustness           | Shocks contactor closed, on X axis: 10 Gn for 11 ms conforming to IEC 60068-2-27<br>Shocks contactor closed, on Y axis: 15 Gn for 11 ms conforming to IEC 60068-2-27<br>Shocks contactor closed, on Z axis: 15 Gn for 11 ms conforming to IEC 60068-2-27<br>Shocks contactor opened, on X axis: 6 Gn for 11 ms conforming to IEC 60068-2-27<br>Shocks contactor opened, on Y axis: 10 Gn for 11 ms conforming to IEC 60068-2-27<br>Shocks contactor opened, on Z axis: 10 Gn for 11 ms conforming to IEC 60068-2-27<br>Vibrations contactor closed: 4 Gn, 5...300 Hz conforming to IEC 60068-2-6<br>Vibrations contactor opened: 2 Gn, 5...300 Hz conforming to IEC 60068-2-6 |
| Height                          | 58 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Width                           | 45 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Depth                           | 57 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## Environment

|                        |                                                                                                                   |
|------------------------|-------------------------------------------------------------------------------------------------------------------|
| Standards              | IEC 60947-4-1<br>EN/IEC 60947-4-1<br>UL 60947-4-1<br>CSA C22.2 No 60947-4-1<br>BS 5424<br>NF C 63-110<br>VDE 0660 |
| Product certifications | UL<br>CSA<br>CCC                                                                                                  |

|                                     |                                                                                                              |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------|
|                                     | EAC<br>KC<br>LROS (Lloyds register of shipping)<br>DNV-GL<br>RINA<br>BV<br>UKCA                              |
| IP degree of protection             | IP20 conforming to VDE 0106                                                                                  |
| Protective treatment                | TC conforming to IEC 60068<br>TC conforming to DIN 50016                                                     |
| Ambient air temperature for storage | -50...80 °C                                                                                                  |
| Operating altitude                  | 2000 m without derating                                                                                      |
| Flame retardance                    | V1 conforming to UL 94<br>Requirement 2 conforming to NF F 16-101<br>Requirement 2 conforming to NF F 16-102 |

### Packing Units

|                              |            |
|------------------------------|------------|
| Unit Type of Package 1       | PCE        |
| Number of Units in Package 1 | 1          |
| Package 1 Weight             | 180.0 g    |
| Package 1 Height             | 4.5 cm     |
| Package 1 width              | 6 cm       |
| Package 1 Length             | 6.5 cm     |
| Unit Type of Package 2       | S02        |
| Number of Units in Package 2 | 50         |
| Package 2 Weight             | 9.247 kg   |
| Package 2 Height             | 15 cm      |
| Package 2 width              | 30 cm      |
| Package 2 Length             | 40 cm      |
| Unit Type of Package 3       | P06        |
| Number of Units in Package 3 | 800        |
| Package 3 Weight             | 155.952 kg |
| Package 3 Height             | 75 cm      |
| Package 3 width              | 80 cm      |
| Package 3 Length             | 60 cm      |

### Offer Sustainability

|                            |                                                                                                             |
|----------------------------|-------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                       |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                           |
| REACH free of SVHC         | Yes                                                                                                         |
| EU RoHS Directive          | Compliant<br><a href="#">EU RoHS Declaration</a>                                                            |
| Toxic heavy metal free     | Yes                                                                                                         |
| Mercury free               | Yes                                                                                                         |
| RoHS exemption information | <a href="#">Yes</a>                                                                                         |
| China RoHS Regulation      | <a href="#">China RoHS declaration</a><br>Pro-active China RoHS declaration (out of China RoHS legal scope) |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>                                                               |
| Circularity Profile        | <a href="#">End of Life Information</a>                                                                     |

|      |                                                                                                                             |
|------|-----------------------------------------------------------------------------------------------------------------------------|
| WEEE | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
|------|-----------------------------------------------------------------------------------------------------------------------------|

Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|