



### Main

|                                     |                                    |
|-------------------------------------|------------------------------------|
| Range                               | TeSys                              |
| Product name                        | TeSys LRF                          |
| Device short name                   | LR9F                               |
| Product or component type           | Electronic thermal overload relay  |
| Relay application                   | Motor protection                   |
| Product compatibility               | LC1F115...LC1F185                  |
| Network type                        | AC                                 |
| Thermal overload class              | Class 10 conforming to IEC 60947-4 |
| Thermal protection adjustment range | 60...100 A                         |

### Complementary

|   |   |
|---|---|
| Network frequency                           | 50/60 Hz  |
| Supply voltage limits                       | 17...32 V   |
| Mounting support                            | Direct on contactor<br>Plate  |
| Tripping threshold                          | 1.12 +/- 0.06 In tripping conforming to IEC 60947-4-1   |
| Surge withstand                             | 4 kV conforming to IEC 61000-4-5  |
| Contacts type and composition               | 1 NO + 1 NC   |
| [Ith] conventional free air thermal current | 5 A for control circuit   |
| [Ue] rated operational voltage              | 1000 V AC 50/60 Hz for power circuit conforming to VDE 0110 group C                                     |
| [Ui] rated insulation voltage               | Power circuit: 1000 V AC conforming to IEC 60947-4  |
| [Uimp] rated impulse withstand voltage      | IEC 60947-1 8 kV  |
| Phase failure sensitivity                   | Tripping in 4 s +/- 20 % conforming to IEC 60947-4-1  |
| Reset                                       | Manual reset on front relay   |
| Control type                                | Dial white full-load current adjustment<br>Test button red<br>Push-button red reset<br>Push-button stop |

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

|                              |  |
|------------------------------|--|
| Local signalling             | Trip indicator   |
| Temperature compensation     | -20...70 °C  |
| Current consumption          | <= 5 mA no-load  |
| Switching capacity for alarm | 0...150 mA   |
| Maximum voltage drop         | <2.5 V closed state  |
| Connections - terminals      | Control circuit: screw clamp terminals 1 cable 0.75...2.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Control circuit: screw clamp terminals 1 cable 0.75...2.5 mm <sup>2</sup> - cable stiffness: solid<br>Control circuit: screw clamp terminals 1 cable 0.75...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Control circuit: screw clamp terminals 2 cable 1...1.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Control circuit: screw clamp terminals 2 cable 1...2.5 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Control circuit: screw clamp terminals 2 cable 1 mm <sup>2</sup> - cable stiffness: solid<br>Power circuit: lugs-ring terminals M8 |
| Tightening torque            | Control circuit: 1.2 N.m on screw clamp terminals<br>Power circuit: 18 N.m on screw clamp terminals  |
| Height                       | 96 mm  |
| Width                        | 115 mm   |
| Depth                        | 123.5 mm   |
| Net weight                   | 0.9 kg   |

## Environment

|                                       |   |
|---------------------------------------|---|
| Standards                             | IEC 60255-8<br>VDE 0660<br>IEC 60255-17<br>IEC 60947-4-1<br>EN 60947-4-1  |
| Product certifications                | UL<br>CSA   |
| Protective treatment                  | TH  |
| IP degree of protection               | IP20 conforming to IEC 60529<br>IP20 conforming to VDE 0106   |
| Ambient air temperature for operation | -20...55 °C conforming to IEC 60255-8   |
| Ambient air temperature for storage   | -40...85 °C   |
| Operating altitude                    | <= 2000 m without derating  |
| Fire resistance                       | 850 °C conforming to IEC 60695-2-1  |
| Mechanical robustness                 | Shocks: 13 Gn for 11 ms conforming to IEC 60068-2-7<br>Vibrations 5...300 Hz: 2 Gn conforming to IEC 60068-2-6  |
| Dielectric strength                   | 6 kV 50 Hz conforming to IEC 255-5  |
| Electromagnetic compatibility         | Resistance to electrostatic discharge: 6 kV in indirect mode conforming to IEC 61000-4-2<br>Resistance to electrostatic discharge: 8 kV in air conforming to IEC 61000-4-2<br>Radiated radio-frequency electromagnetic field immunity test: 10 V/m conforming to IEC 61000-4-3<br>Fast transients immunity test: 2 kV conforming to IEC 61000-4-4 |

## Offer Sustainability

|                            |   |
|----------------------------|---|
| Sustainable offer status   | Green Premium product   |
| REACH Regulation           | <a href="#">REACH Declaration</a>   |
| EU RoHS Directive          | Compliant<br><a href="#">EU RoHS Declaration</a>  |
| Mercury free               | Yes   |
| RoHS exemption information | <a href="#">Yes</a>   |
| China RoHS Regulation      | <a href="#">China RoHS declaration</a><br>Product out of China RoHS scope. Substance declaration for your information       |
| 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

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