



### Main

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|-------------------------------------|---------------------------------------|
| 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 10/20 conforming to IEC 60947-4 |
| Thermal protection adjustment range | 30...50 A                             |
| Signalling function                 | Pre-alarm indicator                   |

### Complementary

|                                             |                                                                                                                                                                          |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Network frequency                           | 50/60 Hz                                                                                                                                                                 |
| [Us] rated supply voltage                   | 24 V DC                                                                                                                                                                  |
| Supply voltage limits                       | 17...32 V                                                                                                                                                                |
| Mounting support                            | Direct on contactor Plate                                                                                                                                                |
| Tripping threshold                          | 1.05 +/- 0.06 In alarm conforming to IEC 60947-4-1<br>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                                                                                                                                                             |
| Control type                                | Dial white full-load current adjustment<br>Test button red<br>Push-button reset<br>Push-button red stop<br>Selector switch load balancing<br>Selector switch class 10/20 |
| Local signalling                            | Alarm<br>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                                                                                                                                                      |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. 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. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

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| 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 M6<br>Alarm circuit: screw clamp terminals 1 cable 0.5...1.5 mm <sup>2</sup> - cable stiffness: flexible - without cable end |
| Tightening torque       | Control circuit: 1.2 N.m on screw clamp terminals<br>Alarm circuit: 0.45 N.m on screw clamp terminals<br>Power circuit: 10 N.m on screw clamp terminals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Height                  | 96 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Width                   | 115 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Depth                   | 123.5 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Net weight              | 0.885 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## Environment

|                                       |                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards                             | IEC 60255-17<br>IEC 60255-8<br>VDE 0660<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                                                                                                                                                                                                                                                                                                                      |
| 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

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|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                       |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                                           |
| EU RoHS Directive          | Compliant <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>                                                                                      |
| 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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