



### Main

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| Range of product                    | TeSys F                                                                                                                                                                                            |
| Device short name                   | LR9F                                                                                                                                                                                               |
| Product or component type           | Thermal overload relay                                                                                                                                                                             |
| Relay application                   | Motor protection                                                                                                                                                                                   |
| Product compatibility               | LC1F225...LC1F500                                                                                                                                                                                  |
| Network type                        | DC                                                                                                                                                                                                 |
| Overload tripping class             | Class 20 conforming to IEC 60947-4                                                                                                                                                                 |
| Signalling function                 | Alarm                                                                                                                                                                                              |
| Thermal protection adjustment range | 300...500 A                                                                                                                                                                                        |
| Protection type                     | GG fuse 500 A - for power circuit<br>GG fuse 5 A - for control circuit<br>GB2 circuit breaker 5 A - for control circuit<br>BS fuse 5 A - for control circuit<br>AM fuses 500 A - for power circuit |
| Signalling function                 | Pre-alarm indicator                                                                                                                                                                                |
| Quantity per set                    | Set of 10                                                                                                                                                                                          |

### Complementary

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| Network frequency                      | 50/60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| [Us] rated supply voltage              | 24 V DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Supply voltage limits                  | 17...32 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Mounting support                       | Rail<br>Direct on contactor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Tripping threshold                     | 1.12 +/- 0.06 In tripping conforming to IEC 60947-4-1<br>1.05 +/- 0.06 In alarm conforming to IEC 60947-4-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Surge withstand                        | 4 kV conforming to IEC 61000-4-5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| [Ue] rated operational voltage         | 1000 V AC 50/60 Hz for power circuit conforming to VDE 0110 group C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| [Ui] rated insulation voltage          | 1000 V AC power circuit conforming to IEC 60947-4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| [Uimp] rated impulse withstand voltage | 8 kV conforming to IEC 60947-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Phase failure sensitivity              | Tripping in 4 s +/- 20 % conforming to IEC 60947-4-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Reset                                  | Manual reset                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Temperature compensation               | -20...70 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Current consumption                    | <= 5 mA no-load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Switching capacity in mA               | 0...150 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Output overload protection             | Automatic trip                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Output short-circuit protection        | Automatic trip                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Voltage drop                           | 0...2.5 V closed state                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Connections - terminals                | Control circuit: screw clamp terminals 2 cable 1 mm <sup>2</sup> - cable stiffness: solid<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...1.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end<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 1 cable 0.75...2.5 mm <sup>2</sup> - cable stiffness: solid<br>Control circuit: screw clamp terminals 1 cable 0.75...2.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end |
| Tightening torque                      | Power circuit: 35 N.m - on screw clamp terminals<br>Control circuit: 1.2 N.m - on screw clamp terminals<br>Alarm circuit: 0.45 N.m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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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| Height         | 127.6 mm |
| Width          | 150 mm   |
| Depth          | 136.8 mm |
| Product weight | 2.32 kg  |

## Environment

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|---------------------------------------|----------------------------------------------------------------------------------------------|
| Standards                             | EN 60947-4-1<br>IEC 60255-17<br>IEC 60255-8<br>IEC 60947-4-1<br>VDE 0660                     |
| Product certifications                | CSA 22-2<br>GOST<br>UL 508                                                                   |
| 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                                                           |
| Shock resistance                      | 13 gn 11 ms conforming to IEC 60068-2-7                                                      |
| Vibration resistance                  | 2 gn 5...300 Hz conforming to IEC 60068-2-6                                                  |
| Dielectric strength                   | 6 kV at 50 Hz conforming to IEC 60255-5                                                      |
| Resistance to electrostatic discharge | 8 kV in air conforming to IEC 61000-4-2<br>6 kV in indirect mode conforming to IEC 61000-4-2 |
| Resistance to radiated fields         | 10 V/m conforming to IEC 61000-4-2                                                           |
| Resistance to fast transients         | 2 kV conforming to IEC 61000-4-4                                                             |

## Contractual warranty

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| Period | 18 months |
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