

# Product datasheet

Specifications



## TeSys LRF - electronic thermal overload relay - 90...150 A - class 10/20

LR9F69

⚠ Discontinued on: 31 Dec 2023

⚠ Discontinued

### 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 10/20 conforming to IEC 60947-4
Thermal Protection Adjustment Range	90...150 A
Signalling Function	Pre-alarm indicator

### Complementary

Network Frequency	50/60 Hz
[Us] Rated Supply Voltage	24 V DC for alarm circuit
Supply Voltage Limits	17...32 V (alarm circuit)
Mounting Support	Direct on contactor Plate
Tripping Threshold	1.05 +/- 0.06 In alarm conforming to IEC 60947-4-1 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	8 kV conforming to IEC 60947-1
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 Test button red Push-button reset Push-button red stop Selector switch load balancing Selector switch class 10/20

Excluding VAT and subject to change. Please check with your local distributor through "Where to buy"

<b>Local Signalling</b>	Trip indicator Alarm
<b>Temperature Compensation</b>	-20...70 °C
<b>Current Consumption</b>	<= 5 mA no-load
<b>Switching Capacity For Alarm</b>	0...150 mA
<b>Maximum Voltage Drop</b>	<2.5 V closed state
<b>Connections - Terminals</b>	Control circuit: screw clamp terminals 1 cable 0.75...2.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end Control circuit: screw clamp terminals 1 cable 0.75...2.5 mm <sup>2</sup> - cable stiffness: solid Control circuit: screw clamp terminals 1 cable 0.75...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end Control circuit: screw clamp terminals 2 cable 1...1.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end Control circuit: screw clamp terminals 2 cable 1...2.5 mm <sup>2</sup> - cable stiffness: flexible - without cable end Control circuit: screw clamp terminals 2 cable 1 mm <sup>2</sup> - cable stiffness: solid Power circuit: lugs-ring terminals M8 Alarm circuit: screw clamp terminals 1 cable 0.5...1.5 mm <sup>2</sup> - cable stiffness: flexible - without cable end
<b>Tightening Torque</b>	Control circuit: 1.2 N.m on screw clamp terminals Power circuit: 18 N.m on screw clamp terminals Alarm circuit: 0.45 N.m on screw clamp terminals
<b>Height</b>	96 mm
<b>Width</b>	115 mm
<b>Depth</b>	123.5 mm
<b>Net Weight</b>	0.885 kg

## Environment

<b>Standards</b>	IEC 60255-17 VDE 0660 EN 60947-4-1 IEC 60255-8 IEC 60947-4-1
<b>Product Certifications</b>	CSA UL UKCA
<b>Protective Treatment</b>	TH
<b>Ip Degree Of Protection</b>	IP20 conforming to IEC 60529
<b>Ambient Air Temperature For Operation</b>	-20...55 °C conforming to IEC 60255-8
<b>Ambient Air Temperature For Storage</b>	-40...85 °C
<b>Operating Altitude</b>	<= 2000 m without derating
<b>Fire Resistance</b>	850 °C conforming to IEC 60695-2-1
<b>Mechanical Robustness</b>	Shocks: 13 Gn for 11 ms conforming to IEC 60068-2-7 Vibrations 5...300 Hz: 2 GN conforming to IEC 60068-2-6
<b>Dielectric Strength</b>	6 kV 50 Hz conforming to IEC 255-5
<b>Electromagnetic Compatibility</b>	Resistance to electrostatic discharge: 6 kV in indirect mode conforming to IEC 61000-4-2 Resistance to electrostatic discharge: 8 kV in air conforming to IEC 61000-4-2 Radiated radio-frequency electromagnetic field immunity test: 10 V/m conforming to IEC 61000-4-3 Fast transients immunity test: 2 kV conforming to IEC 61000-4-4

## Packing Units

<b>Unit Type Of Package 1</b>	PCE
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Number Of Units In Package 1	1
Package 1 Height	15.0 cm
Package 1 Width	16.0 cm
Package 1 Length	13.0 cm
Package 1 Weight	904.0 g

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## Contractual warranty

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Warranty	18 months
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## Sustainability

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[Guide to assess a product's sustainability >](#)



Transparency RoHS/REACH

## Well-being performance

Mercury Free

Rohs Exemption Information Yes

Pvc Free

## Certifications & Standards

Reach Regulation [REACH Declaration](#)

Eu Rohs Directive Compliant with Exemptions

China Rohs Regulation [China RoHS declaration](#)  
Product out of China RoHS scope. Substance declaration for your information

Environmental Disclosure [Product Environmental Profile](#)

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

Circularity Profile [End of Life Information](#)