

Product data sheet

Specifications



TeSys LRF - electronic thermal overload relay - 380...630 A - class 10/20

LR9F81

⚠ Discontinued on: 1 Sept 2020

⚠ End-of-service on: 15 Dec 2020

⚠ 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	LC1F800 LC1F400...LC1F630
Network type	AC
Thermal overload class	Class 10/20 conforming to IEC 60947-4
Thermal protection adjustment range	380...630 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

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

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
Local signalling	Alarm 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 ² - cable stiffness: flexible - with cable end Control circuit: screw clamp terminals 1 cable 0.75...2.5 mm ² - cable stiffness: solid Control circuit: screw clamp terminals 1 cable 0.75...4 mm ² - cable stiffness: flexible - without cable end Control circuit: screw clamp terminals 2 cable 1...1.5 mm ² - cable stiffness: flexible - with cable end Control circuit: screw clamp terminals 2 cable 1...2.5 mm ² - cable stiffness: flexible - without cable end Control circuit: screw clamp terminals 2 cable 1 mm ² - cable stiffness: solid Alarm circuit: screw clamp terminals 1 cable 0.5...1.5 mm ² - cable stiffness: flexible - without cable end Power circuit: lugs-ring terminals M12
Tightening torque	Control circuit: 1.2 N.m on screw clamp terminals Alarm circuit: 0.45 N.m on screw clamp terminals Power circuit: 58 N.m on screw clamp terminals
Height	228.8 mm
Width	193 mm
Depth	127.6 mm
Product weight	4.16 kg

Environment

Standards	IEC 60947-4-1 IEC 60255-17 EN 60947-4-1 VDE 0660 IEC 60255-8
Product certifications	CSA UL UKCA
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 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 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
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Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1

Contractual warranty

Warranty (in months)	18
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Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)

Use Better

Materials and Substances	
EU RoHS Directive	Compliant
PVC free	Yes

Use Longer

Lifetime extension	
Repair	No

Use Again

Repack and remanufacture	
End of life manual availability	End of Life Information
WEEE Label	 The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins