Product data sheet
Characteristics

LR9F69
TeSys LRF - electronic thermal overload relay - 90...150 A - class 10/20

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
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 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 Test button red Push-button reset Push-button red stop Selector switch load balancing Selector switch class 10/20
Local signalling	Trip indicator Alarm
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 mm² - cable stiffness: flexible - with cable end Control circuit: screw clamp terminals 1 cable 0.75…2.5 mm² - cable stiffness: solid Control circuit: screw clamp terminals 1 cable 0.75…4 mm² - cable stiffness: flexible - without cable end Control circuit: screw clamp terminals 2 cable 1…1.5 mm² - cable stiffness: flexible - with cable end Control circuit: screw clamp terminals 2 cable 1…2.5 mm² - cable stiffness: flexible - without cable end Control circuit: screw clamp terminals 2 cable 1 mm² - cable stiffness: solid Power circuit: lugs-ring terminals M8 Alarm circuit: screw clamp terminals 1 cable 0.5…1.5 mm² - cable stiffness: flexible - without cable end
Tightening torque	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
Height	96 mm
Width	115 mm
Depth	123.5 mm
Net weight	0.885 kg

Environment

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

Offer Sustainability

Sustainable offer status	Green Premium product
REACh Regulation	REACh Declaration
EU RoHS Directive	Compliant EU RoHS Declaration
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	China RoHS Declaration
Environmental Disclosure	Product Environmental Profile
Circularity Profile	End Of Life Information
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

Contractual warranty

Warranty	18 months