



### 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	LC1F185...LC1F400
Network type	AC
Overload tripping class	Class 10 conforming to IEC 60947-4
Thermal protection adjustment range	132...220 A
Quantity per set	Set of 10

### Complementary

Network frequency	50/60 Hz
Supply voltage limits	17...32 V
Mounting support	Plate Direct on contactor
Tripping threshold	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	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 on front relay
Control type	Push-button stop Push-button red reset Test button red Dial white full-load current adjustment
Local signalling	Trip indicator
Temperature compensation	-20...70 °C
Current consumption	<= 5 mA no-load
Switching capacity for alarm	0...150 mA
Voltage drop	<= 2.5 V closed state
Connections - terminals	Power circuit : lugs-ring terminals M10 Control circuit : screw clamp terminals 2 cable 1 mm <sup>2</sup> - cable stiffness: solid Control circuit : screw clamp terminals 2 cable 1...2.5 mm <sup>2</sup> - cable stiffness: flexible - without cable end cable end Control circuit : screw clamp terminals 2 cable 1...1.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end cable end Control circuit : screw clamp terminals 1 cable 0.75...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end 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...2.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end cable end
Tightening torque	Power circuit : 35 N.m - on screw clamp terminals Control circuit : 1.2 N.m - on screw clamp terminals
Height	101 mm
Width	115 mm

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Depth	123.5 mm
Product weight	0.95 kg

## Environment

Standards	EN 50081-1 EN 50081-2 EN 50082-2 EN 60947-4-1 IEC 60255-17 IEC 60255-8 IEC 60947-4-1 VDE 0660
Product certifications	CSA UL
Protective treatment	TH
IP degree of protection	IP20 conforming to VDE 0106 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	Vibrations 5...300 Hz 2 Gn conforming to IEC 60068-2-6 Shocks 13 Gn for 11 ms conforming to IEC 60068-2-7
Dielectric strength	6 kV at 50 Hz conforming to IEC 255-5
Electromagnetic compatibility	Fast transients immunity test 2 kV conforming to IEC 61000-4-4 Radiated radio-frequency electromagnetic field immunity test 10 V/m conforming to IEC 61000-4-3 Resistance to electrostatic discharge 8 kV in air conforming to IEC 61000-4-2 Resistance to electrostatic discharge 6 kV in indirect mode conforming to IEC 61000-4-2