



### 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 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 alarm circuit                                                                                                                                                    |
| Supply voltage limits                       | 17...32 V alarm circuit)                                                                                                                                                 |
| Mounting support                            | Direct on contactor Plate                                                                                                                                                |
| Tripping threshold                          | 1.05 +/- 0.06 In alarm IEC 60947-4-1<br>1.12 +/- 0.06 In tripping IEC 60947-4-1                                                                                          |
| Surge withstand                             | 4 kV IEC 61000-4-5                                                                                                                                                       |
| Contacts type and composition               | 1 NO + 1 NC                                                                                                                                                              |
| [Ith] conventional free air thermal current | 5 A control circuit                                                                                                                                                      |
| [Ue] rated operational voltage              | 1000 V AC 50/60 Hz power circuit VDE 0110 group C                                                                                                                        |
| [Ui] rated insulation voltage               | Power circuit 1000 V AC IEC 60947-4                                                                                                                                      |
| [Uimp] rated impulse withstand voltage      | 8 kV IEC 60947-1                                                                                                                                                         |
| Phase failure sensitivity                   | Tripping in 4 s +/- 20 % IEC 60947-4-1                                                                                                                                   |
| Reset                                       | Manual reset                                                                                                                                                             |
| Control type                                | Dial White full-load current adjustment<br>Test button Red<br>Push-button reset<br>Push-button Red stop<br>Selector switch load balancing<br>Selector switch class 10/20 |
| Local signalling                            | Trip indicator<br>Alarm                                                                                                                                                  |
| Temperature compensation                    | -4...158 °F (-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 0.00...0.00 in <sup>2</sup> (0.75...2.5 mm <sup>2</sup> ) flexible - with cable end<br>Control circuit screw clamp terminals 1 0.00...0.00 in <sup>2</sup> (0.75...2.5 mm <sup>2</sup> ) solid<br>Control circuit screw clamp terminals 1 0.00...0.01 in <sup>2</sup> (0.75...4 mm <sup>2</sup> ) flexible - without cable end<br>Control circuit screw clamp terminals 2 0.00...0.00 in <sup>2</sup> (1...1.5 mm <sup>2</sup> ) flexible - with cable end<br>Control circuit screw clamp terminals 2 0.00...0.00 in <sup>2</sup> (1...2.5 mm <sup>2</sup> ) flexible - without cable end<br>Control circuit screw clamp terminals 2 0.00 in <sup>2</sup> (1 mm <sup>2</sup> ) solid<br>Power circuit lugs-ring terminals M8<br>Alarm circuit screw clamp terminals 1 0.00...0.00 in <sup>2</sup> (0.5...1.5 mm <sup>2</sup> ) flexible - without cable end |
| Tightening torque       | Control circuit 1.2 N.m screw clamp terminals<br>Power circuit 18 N.m screw clamp terminals<br>Alarm circuit 0.45 N.m screw clamp terminals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Height                  | 3.78 in (96 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Width                   | 4.53 in (115 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Depth                   | 4.86 in (123.5 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Net Weight              | 1.95 lb(US) (0.885 kg)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## Environment

|                                       |                                                                                                                                                                                                                                                                                       |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards                             | IEC 60255-17<br>VDE 0660<br>EN 60947-4-1<br>IEC 60255-8<br>IEC 60947-4-1                                                                                                                                                                                                              |
| Product Certifications                | CSA<br>UL<br>UKCA                                                                                                                                                                                                                                                                     |
| Protective treatment                  | TH                                                                                                                                                                                                                                                                                    |
| IP degree of protection               | IP20 conforming to IEC 60529                                                                                                                                                                                                                                                          |
| Ambient air temperature for operation | -4...131 °F (-20...55 °C) IEC 60255-8                                                                                                                                                                                                                                                 |
| Ambient Air Temperature for Storage   | -40...185 °F (-40...85 °C)                                                                                                                                                                                                                                                            |
| Operating altitude                    | <= 6561.68 ft (2000 m) without derating                                                                                                                                                                                                                                               |
| Fire resistance                       | 1562 °F (850 °C) IEC 60695-2-1                                                                                                                                                                                                                                                        |
| Mechanical robustness                 | Shocks 13 Gn for 11 ms IEC 60068-2-7<br>Vibrations 5...300 Hz 2 GN IEC 60068-2-6                                                                                                                                                                                                      |
| Dielectric strength                   | 6 kV 50 Hz IEC 255-5                                                                                                                                                                                                                                                                  |
| Electromagnetic compatibility         | Resistance to electrostatic discharge 6 kV in indirect mode IEC 61000-4-2<br>Resistance to electrostatic discharge 8 kV in air IEC 61000-4-2<br>Radiated radio-frequency electromagnetic field immunity test 10 V/m IEC 61000-4-3<br>Fast transients immunity test 2 kV IEC 61000-4-4 |

## Ordering and shipping details

|                   |                                  |
|-------------------|----------------------------------|
| Category          | 22334-CONTACTOR,F-LINE,OVERLOADS |
| Discount Schedule | I12                              |
| GTIN              | 3389118057548                    |
| Returnability     | No                               |
| Country of origin | FR                               |

## Packing Units

|                              |                    |
|------------------------------|--------------------|
| Unit Type of Package 1       | PCE                |
| Number of Units in Package 1 | 1                  |
| Package 1 Height             | 5.91 in (15.0 cm)  |
| Package 1 Width              | 6.30 in (16.0 cm)  |
| Package 1 Length             | 5.12 in (13.0 cm)  |
| Package 1 Weight             | 31.89 oz (904.0 g) |

## Offer Sustainability

|                            |                                                                                                                                                                                                                                                           |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                                                                                                                                                     |
| California proposition 65  | WARNING: This product can expose you to chemicals including: Antimony oxide & Antimony trioxide, which is known to the State of California to cause cancer. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                                                                                                                                                                         |
| EU RoHS Directive          | Compliant <a href="#">EU RoHS Declaration</a>                                                                                                                                                                                                             |
| Mercury free               | Yes                                                                                                                                                                                                                                                       |
| China RoHS Regulation      | <a href="#">China RoHS Declaration</a>                                                                                                                                                                                                                    |
| RoHS exemption information | <a href="#">Yes</a>                                                                                                                                                                                                                                       |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>                                                                                                                                                                                                             |
| Circularity Profile        | <a href="#">End Of Life Information</a>                                                                                                                                                                                                                   |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.                                                                                                                              |
| PVC free                   | Yes                                                                                                                                                                                                                                                       |

## Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|