



## Main

|                              |   |
|------------------------------|---|
| Range of product             | Zelio Control   |
| Product or component type    | Modular measurement and control relays  |
| Relay type                   | Motor temperature control relay   |
| Product specific application | For 3-phase supply  |
| Relay name                   | RM35TM  |
| Relay monitored parameters   | Motor temperature via PTC probe<br>Phase failure detection<br>Phase sequence<br>Selection (with or without memory)<br>Test/reset button |
| Time delay type              | Fixed 0.3 s   |
| Switching capacity in VA     | 1250 VA   |
| Measurement range            | 0...20 Ohm short-circuit detection<br>208...480 V voltage AC  |

## Complementary

|                              |  |
|------------------------------|--|
| Reset time                   | 10000 ms output  |
| Maximum switching voltage    | 250 V AC<br>250 V DC   |
| Minimum switching current    | 10 mA at 5 V DC  |
| Maximum switching current    | 5 A AC<br>5 A DC   |
| Supply voltage limits        | 20.4...264 V AC<br>20.4...264 V DC   |
| Power consumption in VA      | 0...4 VA at 24...240 V AC  |
| Power consumption in W       | <= 0.5 W DC  |
| Control circuit frequency    | 50...60 Hz +/- 10 %  |
| Resistance across terminals  | 602 mOhm   |
| Output contacts              | 2 NO   |
| Nominal output current       | 5 A  |
| Measurement voltage limits   | 176...528 V AC   |
| Run-up delay at power-up     | <= 500 ms  |
| Voltage range                | 176...528 V  |
| Response time                | > 50 ms input Y1 (contact Y1-T1) and push-button   |
| [Uc] control circuit voltage | <= 3.6 V of temperature control circuit (T1-T2 terminals open)   |
| Short-circuit current        | 0.007 A temperature sensing circuit (T1-T2 terminals short circuited)  |
| Resistance                   | <= 1500 Ohm temperature sensor at 68 °F (20 °C)  |
| Tripping threshold           | 3100 Ohm (+/- 10 % temperature control circuit)  |
| Reset threshold              | 1650 Ohm (+/- 10 % temperature control circuit)  |
| Marking                      | CE   |
| Overvoltage category         | III conforming to IEC 60664-1  |
| Insulation resistance        | > 500 MOhm at 500 V DC between supply and relay output conforming to IEC 60255-5<br>> 500 MOhm at 500 V DC between measurement and relay output conforming to IEC 60664-1<br>> 1 MOhm at 500 V DC between supply and measurement conforming to IEC 60255-5<br>> 500 MOhm at 500 V DC between supply and relay output conforming to IEC 60664-1<br>> 500 MOhm at 500 V DC between measurement and relay output conforming to IEC 60255-5<br>> 1 MOhm at 500 V DC between supply and measurement conforming to IEC 60664-1 |

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|                               |  |
|-------------------------------|--|
| [Ui] rated insulation voltage | 400 V conforming to IEC 60664-1  |
| Supply frequency              | 50/60 Hz +/- 10 %  |
| Operating position            | Any position without   |
| Connections - terminals       | Screw terminals 1 x 0.5...1 x 4 mm <sup>2</sup> - AWG 20...AWG 11, solid cable without cable end<br>Screw terminals 2 x 0.5...2 x 2.5 mm <sup>2</sup> - AWG 20...AWG 14, solid cable without cable end<br>Screw terminals 1 x 0.2...1 x 2.5 mm <sup>2</sup> - AWG 24...AWG 12, flexible cable with cable end<br>Screw terminals 2 x 0.2...2 x 1.5 mm <sup>2</sup> - AWG 24...AWG 16, flexible cable with cable end |
| Tightening torque             | 5.31...8.85 lbf.in (0.6...1 N.m) conforming to IEC 60947-1   |
| Housing material              | Self-extinguishing plastic   |
| Local signalling              | LED green power ON<br>LED yellow phase of relay (R2)<br>LED yellow temperature of relay (R1)   |
| Mounting support              | 35 mm symmetrical DIN rail conforming to EN/IEC 60715  |
| Electrical durability         | 10000 cycles   |
| Mechanical durability         | <= 30000000 cycles   |
| Operating rate                | <= 360 operations/hour under full load   |
| Utilisation category          | AC-12 conforming to IEC 60947-5-1<br>AC-13 conforming to IEC 60947-5-1<br>AC-14 conforming to IEC 60947-5-1<br>AC-15 conforming to IEC 60947-5-1<br>DC-12 conforming to IEC 60947-5-1<br>DC-13 conforming to IEC 60947-5-1   |
| Width                         | 1.38 in (35 mm)  |
| Product weight                | 0.29 lb(US) (0.13 kg)  |

## Environment

|                                       |   |
|---------------------------------------|---|
| immunity to microbreaks               | 20 ms at 20.4 V   |
| electromagnetic compatibility         | Emission standard for industrial environments conforming to EN/IEC 61000-6-4<br>Emission standard for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-3<br>Immunity for industrial environments conforming to EN/IEC 61000-6-2 |
| standards                             | EN/IEC 60255-6<br>IEC 60034-11-2  |
| product certifications                | CSA<br>C-Tick<br>GL<br>GOST<br>UL   |
| directives                            | 89/336/EEC - electromagnetic compatibility<br>73/23/EEC - low voltage directive   |
| ambient air temperature for storage   | -40...158 °F (-40...70 °C)  |
| ambient air temperature for operation | -4...122 °F (-20...50 °C)   |
| relative humidity                     | 95 % at 131 °F (55 °C) conforming to IEC 60068-2-30   |
| vibration resistance                  | 0.35 mm (f = 5...57.6 Hz) conforming to IEC 60068-2-6<br>1 gn (f = 57.6...150 Hz) conforming to IEC 60255-21-1  |
| shock resistance                      | 15 gn 11 ms conforming to IEC 60255-21-1  |
| IP degree of protection               | IP20(terminals) conforming to IEC 60529<br>IP30 (casing) conforming to IEC 60529  |
| pollution degree                      | 3 conforming to IEC 60664-1   |
| dielectric test voltage               | 2 kV 1 min AC 50 Hz   |
| non-dissipating shock wave            | 4 kV  |

## Offer Sustainability

|   |   |
|---|---|
| Green Premium product   | Green Premium product   |
| Compliant - since 0701 - Schneider Electric declaration of conformity | Compliant - since 0701 - Schneider Electric declaration of conformity |
| Reference not containing SVHC above the threshold                     | Reference not containing SVHC above the threshold                     |
| Available   | Available   |

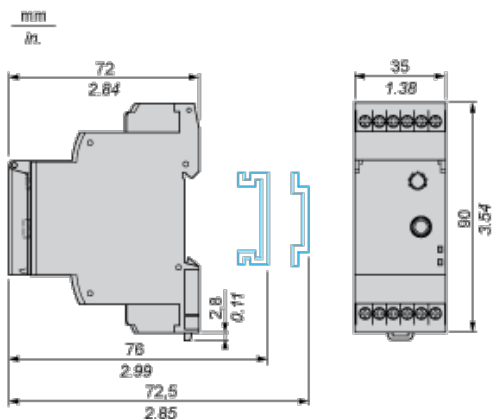
|  |  |
|--|--|
| Available  | Available  |
| WARNING: This product can expose you to chemicals including:   | WARNING: This product can expose you to chemicals including:   |
| Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. | Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. |
| For more information go to <a href="http://www.p65warnings.ca.gov">www.p65warnings.ca.gov</a>                                    | For more information go to <a href="http://www.p65warnings.ca.gov">www.p65warnings.ca.gov</a>                                    |

### Contractual warranty

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

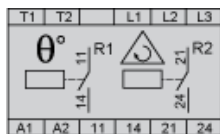
## 3-Phase Supply and Motor Temperature Control Relays

### Dimensions and Mounting



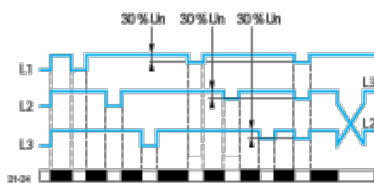
## 3-Phase Supply and Motor Temperature Control Relays

### Wiring Diagram

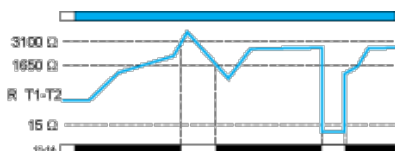


### Function Diagrams

#### Phase Sequence Control and Phase Failure Detection (U measured < 0.7 x nominal supply voltage)



#### Motor Temperature Control via PTC Probe



### Legend

Un Nominal 3-phase supply voltage

R T1-T2 Resistance between terminals T1 and T2

11-14 R1 output relay connections

Relay status: black color = energized.

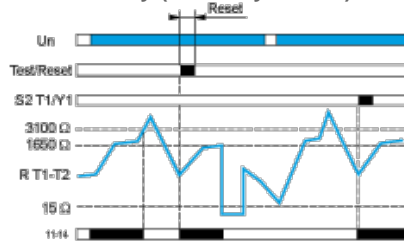
**NOTE:** The temperature control relay can take up to 6 PTC (positive temperature coefficient) probes wired in series between terminals T1 and T2.

## Function Diagrams

### Motor Temperature Control via PTC Probe

As soon as the temperature returns to the correct value, the relay can be unlocked (reset), either by pressing the "Test/Reset" button (for at least 200 ms), or by closing a volt-free contact (for at least 200 ms) between terminal Y1 and T1 (without a parallel load). When a fault is detected, the "temperature" output relay locks in the open position, even if the "Test/Reset" button is pressed.

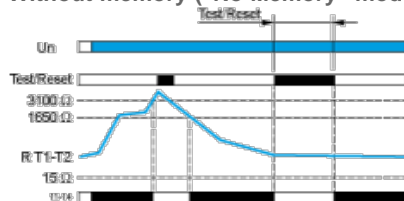
#### With memory ("Memory" mode)



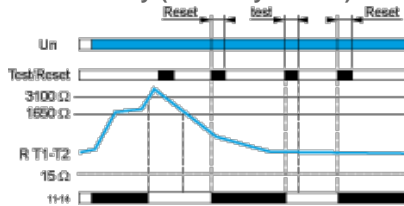
#### Use of the "Test/Reset" Button

When the temperature is normal, pressing the "Test/Reset" button simulates overheating, the "temperature" output relay contact is open.

#### Without memory ("No Memory" mode).



#### With memory ("Memory" mode)



#### Legend

Un Nominal 3-phase supply voltage

R T1-T2 Resistance between terminals T1 and T2

11-14 R1 output relay connections

Relay status: black color = energized.

In "Memory" mode, "fault" indication is locked and the button must be released then pressed again to reset the function. When a fault has been detected and the temperature has returned to normal, the "temperature" control relay can be unlocked (reset) by pressing the "Test/Reset" button.