

# Product datasheet

Specifications



## motor voltage and temperature control relay - RM35-T - 24..240 V AC/DC - 2 NO

RM35TM50MW

### Main

Range of product	Harmony Control Relays
Product or component type	3-phase control relay
Relay type	Motor temperature control relay
Product specific application	For 3-phase supply
Relay name	RM35TM
Relay monitored parameters	Phase sequence Motor temperature via PTC probe Phase failure detection
Time delay	Fixed 0.3 s
Switching capacity in VA	1250 VA
Measurement range	208...480 V voltage AC 0...20 Ohm short-circuit detection
Contacts type and composition	2 NO
[Uc] control circuit voltage	24...240 V

### Complementary

Reset time	10000 ms output
Maximum switching voltage	250 V AC 250 V DC
Minimum switching current	10 mA at 5 V DC
Maximum switching current	5 A AC 5 A DC
Supply voltage limits	20.4...264 V AC 20.4...264 V DC
Power consumption in VA	0...4 VA at 24...240 V AC
Power consumption	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
Delay at power up	500 ms

<b>Voltage range</b>	176...528 V
<b>Response time</b>	> 50 ms (input Y1 (contact Y1-T1) and push-button) ≤ 3.6 V of temperature control circuit (T1-T2 terminals open)
<b>Short-circuit current</b>	0.007 A temperature sensing circuit (T1-T2 terminals short circuited)
<b>Maximum resistance</b>	1500 Ohm for temperature sensor at 20 °C
<b>Tripping threshold</b>	3100 Ohm +/- 10 % for temperature control circuit
<b>Reset threshold</b>	1650 Ohm +/- 10 % for temperature control circuit
<b>Marking</b>	CE
<b>Overvoltage category</b>	III conforming to IEC 60664-1
<b>Insulation resistance</b>	> 500 MOhm at 500 V DC between supply and relay output conforming to IEC 60255-5 > 500 MOhm at 500 V DC between measurement and relay output conforming to IEC 60664-1 > 1 MOhm at 500 V DC between supply and measurement conforming to IEC 60255-5 > 500 MOhm at 500 V DC between supply and relay output conforming to IEC 60664-1 > 500 MOhm at 500 V DC between measurement and relay output conforming to IEC 60255-5 > 1 MOhm at 500 V DC between supply and measurement conforming to IEC 60664-1
<b>[Ui] rated insulation voltage</b>	400 V conforming to IEC 60664-1
<b>Supply frequency</b>	50/60 Hz +/- 10 %
<b>Operating position</b>	Any position without derating
<b>Connections - terminals</b>	Screw terminals, 1 x 0.5...1 x 4 mm <sup>2</sup> (AWG 20...AWG 11) solid without cable end Screw terminals, 2 x 0.5...2 x 2.5 mm <sup>2</sup> (AWG 20...AWG 14) solid without cable end Screw terminals, 1 x 0.2...1 x 2.5 mm <sup>2</sup> (AWG 24...AWG 12) flexible with cable end Screw terminals, 2 x 0.2...2 x 1.5 mm <sup>2</sup> (AWG 24...AWG 16) flexible with cable end
<b>Tightening torque</b>	0.6...1 N.m conforming to IEC 60947-1
<b>Housing material</b>	Self-extinguishing plastic
<b>Local signalling</b>	LED (green) for power ON LED (yellow) for phase of relay (R2) LED (yellow) for temperature of relay (R1)
<b>Mounting support</b>	35 mm symmetrical DIN rail conforming to IEC 60715
<b>Electrical durability</b>	10000 cycles
<b>Mechanical durability</b>	30000000 cycles
<b>Operating rate</b>	≤ 360 operations/hour full load
<b>Utilisation category</b>	AC-12 conforming to IEC 60947-5-1 AC-13 conforming to IEC 60947-5-1 AC-14 conforming to IEC 60947-5-1 AC-15 conforming to IEC 60947-5-1 DC-12 conforming to IEC 60947-5-1 DC-13 conforming to IEC 60947-5-1
<b>Width</b>	35 mm
<b>Net weight</b>	0.13 kg
<b>Environment</b>	
<b>Immunity to microbreaks</b>	20 ms at 20.4 V
<b>Electromagnetic compatibility</b>	Emission standard for industrial environments conforming to IEC 61000-6-4 Emission standard for residential, commercial and light-industrial environments conforming to IEC 61000-6-3 Immunity for industrial environments conforming to IEC 61000-6-2
<b>Standards</b>	IEC 60255-6 IEC 60034-11-2
<b>Product certifications</b>	GL UL GOST C-Tick CSA
<b>Directives</b>	73/23/EEC - low voltage directive 89/336/EEC - electromagnetic compatibility
<b>Ambient air temperature for storage</b>	-40...70 °C

<b>Ambient air temperature for operation</b>	-20...50 °C
<b>Relative humidity</b>	95 % at 55 °C conforming to IEC 60068-2-30
<b>Vibration resistance</b>	0.35 mm (f= 5...57.6 Hz) conforming to IEC 60068-2-6 1 gn (f= 57.6...150 Hz) conforming to IEC 60255-21-1
<b>Shock resistance</b>	15 gn for 11 ms conforming to IEC 60255-21-1
<b>IP degree of protection</b>	IP20 (terminals) conforming to IEC 60529 IP30 (casing) conforming to IEC 60529
<b>Pollution degree</b>	3 conforming to IEC 60664-1
<b>Dielectric test voltage</b>	2 kV, 1 min AC 50 Hz
<b>Non-dissipating shock wave</b>	4 kV

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Height</b>	4.5 cm
<b>Package 1 Width</b>	7.8 cm
<b>Package 1 Length</b>	9.6 cm
<b>Package 1 Weight</b>	131.0 g
<b>Unit Type of Package 2</b>	S03
<b>Number of Units in Package 2</b>	48
<b>Package 2 Height</b>	30.0 cm
<b>Package 2 Width</b>	30.0 cm
<b>Package 2 Length</b>	40.0 cm
<b>Package 2 Weight</b>	7.0 kg

## Offer Sustainability

<b>Sustainable offer status</b>	Green Premium product
<b>REACH Regulation</b>	<a href="#">REACH Declaration</a>
<b>EU RoHS Directive</b>	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
<b>Mercury free</b>	Yes
<b>China RoHS Regulation</b>	<a href="#">China RoHS declaration</a>
<b>RoHS exemption information</b>	<a href="#">Yes</a>
<b>Environmental Disclosure</b>	<a href="#">Product Environmental Profile</a>
<b>Circularity Profile</b>	<a href="#">End of Life Information</a>

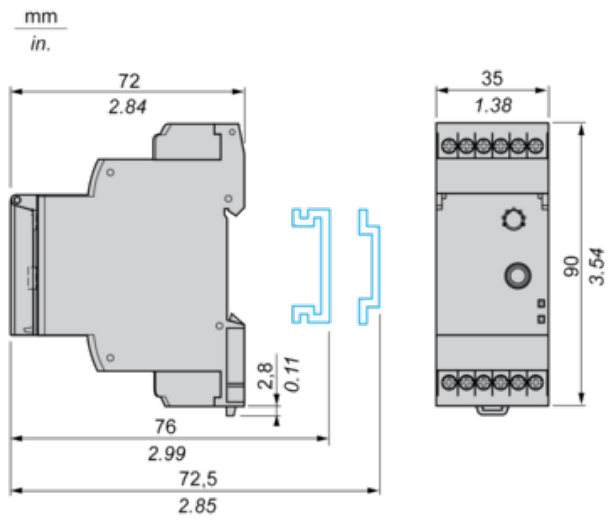
## Contractual warranty

<b>Warranty</b>	18 months
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**3-Phase Supply and Motor Temperature Control Relays**

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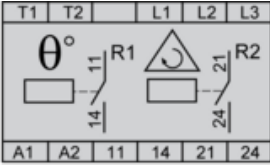
**Dimensions and Mounting**



**3-Phase Supply and Motor Temperature Control Relays**

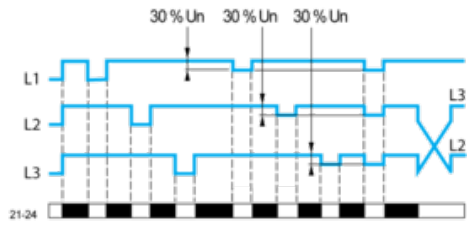
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**Wiring Diagram**

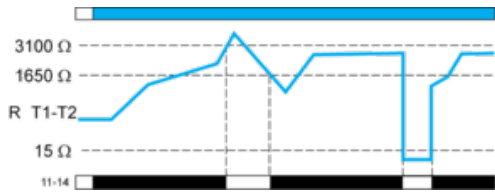


**Function Diagrams**

**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.

**Recommended replacement(s)**