

Product datasheet

Specifications



three-Phase Voltage control relay 380...480Vac, 2 C/O

RM22TR33

Main

Range of product	Harmony Control Relays
Relay type	Control relay
Product or component type	3-phase control relay
Network number of phases	3 phases
Relay name	RM22TR
Relay monitored parameters	Overvoltage and undervoltage detection Phase sequence Phase failure detection
Time delay type	Adjustable 0.1...30 s, +/- 10 % of the full scale value Tt- time delay upon fault
Switching capacity in VA	2000 VA
Measurement range	380...480 V voltage AC
Contacts type and composition	2 C/O

Complementary

Reset time	1500 ms at maximum voltage
Maximum switching voltage	250 V AC
Minimum switching current	10 mA at 5 V DC
Maximum switching current	8 A AC
[Us] rated supply voltage	AC/DC
Supply voltage limits	304...576 V AC
operating limits	- 20 % + 20 % Un
Power consumption in VA	15 VA at 480 V AC 60 Hz
Voltage detection threshold	< 100 V AC
supply voltage frequency	50...60 Hz +/- 10 %
Output contacts	2 C/O
Nominal output current	8 A
Setting accuracy of the switching threshold	+/- 10 % of the full scale
Switching threshold drift	<= 0.05 % per degree centigrade depending permissible ambient air temperature <= 1 % within the supply voltage range
Setting accuracy of time delay	10 P
Time delay drift	<= 0.05 % per degree centigrade depending permissible ambient air temperature <= 1 % within the supply voltage range
Hysteresis	2 % fixed of selectable

Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

Run-up delay at power-up	650 ms
Maximum measuring cycle	150 ms measurement cycle as true rms value
Threshold adjustment voltage	2...20 % of Un selected
Voltage range	380...480 V phase to phase
Repeat accuracy	+/- 0.5 % for input and measurement circuit +/- 3 % for time delay
Measurement error	< 1 % over the whole range with voltage variation < 0.05 %/°C with temperature variation
Response time	<= 300 ms
Overvoltage category	III conforming to IEC 60664-1 III conforming to UL 508
Insulation resistance	> 100 MOhm at 500 V DC conforming to IEC 60255-27
Mounting position	Any position
Connections - terminals	Screw terminals, 2 x 0.5...2 x 2.5 mm ² (AWG 20...AWG 14) solid without cable end Screw terminals, 2 x 0.2...2 x 1.5 mm ² (AWG 24...AWG 16) flexible with cable end Screw terminals, 1 x 0.5...1 x 3.3 mm ² (AWG 20...AWG 12) solid without cable end Screw terminals, 1 x 0.2...1 x 2.5 mm ² (AWG 24...AWG 14) flexible with cable end
Tightening torque	0.6...1 N.m conforming to IEC 60947-1
Housing material	Self-extinguishing plastic
Status LED	LED (yellow) relay ON LED (green) power ON
Mounting support	35 mm DIN rail conforming to IEC 60715
Electrical durability	100000 cycles
Mechanical durability	10000000 cycles
Utilisation category	AC-15 conforming to IEC 60947-5-1 DC-13 conforming to IEC 60947-5-1 AC-1 conforming to IEC 60947-4-1 DC-1 conforming to IEC 60947-4-1
[Un] rated nominal voltage	, self-powered
Safety reliability data	MTTFd = 388.1 years B10d = 350000
Contacts material	Cadmium free
Control type	With test button
Width	22.5 mm
Net weight	0.09 kg

Environment

Immunity to microbreaks	10 ms
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Electromagnetic compatibility	<p>Immunity for residential, commercial and light-industrial environments conforming to IEC 61000-6-1</p> <p>Immunity for industrial environments conforming to IEC 61000-6-2</p> <p>Emission standard for residential, commercial and light-industrial environments conforming to IEC 61000-6-3</p> <p>Emission standard for industrial environments conforming to IEC 61000-6-4</p> <p>Electrostatic discharge - test level: 6 kV level 3 (contact discharge) conforming to IEC 61000-4-2</p> <p>Electrostatic discharge - test level: 8 kV level 3 (air discharge) conforming to IEC 61000-4-2</p> <p>Radiated radio-frequency electromagnetic field immunity test - test level: 10 V/m level 3 conforming to IEC 61000-4-3</p> <p>Electrical fast transient/burst immunity test - test level: 4 kV level 4 (direct) conforming to IEC 61000-4-4</p> <p>Electrical fast transient/burst immunity test - test level: 2 kV level 4 (capacitive coupling) conforming to IEC 61000-4-4</p> <p>Surge immunity test - test level: 4 kV level 4 (common mode) conforming to IEC 61000-4-5</p> <p>Surge immunity test - test level: 2 kV level 4 (differential mode) conforming to IEC 61000-4-5</p> <p>Conducted and radiated emissions class B group 1 conforming to CISPR 11</p> <p>Conducted and radiated emissions class B conforming to CISPR 22</p>
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Standards	IEC 60255-1
Product certifications	<p>GL</p> <p>CSA</p> <p>RCM</p> <p>CE</p> <p>EAC</p> <p>CCC</p> <p>UL</p>
Ambient air temperature for storage	-40...70 °C
Ambient air temperature for operation	<p>-20...50 °C at 60 Hz</p> <p>-20...60 °C at 50 Hz AC/DC</p>
Relative humidity	93...97 % at 25...55 °C conforming to IEC 60068-2-30
Vibration resistance	<p>0.075 mm (f= 10...58.1 Hz) not in operation conforming to IEC 60068-2-6</p> <p>1 gn (f= 10...58.1 Hz) not in operation conforming to IEC 60068-2-6</p> <p>0.035 mm (f= 58.1...150 Hz) in operation conforming to IEC 60068-2-6</p> <p>0.5 gn (f= 58.1...150 Hz) in operation conforming to IEC 60068-2-6</p>
Shock resistance	<p>15 gn (duration = 11 ms) for not in operation conforming to IEC 60068-2-27</p> <p>5 gn (duration = 11 ms) for in operation conforming to IEC 60068-2-27</p>
IP degree of protection	<p>IP20 (terminals) conforming to IEC 60529</p> <p>IP40 (housing) conforming to IEC 60529</p> <p>IP50 (front panel) conforming to IEC 60529</p>
Pollution degree	<p>3 conforming to IEC 60664-1</p> <p>3 conforming to UL 508</p>
Dielectric test voltage	2.5 kV, 1 min AC 50 Hz conforming to IEC 60255-27

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	3.100 cm
Package 1 Width	8.800 cm
Package 1 Length	10.000 cm
Package 1 Weight	106.000 g
Unit Type of Package 2	S02
Number of Units in Package 2	40
Package 2 Height	15.000 cm
Package 2 Width	30.000 cm

Package 2 Length	40.000 cm
Package 2 Weight	4.692 kg
Unit Type of Package 3	P06
Number of Units in Package 3	640
Package 3 Height	75.000 cm
Package 3 Width	60.000 cm
Package 3 Length	80.000 cm
Package 3 Weight	81.060 kg

Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)

Environmental footprint

Carbon footprint (kg.eq.CO2 per CR, Total Life cycle) 95

Environmental Disclosure [Product Environmental Profile](#)

Use Better

Materials and Substances

Packaging made with recycled cardboard Yes

Packaging without single use plastic Yes


SCIP Number 3c095d35-159c-493c-8604-58788d456aa9

Use Again

Repack and remanufacture

Circularity Profile [End of Life Information](#)

Take-back No

WEEE  The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

Dimensions Drawings

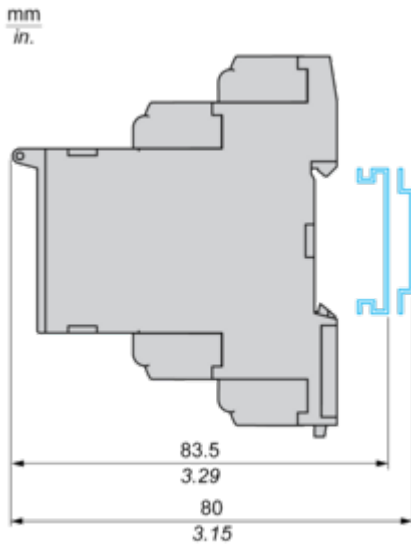
Dimensions



Mounting and Clearance

Mounting and Clearance

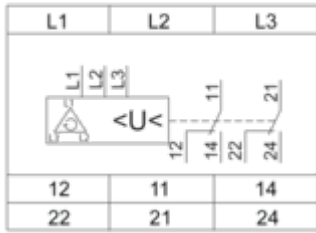
Rail Mounting



Connections and Schema

3-Phase Voltage Control Relay

Wiring Diagram

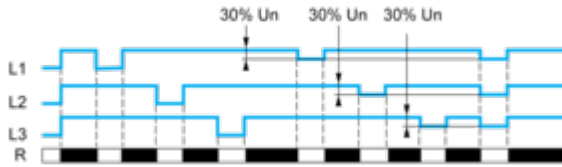


- L1,L2,L3 : Supply to be monitored
- 11-14,12 : 1st C/O contact of output relay
- 21-24,22 : 2nd C/O contact of output relay

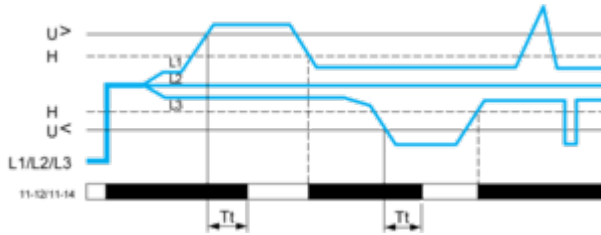
Technical Description

Function Diagrams

Phase Failure Detection (U measured < 0.7 x nominal supply voltage)



Control of Overvoltage and Undervoltage



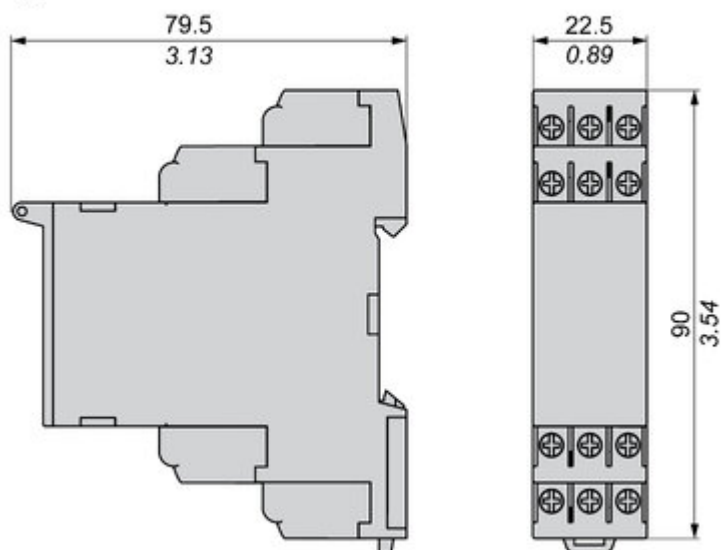
Legend

- Un Nominal supply voltage
- R Output relay
- Tt Overvoltage and undervoltage threshold delay (adjustable on front panel from 0.3 to 30 s)
- H Hysteresis
- U> Overvoltage threshold
- U< Undervoltage threshold
- L1, L2, L3 Phases of the supply voltage monitored
- 11-12, 11-14 R1 output relay connections
- Relay status: black color = energized.

Technical Illustration

Dimensions

mm
in.



Offer Marketing Illustration

Product benefits / Features



Features

Harmony Control Relay

- 

Wide monitoring parameters (phase, current, voltage, liquid level, frequency, speed, temperature, and pump control) to meet your application needs.
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Experience unprecedented accuracy, predictive maintenance, and superior security.
- 

True RMS measurement that minimizes the possibility of unexpected trips from highly polluted networks (except RM17TG and RM22TG)
- 

Green Premium labelled products, promising compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO₂ product
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Compatible with a wide range of applications, such as hoisting, packaging, lifts, textile, pumping, and water.

Offer Marketing Illustration

Product benefits / Features

Technical Benefits

Harmony Control Relay

Compliant with IEC 60255-1 standard, and a wide array of product certifications such as UL, CE, CSA, EAC.

Different product width to meet your needs:
17.5 mm/0.69 in.,
22.5 mm/0.88 in.,
35 mm/1.38 in.

Diagnostic button to check downstream circuit immediately, shorten the commission and troubleshooting time

Dust and unintended human intervention avoided thanks to the IP50 lead-sealable settings protection cover.

A Dial-Pointer LED indicator that enhances ease of operation in difficult environments such as dusty or low-light conditions



Image of product / Alternate images

Alternative



