Product data sheet

Specifications



3-phase control relay, Harmony Control Relays, 8A, 2CO, overvoltage and undervoltage detection, 200...240V AC

RM22TR31

Product availability: Stock - Normally stocked in distribution facility

Main

Range of Product	Harmony Control Relays
Relay Type	Control relay
Product or Component Type	3-phase control relay
Phase	3 phase
Relay name	RM22TR
Relay monitored parameters	Phase sequence Phase failure detection Overvoltage and undervoltage 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	200...240 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 5 V DC
Maximum switching current	8 A AC
[Us] Rated Supply Voltage	AC/DC
Supply voltage limits	160…288 V AC
operating limits	- 20 % + 20 % Un
Power consumption in VA	10 VA 240 V AC 60 Hz
Voltage detection threshold	< 100 V AC
supply voltage frequency	50...60 Hz +/- 10 %
Output contacts	2 C/O
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 selectable

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

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

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	200...240 V phase to phase
Repeat accuracy	+/- 0.5 % input and measurement circuit +/- 3 % 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 500 V DC IEC 60255-27
Mounting position	Any position
Connections - terminals	Screw terminals, 2 x 0.5...2 x 2.5 mm² AWG 20...AWG 14) solid without cable end Screw terminals, 2 x 0.2...2 x 1.5 mm² AWG 24...AWG 16) flexible with cable end Screw terminals, 1 x 0.5...1 x 3.3 mm² AWG 20...AWG 12) solid without cable end Screw terminals, 1 x 0.2...1 x 2.5 mm² AWG 24...AWG 14) flexible with cable end
Tightening torque	5.3…8.9 lbf.in (0.6…1 N.m) IEC 60947-1
Housing material	Polycarbonate
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 IEC 60947-5-1 DC-13 IEC 60947-5-1 AC-1 IEC 60947-4-1 DC-1 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	0.9 in (22.5 mm)
Product Weight	0.20 lb(US) (0.09 kg)

Environment

Immunity to microbreaks	10 ms

Electromagnetic compatibility	Immunity for residential, commercial and light-industrial environments conforming to IEC 61000-6-1 Immunity for industrial environments conforming to IEC 61000-6-2 Emission standard for residential, commercial and light-industrial environments conforming to IEC 61000-6-3 Emission standard for industrial environments conforming to IEC 61000-6-4 Electrostatic discharge - test level: 6 kV level 3 (contact discharge) conforming to IEC 61000-4-2 Electrostatic discharge - test level: 8 kV level 3 (air discharge) conforming to IEC 61000-4-2 Radiated radio-frequency electromagnetic field immunity test - test level: 10 V/m level 3 conforming to IEC 61000-4-3 Electrical fast transient/burst immunity test - test level: 4 kV level 4 (direct) conforming to IEC 61000-4-4 Electrical fast transient/burst immunity test - test level: 2 kV level 4 (capacitive coupling) conforming to IEC 61000-4-4 Surge immunity test - test level: 4 kV level 4 (common mode) conforming to IEC 61000-4-5 Surge immunity test - test level: 2 kV level 4 (differential mode) conforming to IEC 61000-4-5 Conducted and radiated emissions class B group 1 conforming to CISPR 11 Conducted and radiated emissions class B conforming to CISPR 22
Standards	IEC 60255-1
Product Certifications	CSA CCC EAC RCM CE GL UL
Ambient Air Temperature for Storage	-40…158 °F (-40…70 °C)
Ambient air temperature for operation	-4…122 °F (-20…50 °C) 60 Hz -4…140 °F (-20…60 °C) 50 Hz AC/DC
Relative humidity	93…97 % 77…131 °F (25…55 °C) IEC 60068-2-30
Vibration resistance	0.075 mm 10…58.1 Hz) not in operation IEC 60068-2-6 1 gn 10…58.1 Hz) not in operation IEC 60068-2-6 0.035 mm 58.1…150 Hz) in operation IEC 60068-2-6 0.5 gn 58.1…150 Hz) in operation IEC 60068-2-6
Shock resistance	15 gn 11 ms) not in operation IEC 60068-2-27 5 gn 11 ms) in operation IEC 60068-2-27
IP degree of protection	IP20 IEC 60529 terminals) IP40 IEC 60529 housing) IP50 IEC 60529 front panel)
Pollution degree	3 IEC 60664-1 3 UL 508
Dielectric test voltage	2.5 kV AC 50 Hz, 1 min IEC 60255-27

Ordering and shipping details

Category	US10CP222380
Discount Schedule	0CP2
GTIN	3606480792182
Returnability	Yes
Country of origin	ID

Packing Units

Unit Type of Package 1	PCE
Nbr. of units in pkg.	1
Package 1 Height	3.2 in (8.2 cm)

Package 1 Width	3.7 in (9.5 cm)
Package 1 Length	1.02 in (2.6 cm)
Package weight(Lbs)	3.6 oz (101.0 g)
Unit Type of Package 2	S02
Number of Units in Package 2	40
Package 2 Height	5.9 in (15.0 cm)
Package 2 Width	11.8 in (30.0 cm)
Package 2 Length	15.7 in (40.0 cm)
Package 2 Weight	9.910 lb(US) (4.495 kg)
Unit Type of Package 3	PAL
Number of Units in Package 3	640
Package 3 Height	19.7 in (50.0 cm)
Package 3 Width	23.6 in (60.0 cm)
Package 3 Length	31.5 in (80.0 cm)
Package 3 Weight	189.99 lb(US) (86.18 kg)

Contractual warranty

Warranty (in months)	18

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

Total lifecycle Carbon footprint	**71 kg CO2 eq.**
Carbon footprint of the manufacturing phase [A1 to A3]	**2 kg CO2 eq.**
Carbon footprint of the distribution phase [A4]	**0 kg CO2 eq.**
Carbon footprint of the installation phase [A5]	**0 kg CO2 eq.**
Carbon footprint of the use phase [B2, B3, B4, B6]	**69 kg CO2 eq.**
Carbon footprint of the end-of-life phase [C1 to C4]	**0.1 kg CO2 eq.**
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**
EU RoHS Directive	Compliant By Exemption
REACh Regulation	Reference contains Substances of Very High Concern above the threshold
California proposition 65	**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. For more information go to www.P65Warnings.ca.gov**

Use Longer

Lifetime extension

Repair	**No**

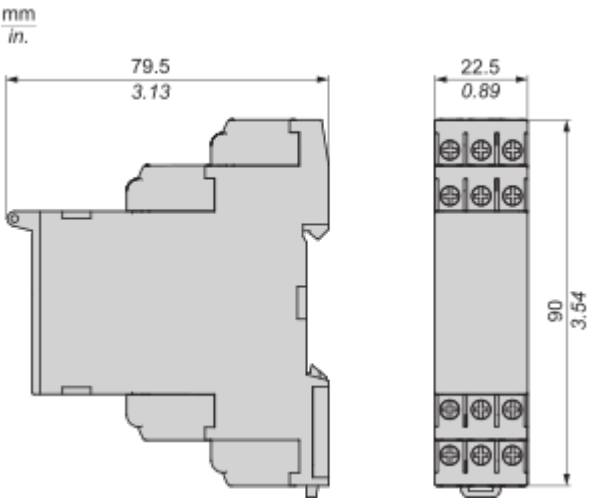
Use Again

Repack and remanufacture

Circularity Profile	End of Life Information
Take-back	**No**

Dimensions Drawings

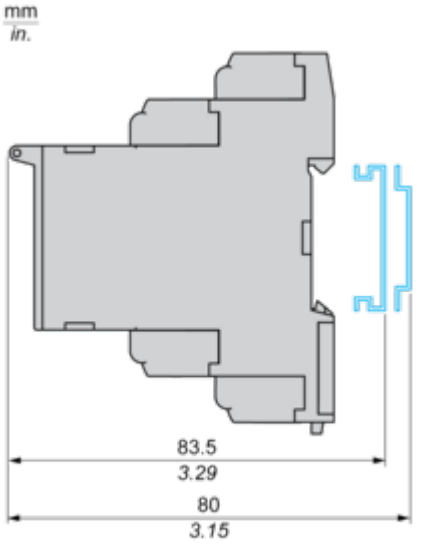
Dimensions



Mounting and Clearance

Mounting and Clearance

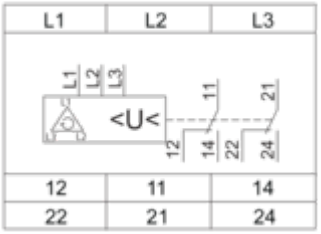
Rail Mounting



Connections and Schema

3-Phase Voltage Control Relay

Wiring Diagram

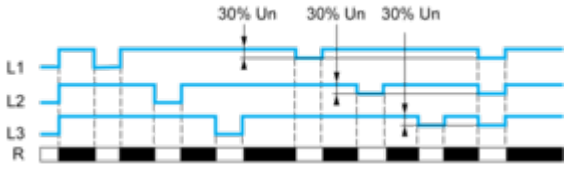


L1,L2,L3 : Supply to be monitored
11-14,12 : 1st C/O contact of output relay
21-24,22 : 2nd C/O contact of output relay

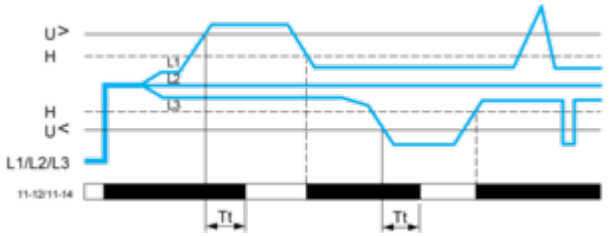
Technical Description

Function Diagrams

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



Control of Overvoltage and Undervoltage

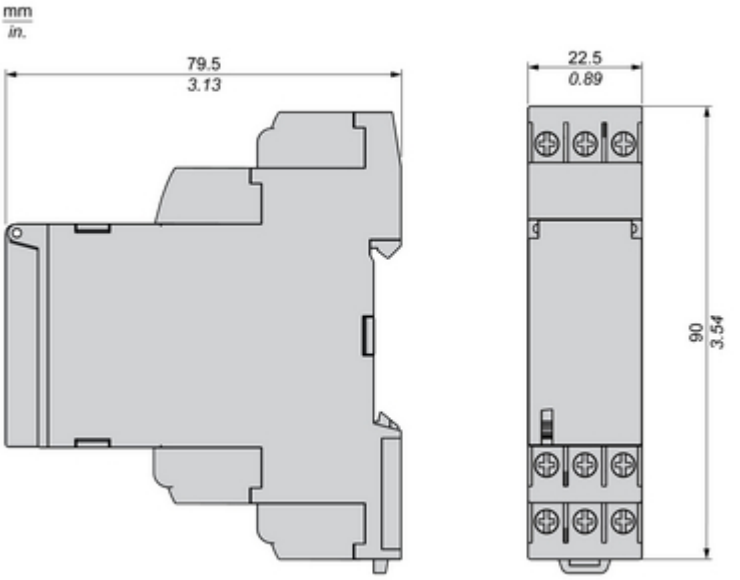


Legend

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.

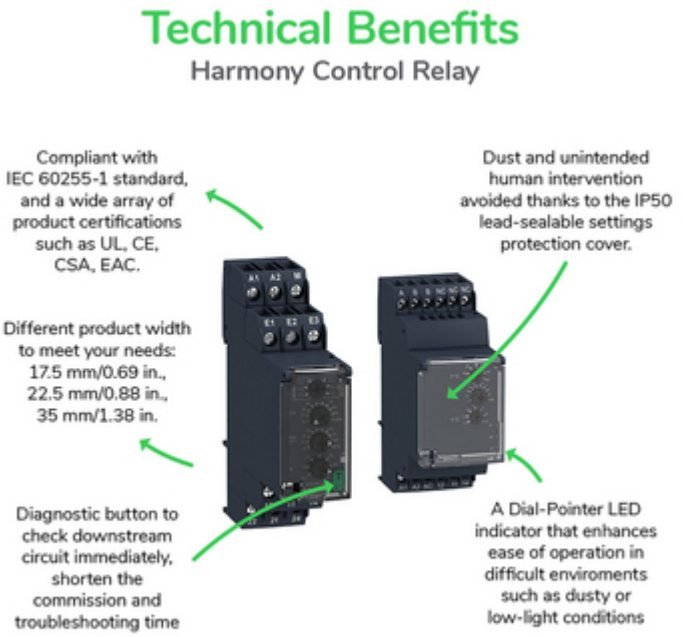
Technical Illustration

Dimensions



Offer Marketing Illustration

Product benefits / Features



Offer Marketing Illustration

Product benefits / Features

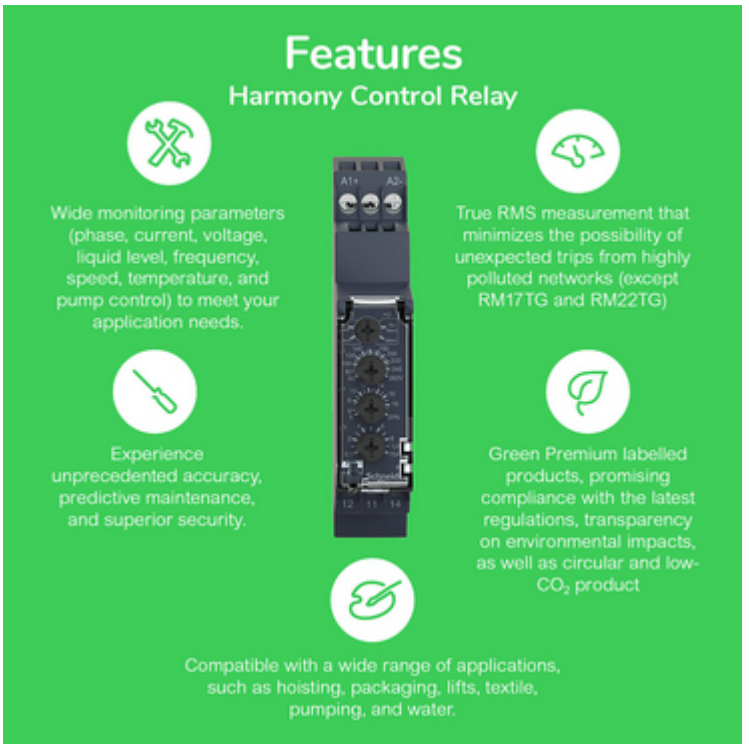
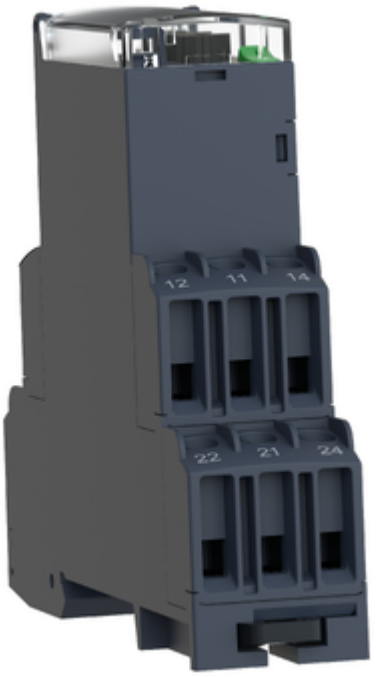
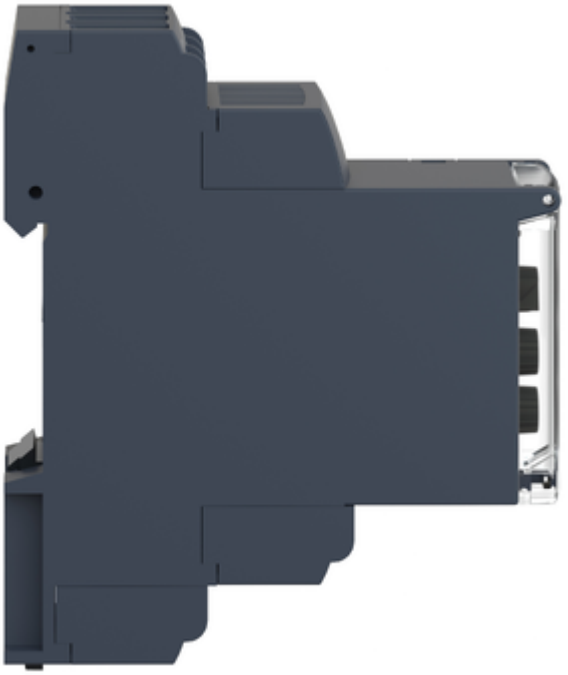
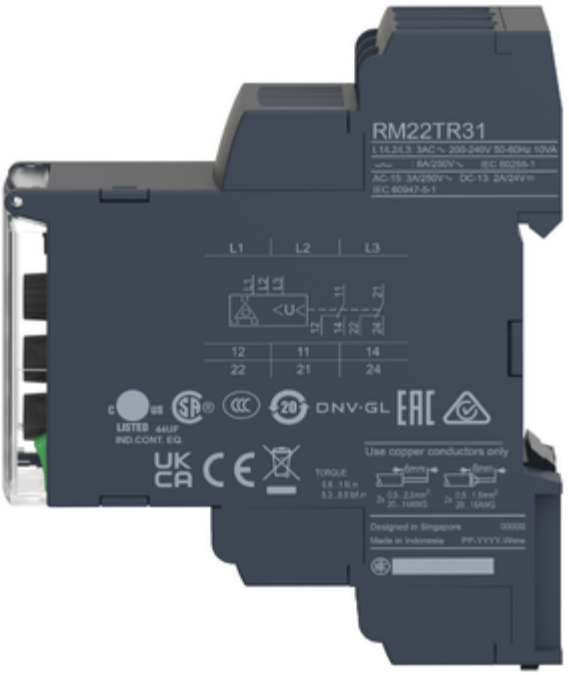


Image of product / Alternate images

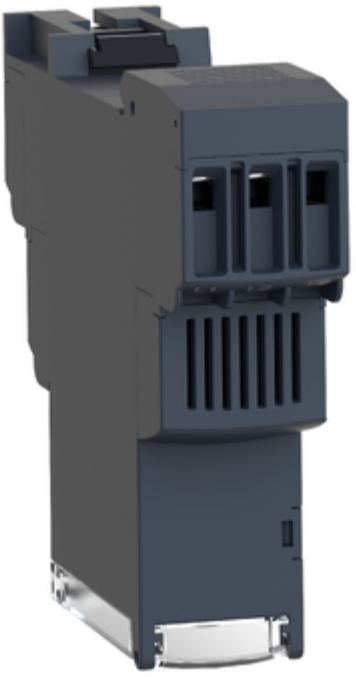
Alternative






RM22TR31
L1
L2
L3
12
22
11
21
14
24
DNV·GL
Use copper conductors only






L1
L2
L3
DIAGNOSTIC
Schneider
12
11
14
22
21
24

Image of product in real life situation

