Product datasheet

Specifications



voltage control relay, Harmony Control Relays, 8A, 2CO, overvoltage or undervoltage detection, 15...500V AC DC, 24...240V AC DC

RM22UA33MR

Main

Range of product	Harmony Control Relays
Relay type	Voltage control relay
Product or component type	Voltage control relay
Network number of phases	1 phase
Supply circuit type	DC
Relay name	RM22UA
Relay monitored parameters	Undervoltage and overvoltage in window mode Overvoltage or undervoltage detection
time delay	Adjustable 0.1...30 s, +/- 10 % of the full scale value Tt- time delay upon fault
Switching capacity in VA	2000 VA
Measurement range	15...500 V AC/DC
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
Supply voltage limits	20.4…264 V AC/DC
Power consumption in VA	3.5 VA AC
Maximum power consumption in W	1.5 W DC
Immunity to microbreaks	10 ms
Resistance across terminals	150 kOhm at E2-M terminals 300 kOhm at E1-M terminals 500 kOhm at E3-M terminals
Output contacts	2 C/O
nominal output current	8 A
Hysteresis	3 % fixed of full scale for window mode 5…50 % adjustable of threshold setting
delay at power up	600 ms
Maximum measuring cycle	100 ms measurement cycle as true rms value
Repeat accuracy	+/- 0.5 % for input and measurement circuit +/- 2 % for time delay

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

Measurement error	< 1 % over the whole range with voltage variation 0.05 %/°C with temperature variation
Response time	<= 500 ms
Insulation resistance	> 100 MOhm at 500 V DC
Overvoltage category	III conforming to IEC 60664-1
Insulation	Between supply and measurement
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	0.6…1 N.m conforming to IEC 60947-1
Housing material	Self-extinguishing plastic
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	24...240 V AC/DC 50/60 Hz, non self-powered
Safety reliability data	MTTFd = 308.2 years B10d = 290000
Contacts material	Cadmium free
control type	With test button
Width	22.5 mm
Net weight	0.11 kg

Environment

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
Ambient air temperature for operation	-20…50 °C at 60 Hz -20…60 °C at 50 Hz
Standards	IEC 60255-1

Product certifications	RCM UL EAC CSA CE GL CCC
Ambient air temperature for storage	-40…70 °C
Relative humidity	93…97 % at 25…55 °C conforming to IEC 60068-2-30
Vibration resistance	0.075 mm (f= 10…58.1 Hz) not in operation conforming to IEC 60068-2-6 1 gn (f= 10…58.1 Hz) not in operation conforming to IEC 60068-2-6 0.035 mm (f= 58.1…150 Hz) in operation conforming to IEC 60068-2-6 0.5 gn (f= 58.1…150 Hz) in operation conforming to IEC 60068-2-6
Shock resistance	15 gn (duration = 11 ms) for not in operation conforming to IEC 60068-2-27 5 gn (duration = 11 ms) for in operation conforming to IEC 60068-2-27
IP degree of protection	IP20 (terminals) conforming to IEC 60529 IP40 (housing) conforming to IEC 60529 IP50 (front panel) conforming to IEC 60529
Pollution degree	3 conforming to IEC 60664-1
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	2.600 cm
Package 1 Width	8.200 cm
Package 1 Length	9.500 cm
Package 1 Weight	122.000 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	5.390 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)	67
Environmental Disclosure	Product Environmental Profile

Use Better

Materials and Substances

Packaging made with recycled cardboard	Yes
Packaging without single use plastic	Yes
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
SCIP Number	5e3fdf99-611b-4d07-ad17-6eba84ab488b
REACh Regulation	REACh Declaration

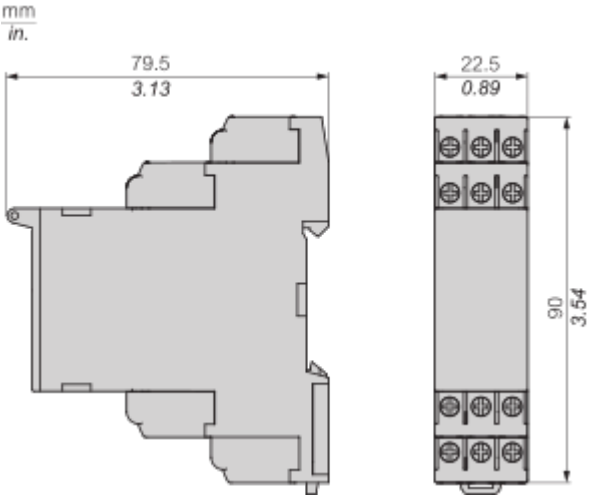
Use Again

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

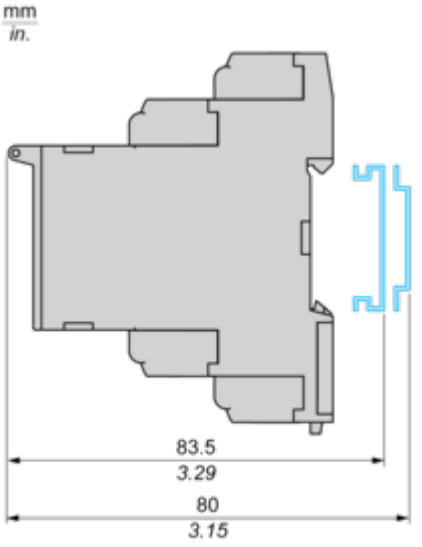
Dimensions



Mounting and Clearance

Mounting and Clearance

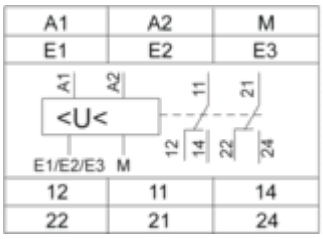
Rail Mounting



Connections and Schema

Voltage Measurement Relay

Wiring Diagram



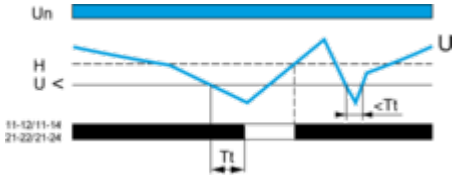
A1,A2 : Supply voltage
E1,E2,E3,M : Voltages to be measured
11-14,12 : 1st C/O contact of output relay
21-24,22 : 2nd C/O contact of output relay

Technical Description

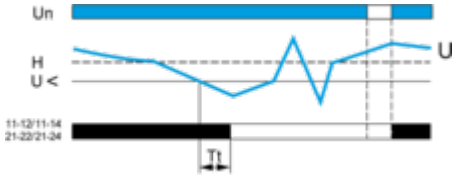
Function Diagrams

Undervoltage Control

Without memory ("No Memory" mode)

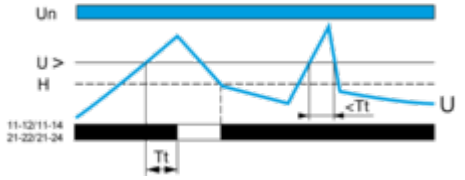


With memory ("Memory" mode)

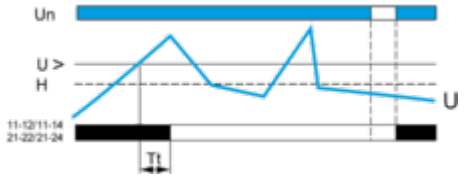


Overvoltage Control

Without memory ("No Memory" mode)



With memory ("Memory" mode)



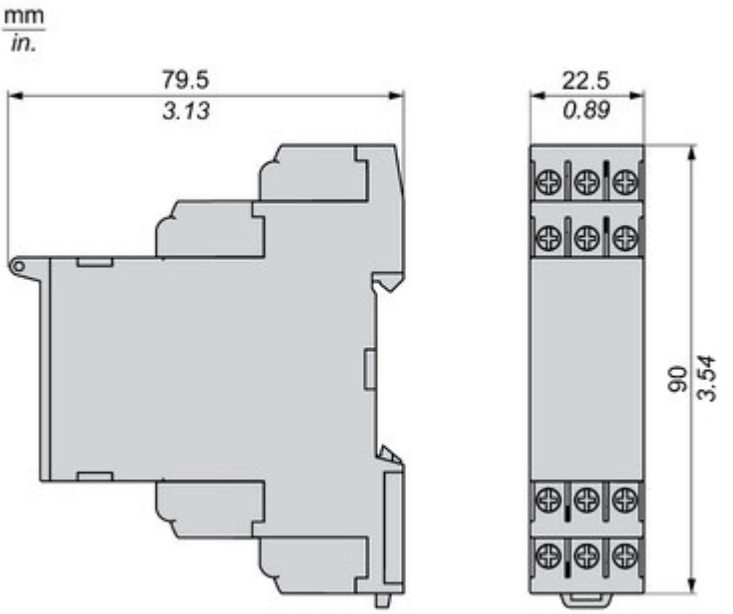
Legend

Tt Time delay after crossing of threshold
Un Nominal supply voltage
U Monitored supply voltage
H Hysteresis
U> Overvoltage threshold
U< Undervoltage threshold
11-12/11-14, 21-22/21-24 Output relay connections
Relay status: black color = energized.

NOTE: In "Memory" mode, the relay opens when crossing of the threshold is detected and then stays in that position. The power supply voltage must be switched off to reset the product.

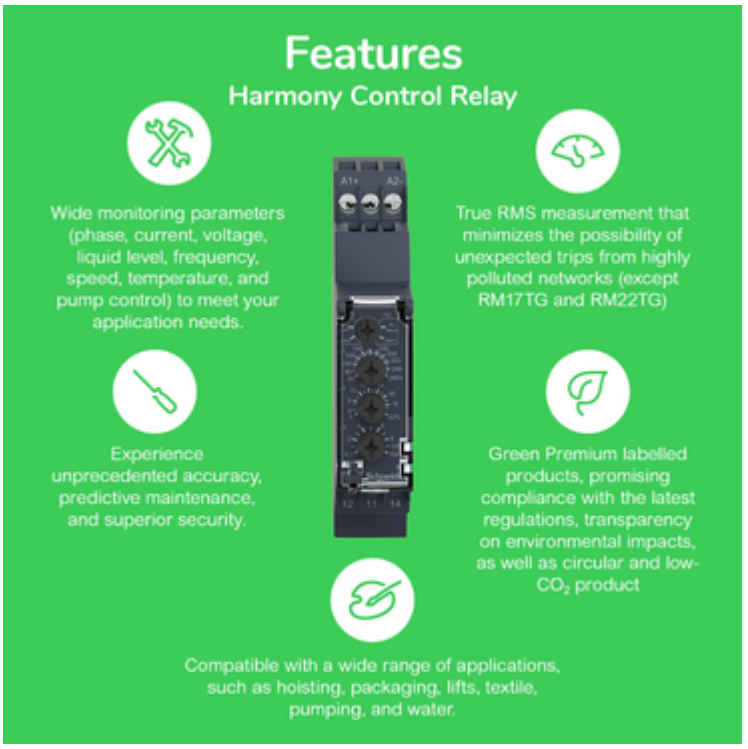
Technical Illustration

Dimensions



Offer Marketing Illustration

Product benefits / Features



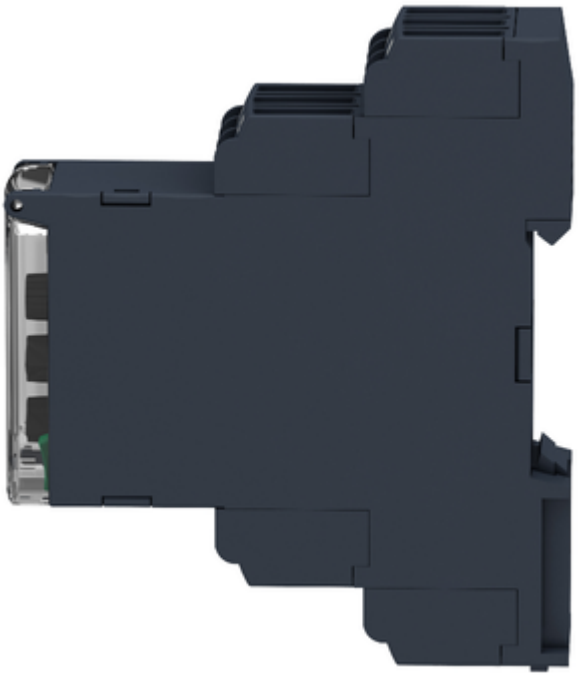
Offer Marketing Illustration

Product benefits / Features



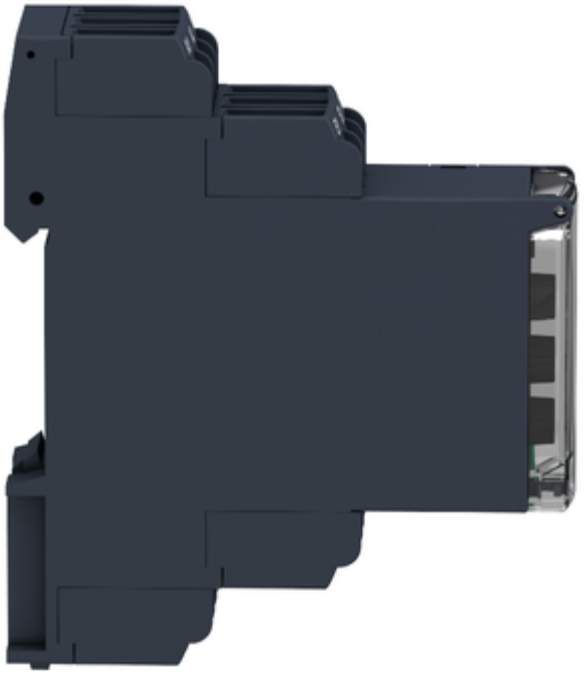
Image of product / Alternate images

Alternative










12
11
14
22
21
24

