



Main

Range of product	Harmony Control Relays
Product or component type	Voltage control relay
Relay 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 type	Adjustable 0.1...30 s, +/- 10 % of the full scale value on crossing the threshold Tt
Switching capacity in VA	2000 VA
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	24...240 V AC/DC 50/60 Hz
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
Resistance across terminals	110 KOhm at E2-M terminals 22 KOhm at E1-M terminals 220 KOhm at E3-M terminals
Output contacts	2 C/O
Nominal output current	8 A
Run-up 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
Measurement error	< 1 % over the whole range with voltage variation 0.05 %/°C with temperature variation
Response time	<= 500 ms
Overvoltage category	III conforming to IEC 60664-1
Insulation	Between supply and measurement
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
Mounting support	35 mm DIN rail conforming to EN/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
Safety reliability data	B10d = 290000 MTTFd = 308.2 years
Contacts material	Cadmium free
Width	22.5 Mm
Net weight	0.11 Kg

Environment

Electromagnetic compatibility	Immunity for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-1 Immunity for industrial environments conforming to EN/IEC 61000-6-2 Emission standard for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-3 Emission standard for industrial environments conforming to EN/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	EN/IEC 60255-1
Product certifications	GL UL CCC EAC CE RCM CSA
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

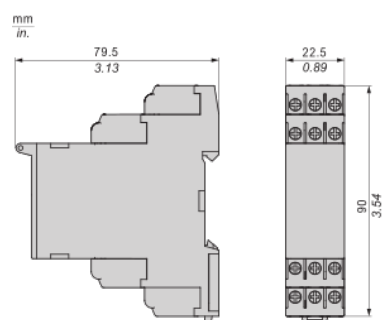
Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Weight	122 G
Package 1 Height	2.6 Cm
Package 1 width	8.2 Cm
Package 1 Length	9.5 Cm
Unit Type of Package 2	S02
Number of Units in Package 2	40
Package 2 Weight	5.29 Kg
Package 2 Height	15 Cm
Package 2 width	30 Cm
Package 2 Length	40 Cm
Unit Type of Package 3	P06
Number of Units in Package 3	640
Package 3 Weight	92.58 Kg
Package 3 Height	50 Cm
Package 3 width	80 Cm
Package 3 Length	60 Cm

Offer Sustainability

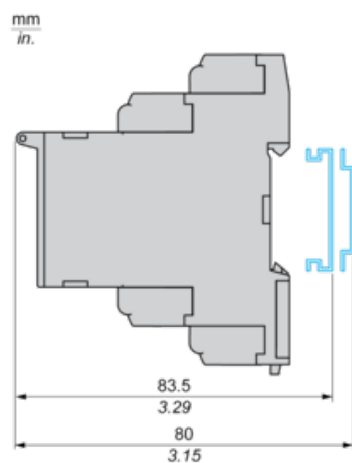
Sustainable offer status	Green Premium product
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	China RoHS Declaration
Environmental Disclosure	Product Environmental Profile
Circularity Profile	End Of Life Information
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

Dimensions



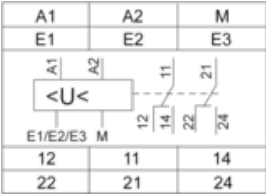
Mounting and Clearance

Rail Mounting



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

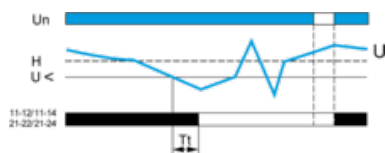
Function Diagrams

Undervoltage Control

Without memory ("No Memory" mode)



With memory ("Memory" mode)

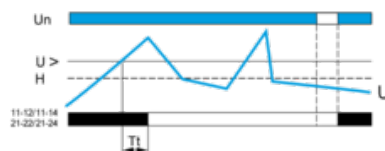


Overvoltage Control

Without memory ("No Memory" mode)



With memory ("Memory" mode)



Legend

T_t Time delay after crossing of threshold

U_n 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.

Product Life Status : **Commercialised**