

# RM22UA32MR

voltage control relay, Harmony Control  
Relays, 8A, 2CO, overvoltage or undervoltage  
detection, 1â€¦100V AC DC, 24â€¦240V AC DC



## Main

Range of Product	Harmony Control Relays
Relay Type	Voltage control relay
Product or Component Type	Voltage control relay
Phase	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	1...100 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 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	110 KOhm E2-M terminals 22 KOhm E1-M terminals 220 kOhm E3-M terminals
Output contacts	2 C/O
Nominal output current	8 A
Hysteresis	3 % fixed full scale for window mode 5...50 % adjustable threshold setting
Delay at power up	600 ms
Maximum measuring cycle	100 ms measurement cycle as true rms value
Repeat accuracy	+/- 0.5 % input and measurement circuit +/- 2 % time delay
Measurement error	< 1 % over the whole range with voltage variation 0.05 %/°C with temperature variation
Response time	<= 500 ms
Insulation resistance	> 100 MOhm 500 V DC
Overvoltage category	III 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	5.3...8.9 lbf.in (0.6...1 N.m) 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 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	24...240 V AC/DC 50/60 Hz, non self-powered
Safety reliability data	B10d = 290000 MTTFd = 308.2 years
Contacts material	Cadmium free
Control Type	With test button
Width	0.9 in (22.5 mm)
Net Weight	0.24 lb(US) (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	-4...122 °F (-20...50 °C) 60 Hz -4...140 °F (-20...60 °C) 50 Hz
Standards	IEC 60255-1
Product Certifications	GL[RETURN]UL[RETURN]CCC[RETURN]EAC[RETURN]CE[RETURN]RCM[RETURN]CSA
Ambient Air Temperature for Storage	-40...158 °F (-40...70 °C)
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
Dielectric test voltage	2.5 kV AC 50 Hz, 1 min IEC 60255-27

## Ordering and shipping details

Category	US10CP222380
Discount Schedule	0CP2
GTIN	3606480792243
Returnability	Yes
Country of origin	ID

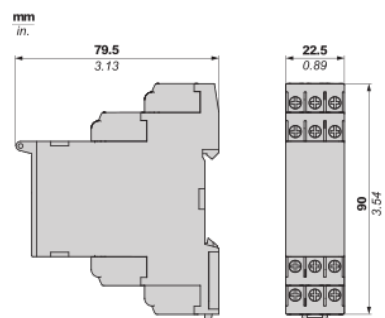
## Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	1.02 in (2.6 cm)
Package 1 Width	3.2 in (8.2 cm)
Package 1 Length	3.7 in (9.5 cm)
Package 1 Weight	4.3 oz (122.0 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	11.66 lb(US) (5.29 kg)
Unit Type of Package 3	P06
Number of Units in Package 3	640
Package 3 Height	19.7 in (50.0 cm)
Package 3 Width	31.5 in (80.0 cm)
Package 3 Length	23.6 in (60.0 cm)
Package 3 Weight	204.10 lb(US) (92.58 kg)

## Offer Sustainability

Sustainable offer status	Green Premium product
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 <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>
REACH Regulation	<a href="#">REACH Declaration</a>
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
Mercury free	Yes
China RoHS Regulation	<a href="#">China RoHS Declaration</a>
RoHS exemption information	<a href="#">Yes</a>
Environmental Disclosure	<a href="#">Product Environmental Profile</a>
Circularity Profile	<a href="#">End Of Life Information</a>
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.

## Dimensions



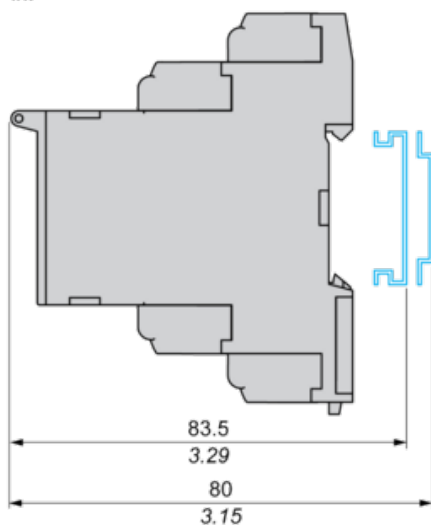
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Mounting and Clearance

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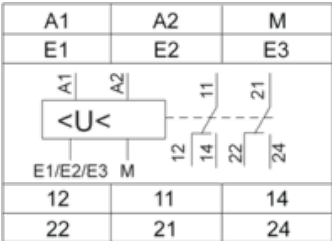
Rail Mounting

mm  
in.



Voltage Measurement Relay

Wiring Diagram

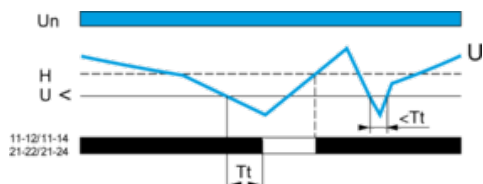


A1,A2 : Supply voltage  
E1,E2,E3,M : Voltages to be measured  
11-14,12 : 1st C/O contact of output relay  
21-24,22 : 2nd C/O contact of output relay

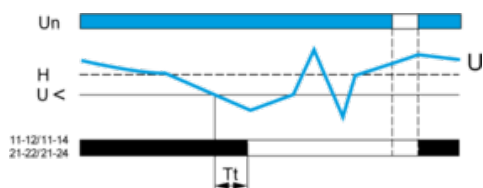
## Function Diagrams

### Undervoltage Control

Without memory ("No Memory" mode)

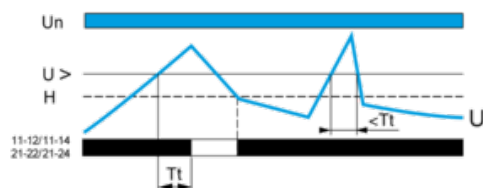


With memory ("Memory" mode)

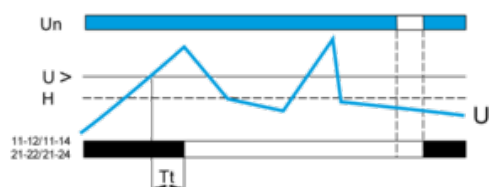


### Overvoltage Control

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.