

RM22UA33MR

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



Main

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| 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

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|--------------------------------|---|
| 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 |
| 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 |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. 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. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

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| 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 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

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|---------------------------------------|--|
| 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[RETURN]UL[RETURN]EAC[RETURN]CSA[RETURN]CE[RETURN]GL[RETURN]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 |

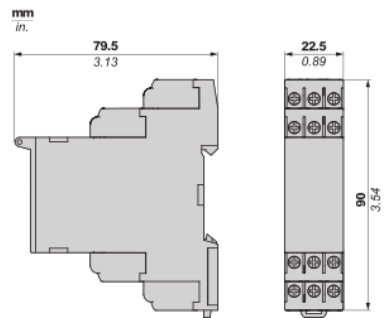
Packing Units

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|------------------------------|--------|
| Unit Type of Package 1 | PCE |
| Number of Units in Package 1 | 1 |
| Package 1 Height | 2.6 cm |
| Package 1 Width | 8.2 cm |
| Package 1 Length | 9.5 cm |
| Package 1 Weight | 122 g |

Offer Sustainability

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|----------------------------|---|
| Sustainable offer status | Green Premium product |
| REACH Regulation | REACH Declaration |
| EU RoHS Directive | Pro-active compliance (Product out of EU RoHS legal scope) |
| Mercury free | Yes |
| China RoHS Regulation | China RoHS Declaration |
| RoHS exemption information | Yes |
| 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

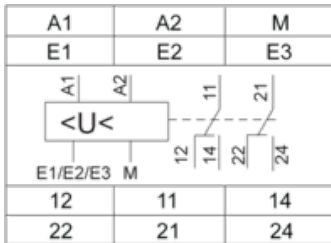
Rail Mounting

mm
in.



Voltage Measurement Relay

Wiring Diagram



A1,A2 : Supply voltage

E1,E2,E3,M : Voltages to be measured

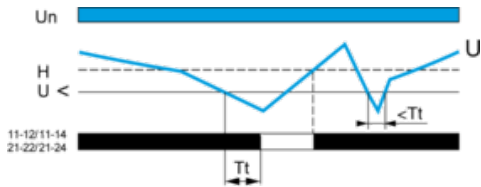
11-14,12 : 1st C/O contact of output relay

21-24,22 : 2nd C/O contact of output relay

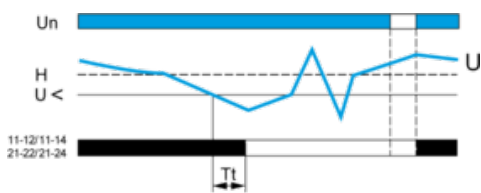
Function Diagrams

Undervoltage Control

Without memory ("No Memory" mode)

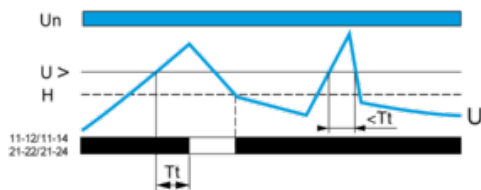


With memory ("Memory" mode)

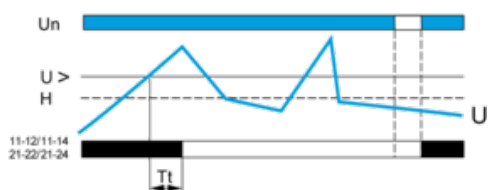


Overvoltage Control

Without memory ("No Memory" mode)



With memory ("Memory" mode)



Legend

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.