

# Product data sheet

Specifications



voltage control relay, Harmony  
Control Relays, 8A, 2CO, 0.05...5V  
AC DC, 24...240V AC DC

RM22UA21MR

**Product availability: Non-Stock - Not normally stocked in distribution facility**

## Main

|                            |                        |
|----------------------------|------------------------|
| Range of Product           | Harmony Control Relays |
| Product or Component Type  | Voltage control relay  |
| Relay name                 | RM22UA                 |
| Relay monitored parameters | Overvoltage detection  |
| Control Type               | With Diagnostic button |
| Phase                      | 1 phase                |
| Supply circuit type        | DC                     |

## Complementary

|                                             |                                                                          |
|---------------------------------------------|--------------------------------------------------------------------------|
| [Us] rated supply voltage                   | 24...240 V AC/DC 50/60 Hz, non self-powered                              |
| Supply voltage limits                       | 20.4...264 V AC/DC                                                       |
| Power consumption in VA                     | 3.5 VA AC                                                                |
| Immunity to microbreaks                     | 10 ms less than or equal                                                 |
| Measurement range                           | 0.05...5 V AC/DC                                                         |
| Maximum measuring cycle                     | 100 ms measurement cycle as true rms value                               |
| Hysteresis                                  | 5...50 % adjustable threshold setting                                    |
| Setting accuracy of the switching threshold | +/- 10 % of the full scale                                               |
| Repeat accuracy                             | +/- 0.5 % input and measurement circuit                                  |
| Measurement error                           | +/- 1 %/V with voltage variation<br>0.05 %/°C with temperature variation |
| Time delay type                             | Without                                                                  |
| Reset time                                  | 1500 ms at maximum rated voltage                                         |
| Response time                               | <= 500 ms (in the event of a fault)                                      |
| Power on delay                              | 600 ms                                                                   |
| Output contacts                             | 2 C/O                                                                    |
| nominal output current                      | 8 A                                                                      |
| Maximum switching voltage                   | 250 V AC                                                                 |
| Switching capacity in VA                    | 2000 VA                                                                  |
| Minimum switching current                   | 10 mA 12 V DC                                                            |
| Maximum switching current                   | 8 A AC                                                                   |
| Electrical durability                       | 100000 cycles                                                            |
| Mechanical durability                       | 10000000 cycles                                                          |

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

|                                |                                                                                                                                                                                                  |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Utilisation category           | AC-15 250 V AC 3 A conforming to IEC 60947-5-1<br>DC-13 24 V DC 2 A conforming to IEC 60947-5-1<br>AC-1 250 V AC 8 A conforming to IEC 60947-4-1<br>DC-1 24 V DC 5 A conforming to IEC 60947-4-1 |
| Contacts material              | Cadmium free                                                                                                                                                                                     |
| Maximum power consumption in W | 1.5 W DC                                                                                                                                                                                         |
| Resistance across terminals    | 5 kOhm E1-M terminals<br>30 kOhm E2-M terminals<br>50 kOhm E3-M terminals                                                                                                                        |
| Threshold setting              | 10...100 %                                                                                                                                                                                       |
| Insulation                     | Between supply and measurement                                                                                                                                                                   |

## Environment

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electromagnetic compatibility          | Immunity for residential, commercial and light-industrial environments conforming to IEC 61000-6-1<br>Immunity for industrial environments conforming to IEC 61000-6-2<br>Emission standard for residential, commercial and light-industrial environments (except radiated emission) conforming to IEC 61000-6-3<br>Emission standard for industrial environments conforming to IEC 61000-6-4<br>Surge immunity test - test level: 4 kV level 4 (common mode) conforming to IEC 61000-4-5<br>Surge immunity test - test level: 2 kV level 4 (differential mode) conforming to IEC 61000-4-5 |
| Standards                              | IEC 60255-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Product Certifications                 | UL<br>EAC<br>CSA<br>DNV<br>CCC<br>RCM<br>CE<br>UKCA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Marking                                | WEEE<br>China RoHS<br>ROHS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Directives                             | 2014/35/EU - low voltage directive<br>2014/30/EU - electromagnetic compatibility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Ambient Air Temperature for Storage    | -40...158 °F (-40...70 °C)<br>-40...158 °F (-40...70 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Ambient air temperature for operation  | -4...122 °F (-20...50 °C) 60 Hz<br>-4...140 °F (-20...60 °C) 50 Hz<br>-4...122 °F (-20...50 °C)<br>-4...140 °F (-20...60 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Relative humidity                      | 93...97 % 77...131 °F (25...55 °C) IEC 60068-2-30<br>93...97 % 77...131 °F (25...55 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Vibration resistance                   | 0.075 mm 10...58.1 Hz) not in operation IEC 60068-2-6<br>1 gn 58.1...150 Hz) not in operation IEC 60068-2-6<br>0.035 mm 10...60.1 Hz) in operation IEC 60068-2-6<br>0.5 gn 60.1...150 Hz) in operation IEC 60068-2-6                                                                                                                                                                                                                                                                                                                                                                        |
| Shock resistance                       | 15 gn 11 ms) not in operation IEC 60068-2-27<br>5 gn 11 ms) in operation IEC 60068-2-27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| IP degree of protection                | IP20 IEC 60529 terminal block)<br>IP40 IEC 60529 housing)<br>IP50 IEC 60529 front panel)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Pollution degree                       | 3 IEC 60664-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Overvoltage category                   | III conforming to IEC 60664-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Dielectric test voltage                | 2 kV AC 50/60 Hz, 1 min IEC 60255-27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| [Uimp] rated impulse withstand voltage | 4 kV IEC 60664-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|                               |                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Insulation resistance         | > 100 MOhm 500 V DC IEC 60255-27                                                                                                                                                                                                                                                                                                       |
| [Ui] rated insulation voltage | 250 V IEC 60664-1                                                                                                                                                                                                                                                                                                                      |
| Operating position            | Any position without derating                                                                                                                                                                                                                                                                                                          |
| Connections - terminals       | Screw terminals, 2 x 0.5...2 x 2.5 mm² 20 AWG...14 AWG) solid without cable end<br>Screw terminals, 2 x 0.2...2 x 1.5 mm² 24 AWG...16 AWG) flexible with cable end<br>Screw terminals, 1 x 0.5...1 x 4 mm² 20 AWG...12 AWG) solid without cable end<br>Screw terminals, 1 x 0.2...1 x 2.5 mm² 24 AWG...14 AWG) flexible with cable end |
| Tightening torque             | 5.3...8.9 lbf.in (0.6...1 N.m) IEC 60947-1<br>5.3...8.9 lbf.in (0.6...1.006 N.m)                                                                                                                                                                                                                                                       |
| Housing material              | Polycarbonate                                                                                                                                                                                                                                                                                                                          |
| Local signalling              | LED (yellow) for relay ON<br>LED (green) for power ON                                                                                                                                                                                                                                                                                  |
| Mounting support              | 35 mm symmetrical DIN rail conforming to IEC 60715                                                                                                                                                                                                                                                                                     |
| Reliability data              | MTTF = 308.2 years                                                                                                                                                                                                                                                                                                                     |
| Height                        | 3.5 in (90 mm)<br>3.5 in (88.9 mm)                                                                                                                                                                                                                                                                                                     |
| Width                         | 0.9 in (22.5 mm)<br>0.9 in (22.9 mm)                                                                                                                                                                                                                                                                                                   |
| Depth                         | 2.8 in (72 mm)<br>2.9 in (73.7 mm)                                                                                                                                                                                                                                                                                                     |
| Net Weight                    | 0.24 lb(US) (0.11 kg)<br>0.24 lb(US) (0.11 kg)                                                                                                                                                                                                                                                                                         |

## Ordering and shipping details

|                   |               |
|-------------------|---------------|
| Category          | US10CP222380  |
| Discount Schedule | 0CP2          |
| GTIN              | 3606480792205 |
| Returnability     | Yes           |
| Country of origin | ID            |

## Packing Units

|                              |                          |
|------------------------------|--------------------------|
| Unit Type of Package 1       | PCE                      |
| Nbr. of units in pkg.        | 1                        |
| Package 1 Height             | 1.024 in (2.600 cm)      |
| Package 1 Width              | 3.228 in (8.200 cm)      |
| Package 1 Length             | 3.740 in (9.500 cm)      |
| Package weight(Lbs)          | 4.233 oz (120.000 g)     |
| Unit Type of Package 2       | S02                      |
| Number of Units in Package 2 | 40                       |
| Package 2 Height             | 5.9 in (15 cm)           |
| Package 2 Width              | 11.8 in (30 cm)          |
| Package 2 Length             | 15.7 in (40 cm)          |
| Package 2 Weight             | 11.440 lb(US) (5.189 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                                                                          | 44 kg CO2 eq.                                 |
| Carbon footprint of the manufacturing phase [A1 to A3]                                                    | 3 kg CO2 eq.                                  |
| Carbon footprint of the distribution phase [A4]                                                           | 0.1 kg CO2 eq.                                |
| Carbon footprint of the installation phase [A5]                                                           | 0 kg CO2 eq.                                  |
| Carbon footprint of the use phase [B2, B3, B4, B6]                                                        | 41 kg CO2 eq.                                 |
| Carbon footprint of the end-of-life phase [C1 to C4]                                                      | 0.3 kg CO2 eq.                                |
| Environmental Disclosure                                                                                  | <a href="#">Product Environmental Profile</a> |

Use Better

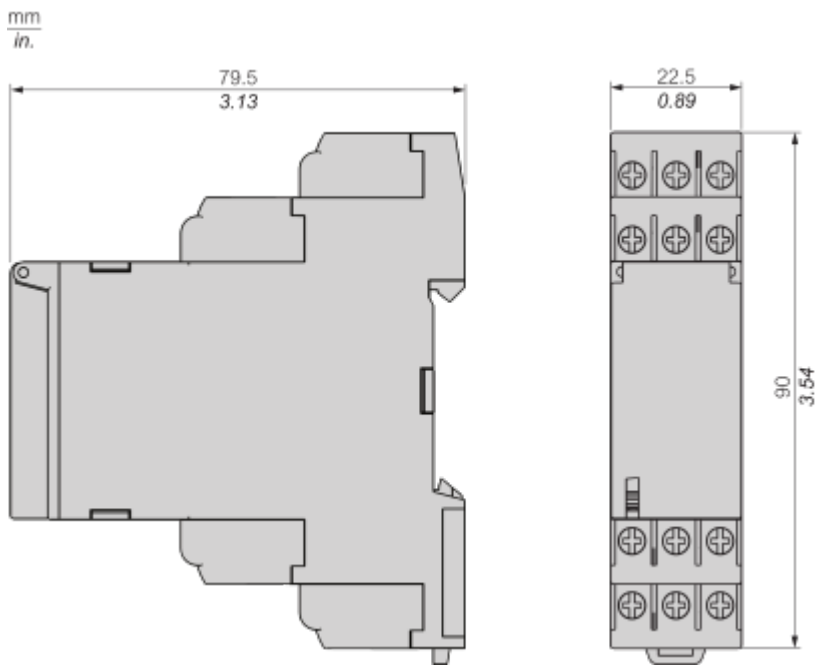
|  Materials and Substances |                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging made with recycled cardboard                                                                      | Yes                                                                                                                                                                                                                                                                                         |
| Packaging without single use plastic                                                                        | Yes                                                                                                                                                                                                                                                                                         |
| SCIP Number                                                                                                 | 5e3fdf99-611b-4d07-ad17-6eba84ab488b                                                                                                                                                                                                                                                        |
| EU RoHS Directive                                                                                           | <a href="#">Compliant By Exemption</a>                                                                                                                                                                                                                                                      |
| REACH Regulation                                                                                            | <a href="#">Reference contains Substances of Very High Concern above the threshold</a>                                                                                                                                                                                                      |
| 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> |

Use Again

|  Repack and remanufacture |                                         |
|--------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Recyclability potential, in %                                                                                | 18                                      |
| Circularity Profile                                                                                          | <a href="#">End of Life Information</a> |
| Take-back                                                                                                    | No                                      |

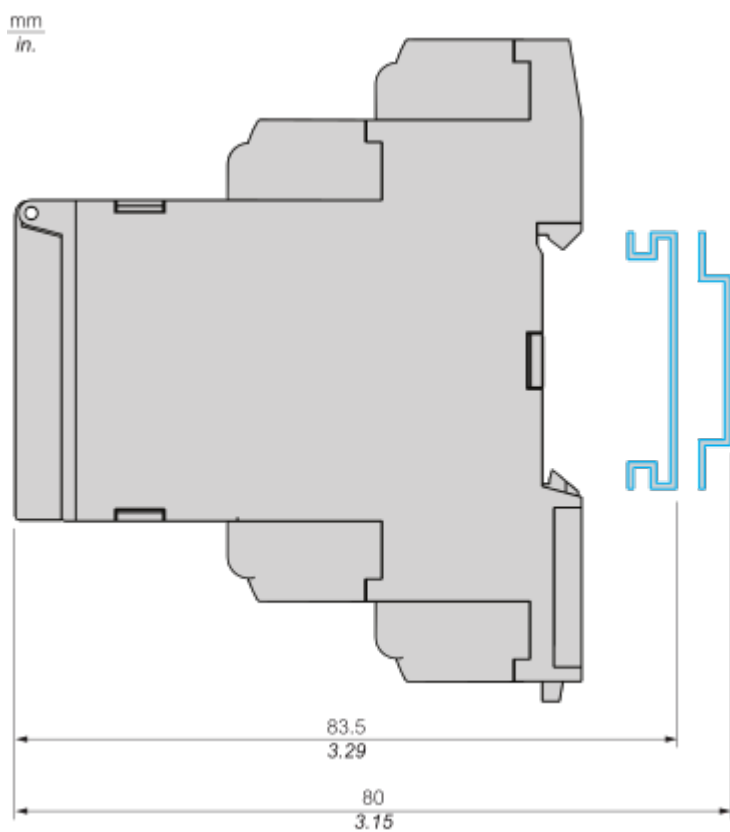
Dimensions Drawings

Dimensions



Mounting and Clearance

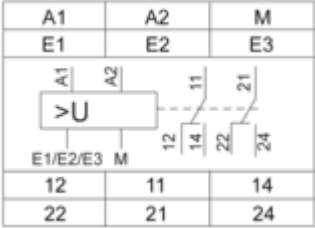
Rail Mounting



Connections and Schema

Overvoltage Control Relay

Wiring Diagram



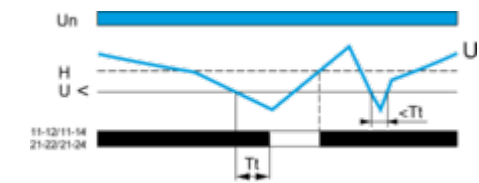
- A1,A2 : Supply voltage
- E1,E2,E3,M : Voltages to be measured
- 11-14,12 : 1st C/O contact of output relay
- 21-24,22 : 2nd C/O contact of output relay

Technical Description

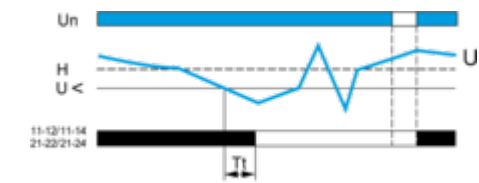
Function Diagrams

Undervoltage Control

Without memory ("No Memory" mode)

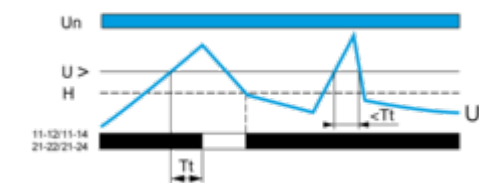


With memory ("Memory" mode)

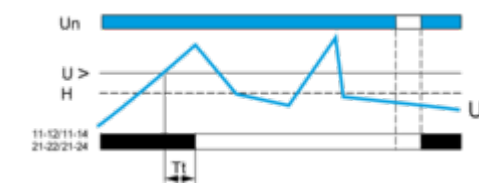


Overvoltage Control

Without memory ("No Memory" mode)



With memory ("Memory" mode)



Legend

- $T_t$  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.

Image of product / Alternate images

Alternative

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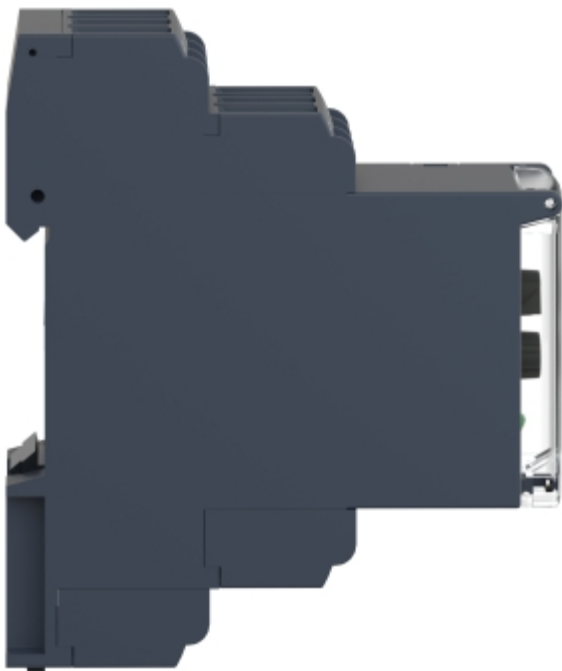


Image of product in real life situation

