

# Product data sheet

Specifications



## 3-phase control relay, Harmony Control Relays, 8A, 2CO, undervoltage detection, 200-240V AC

RM22TU21

### Main

|                               |   |
|-------------------------------|---|
| Range Of Product              | Harmony Control Relays  |
| Relay Type                    | Control relay   |
| Product Or Component Type     | 3-phase control relay   |
| Network Number Of Phases      | 3 phases  |
| Relay Name                    | RM22TR  |
| Relay Monitored Parameters    | Undervoltage detection<br>Phase sequence<br>Phase failure detection |
| Time Delay Type               | Without   |
| Switching Capacity In Va      | 2000 VA   |
| Measurement Range             | 200...240 V voltage AC  |
| 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                   | AC/DC   |
| Supply Voltage Limits                       | 160...288 V AC  |
| Operating Limits                            | - 20 % + 20 % Un  |
| Power Consumption In Va                     | 10 VA at 240 V AC 60 Hz   |
| Voltage Detection Threshold                 | < 100 V AC  |
| Supply Voltage Frequency                    | 50...60 Hz +/- 10 %   |
| Output Contacts                             | 2 C/O   |
| Nominal Output Current                      | 8 A   |
| Setting Accuracy Of The Switching Threshold | +/- 10 % of the full scale  |
| Switching Threshold Drift                   | <= 0.05 % per degree centigrade depending permissible ambient air temperature<br><= 1 % within the supply voltage range |
| Setting Accuracy Of Time Delay              | 10 P  |
| Time Delay Drift                            | <= 0.05 % per degree centigrade depending permissible ambient air temperature<br><= 1 % within the supply voltage range |
| Hysteresis                                  | 2 % fixed of selectable   |

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

|                              |  |
|------------------------------|--|
| Run-Up Delay At Power-Up     | 650 ms   |
| Maximum Measuring Cycle      | 150 ms measurement cycle as true rms value   |
| Threshold Adjustment Voltage | 2...20 % of Un selected  |
| Voltage Range                | 200...240 V phase to phase   |
| Repeat Accuracy              | +/- 0.5 % for input and measurement circuit  |
| Measurement Error            | < 1 % over the whole range with voltage variation<br>< 0.05 %/°C with temperature variation  |
| Response Time                | <= 300 ms  |
| Overvoltage Category         | III conforming to IEC 60664-1<br>III conforming to UL 508  |
| Insulation Resistance        | > 100 MOhm at 500 V DC conforming to IEC 60255-27  |
| Mounting Position            | Any position   |
| Connections - Terminals      | Screw terminals, 2 x 0.5...2 x 2.5 mm <sup>2</sup> (AWG 20...AWG 14) solid without cable end<br>Screw terminals, 2 x 0.2...2 x 1.5 mm <sup>2</sup> (AWG 24...AWG 16) flexible with cable end<br>Screw terminals, 1 x 0.5...1 x 3.3 mm <sup>2</sup> (AWG 20...AWG 12) solid without cable end<br>Screw terminals, 1 x 0.2...1 x 2.5 mm <sup>2</sup> (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   |
| Status Led                   | LED (yellow) relay ON<br>LED (green) power ON  |
| 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<br>DC-13 conforming to IEC 60947-5-1<br>AC-1 conforming to IEC 60947-4-1<br>DC-1 conforming to IEC 60947-4-1   |
| [Un] Rated Nominal Voltage   | , self-powered   |
| Safety Reliability Data      | B10d = 350000<br>MTTFd = 388.1 years   |
| Contacts Material            | Cadmium free   |
| Control Type                 | With test button   |
| Width                        | 22.5 mm  |
| Net Weight                   | 0.09 kg  |

## Environment

|                         |       |
|-------------------------|-------|
| Immunity To Microbreaks | 10 ms |
|-------------------------|-------|

|                                       |  |
|---------------------------------------|--|
| 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 conforming to IEC 61000-6-3<br>Emission standard for industrial environments conforming to IEC 61000-6-4<br>Electrostatic discharge - test level: 6 kV level 3 (contact discharge) conforming to IEC 61000-4-2<br>Electrostatic discharge - test level: 8 kV level 3 (air discharge) conforming to IEC 61000-4-2<br>Radiated radio-frequency electromagnetic field immunity test - test level: 10 V/m level 3 conforming to IEC 61000-4-3<br>Electrical fast transient/burst immunity test - test level: 4 kV level 4 (direct) conforming to IEC 61000-4-4<br>Electrical fast transient/burst immunity test - test level: 2 kV level 4 (capacitive coupling) conforming to IEC 61000-4-4<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<br>Conducted and radiated emissions class B group 1 conforming to CISPR 11<br>Conducted and radiated emissions class B conforming to CISPR 22 |
| Standards                             | IEC 60255-1  |
| Product Certifications                | RCM<br>CE<br>CSA<br>GL<br>CCC<br>UL<br>EAC   |
| Ambient Air Temperature For Storage   | -40...70 °C  |
| Ambient Air Temperature For Operation | -20...50 °C at 60 Hz<br>-20...60 °C at 50 Hz AC/DC   |
| 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<br>1 gn (f= 10...58.1 Hz) not in operation conforming to IEC 60068-2-6<br>0.035 mm (f= 58.1...150 Hz) in operation conforming to IEC 60068-2-6<br>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<br>5 gn (duration = 11 ms) for in operation conforming to IEC 60068-2-27  |
| Ip Degree Of Protection               | IP20 (terminals) conforming to IEC 60529<br>IP40 (housing) conforming to IEC 60529<br>IP50 (front panel) conforming to IEC 60529   |
| Pollution Degree                      | 3 conforming to IEC 60664-1<br>3 conforming to UL 508  |
| 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             | 2.6 cm  |
| Package 1 Width              | 8.2 cm  |
| Package 1 Length             | 9.5 cm  |
| Package 1 Weight             | 101.0 g |
| Unit Type Of Package 2       | S02     |
| Number Of Units In Package 2 | 40      |
| Package 2 Height             | 15.0 cm |
| Package 2 Width              | 30.0 cm |

|                              |          |
|------------------------------|----------|
| Package 2 Length             | 40.0 cm  |
| Package 2 Weight             | 4.442 kg |
| Unit Type Of Package 3       | P06      |
| Number Of Units In Package 3 | 640      |
| Package 3 Height             | 50.0 cm  |
| Package 3 Width              | 80.0 cm  |
| Package 3 Length             | 60.0 cm  |
| Package 3 Weight             | 86.18 kg |

## Sustainability

**Green Premium™ label** is Schneider Electric's commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO<sub>2</sub> products.

**Guide to assessing product sustainability** is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

[Learn more about Green Premium >](#)

[Guide to assess a product's sustainability >](#)



Transparency   RoHS/REACH

## Well-being performance

✓ Mercury Free

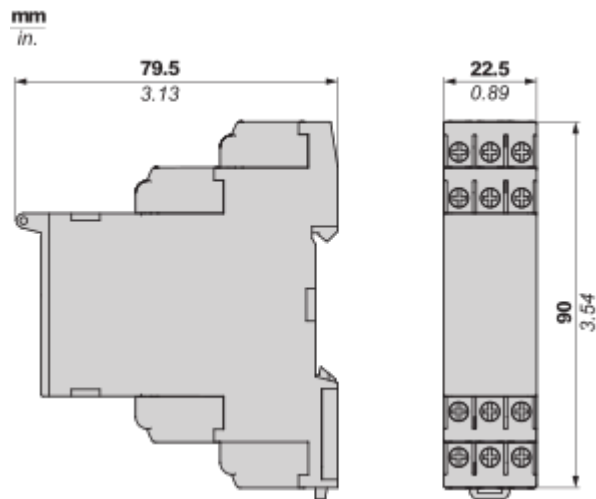
✓ Rohs Exemption Information   [Yes](#)

## Certifications & Standards

|                           |   |
|---------------------------|---|
| Reach Regulation          | <a href="#">REACH Declaration</a>   |
| Eu Rohs Directive         | Pro-active compliance (Product out of EU RoHS legal scope)  |
| China Rohs Regulation     | <a href="#">China RoHS declaration</a>  |
| Environmental Disclosure  | <a href="#">Product Environmental Profile</a>   |
| Circularity Profile       | <a href="#">End of Life Information</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> |

Dimensions Drawings

Dimensions

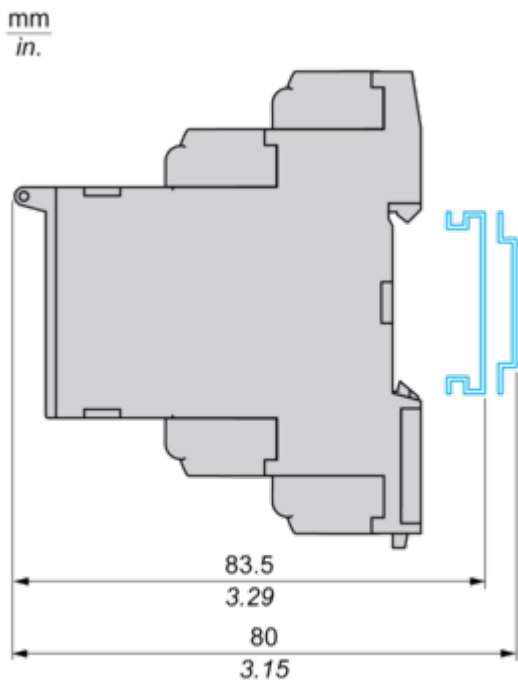


Mounting and Clearance

Mounting and Clearance

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Rail Mounting



Connections and Schema

3-Phase Undervoltage Control Relay

Wiring Diagram



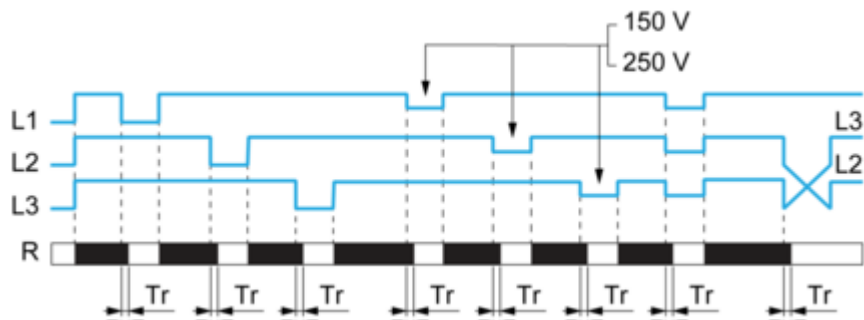
L1,L2,L3 : Supply to be monitored  
11-14,12 : 1st C/O contact of output relay  
21-24,22 : 2nd C/O contact of output relay



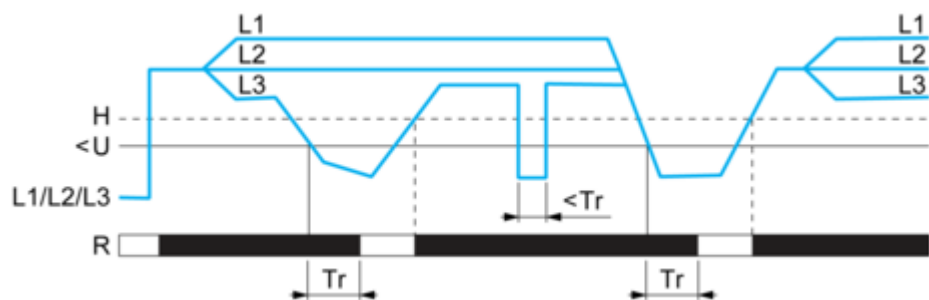
Technical Description

Function Diagrams

Phase Sequence Control and Phase failure Detection



Undervoltage Control



Legend

- $T_r$  : Response time after cross the threshold
- $U<$  : Undervoltage threshold
- L1, L2, L3 : Phases of the supply voltage monitored
- R : Relay output 11-12/11-14, 21-22/21-24
- H : Hysteresis
- Relay status : black color = energized.