

Product datasheet

Specifications



3-phase control relay, Harmony Control Relays, 8A, 2CO, undervoltage detection, 380-480V AC

RM22TU23

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 Phase sequence Phase failure detection |
| Time delay type | Without |
| Switching capacity in VA | 2000 VA |
| Measurement range | 380...480 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 | 304...576 V AC |
| operating limits | - 20 % + 20 % Un |
| Power consumption in VA | 15 VA at 480 V AC 60 Hz |
| Voltage detection threshold | < 100 V AC |
| supply voltage frequency | 50...60 Hz +/- 10 % |
| Output contacts | 2 C/O |
| Setting accuracy of the switching threshold | +/- 10 % of the full scale |
| Switching threshold drift | <= 0.05 % per degree centigrade depending permissible ambient air temperature <= 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 <= 1 % within the supply voltage range |
| Hysteresis | 2 % fixed of selectable |
| Run-up delay at power-up | 650 ms |

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

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|------------------------------|--|
| Maximum measuring cycle | 150 ms measurement cycle as true rms value |
| Threshold adjustment voltage | 2...20 % of Un selected |
| Voltage range | 380...480 V phase to phase |
| Repeat accuracy | +/- 0.5 % for input and measurement circuit |
| Measurement error | < 1 % over the whole range with voltage variation < 0.05 %/°C with temperature variation |
| Response time | <= 300 ms |
| Overvoltage category | III conforming to IEC 60664-1 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 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 | 0.6...1 N.m conforming to IEC 60947-1 |
| Housing material | Self-extinguishing plastic |
| Status LED | LED (yellow) relay ON 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 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 | , self-powered |
| Safety reliability data | MTTFd = 388.1 years B10d = 350000 |
| Contacts material | Cadmium free |
| Control type | With test button |
| Width | 22.5 mm |
| Net weight | 0.09 kg |

Environment

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|-------------------------|-------|
| Immunity to microbreaks | 10 ms |
|-------------------------|-------|

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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 |
| Standards | IEC 60255-1 |
| Product certifications | CSA RCM UL GL CE CCC EAC |
| ambient air temperature for storage | -40...70 °C |
| Ambient air temperature for operation | -20...50 °C at 60 Hz -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 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 3 conforming to UL 508 |
| 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 | 103.0 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 | 4.656 kg |
| Unit Type of Package 3 | P06 |
| Number of Units in Package 3 | 640 |
| Package 3 Height | 75.0 cm |
| Package 3 Width | 60.0 cm |
| Package 3 Length | 80.0 cm |
| Package 3 Weight | 82.996 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-CO₂ 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

[REACH Declaration](#)

Eu Rohs Directive

Pro-active compliance (Product out of EU RoHS legal scope)

China Rohs Regulation

[China RoHS declaration](#)

Environmental Disclosure

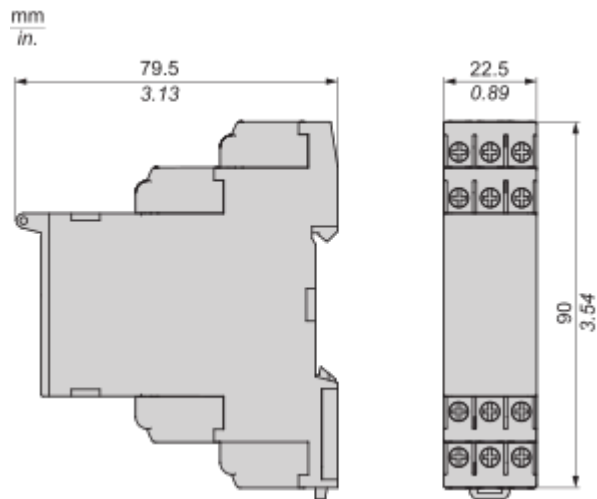
[Product Environmental Profile](#)

Circularity Profile

[End of Life Information](#)

Dimensions Drawings

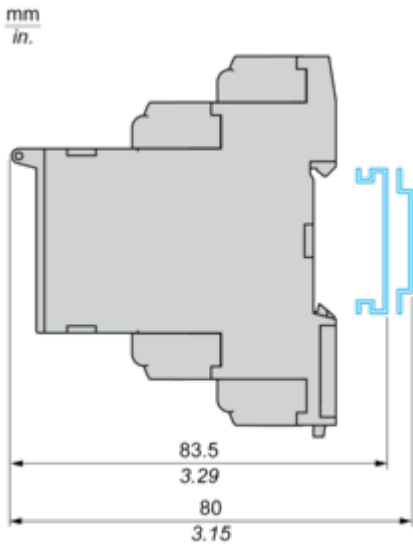
Dimensions



Mounting and Clearance

Mounting and Clearance

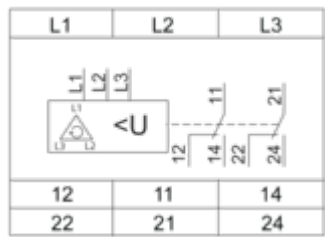
Rail Mounting



Connections and Schema

3-Phase Undervoltage Control Relay

Wiring Diagram

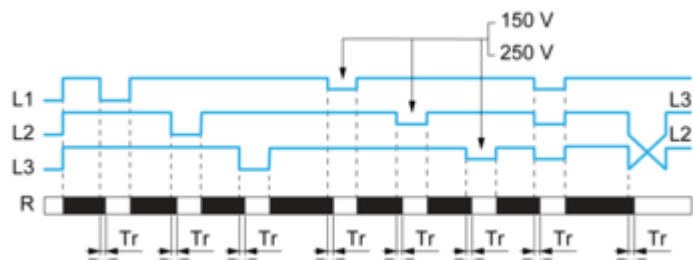


L1,L2,L3 : Supply to be monitored
11-14,12 : 1st C/O contact of output relay
21-24,22 : 2nd C/O contact of output relay

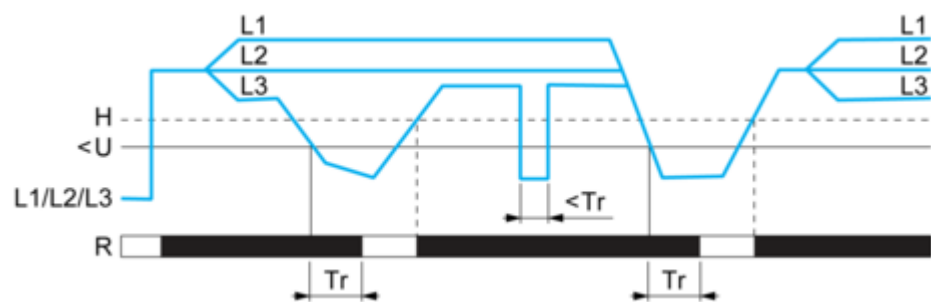
Technical Description

Function Diagrams

Phase Sequence Control and Phase failure Detection



Undervoltage Control



Legend

- Tr : 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.