# Product datasheet

Specifications

Green Premium™

## 3-phase control relay, Harmony Control Relays, 8A, 2CO, 200â€¦240V AC

RM22TA31

## Main

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|---|---|
| **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** | RM22TA |
| **Relay Monitored Parameters** | Asymmetry<br>Phase failure detection<br>Phase sequence |
| **Time Delay Type** | Adjustable 0.1...30 s, +/- 10 % of the full scale value Tt- time delay upon fault |
| **Switching Capacity In Va** | 2000 VA |
| **Measurement Range** | 200...240 V voltage AC |
| **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 |
| **[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 |
| **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 |
| **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 |
| **Voltage Range** | 200...240 V phase to phase |
| **Adjustment Of Asymmetry Threshold** | 5...15 % of Un selected |
| **Repeat Accuracy** | +/- 0.5 % for input and measurement circuit<br>+/- 3 % for time delay |
| **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 mm² (AWG 20...AWG 14) solid without cable end<br>Screw terminals, 2 x 0.2...2 x 1.5 mm² (AWG 24...AWG 16) flexible with cable end<br>Screw terminals, 1 x 0.5...1 x 3.3 mm² (AWG 20...AWG 12) solid without cable end<br>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<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** | MTTFd = 388.1 years<br>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<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** | GL<br>EAC<br>UL<br>CSA<br>RCM<br>CCC<br>CE |
| **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

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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** | 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 |

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|---|---|
| **Package 2 Length** | 40.0 cm |
| **Package 2 Weight** | 4.469 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-$CO_2$ 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

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| Rohs Exemption Information | Yes |

## Certifications & Standards

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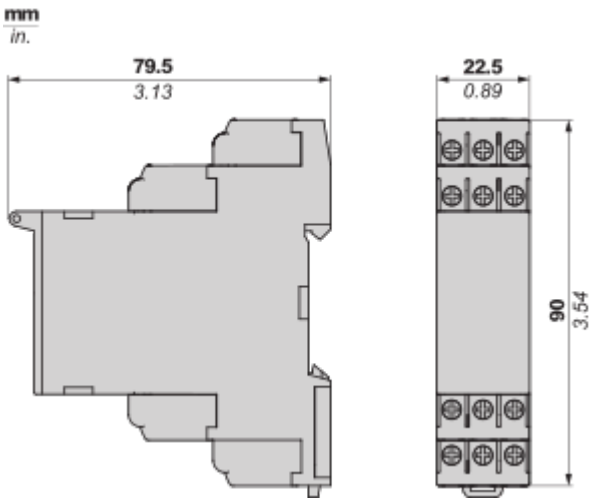
| **Reach Regulation** | REACh Declaration |
| **Eu Rohs Directive** | Pro-active compliance (Product out of EU RoHS legal scope) |
| **China Rohs Regulation** | China RoHS declaration |
| **Environmental Disclosure** | Product Environmental Profile |
| **Circularity Profile** | End of Life Information |

Dimensions Drawings

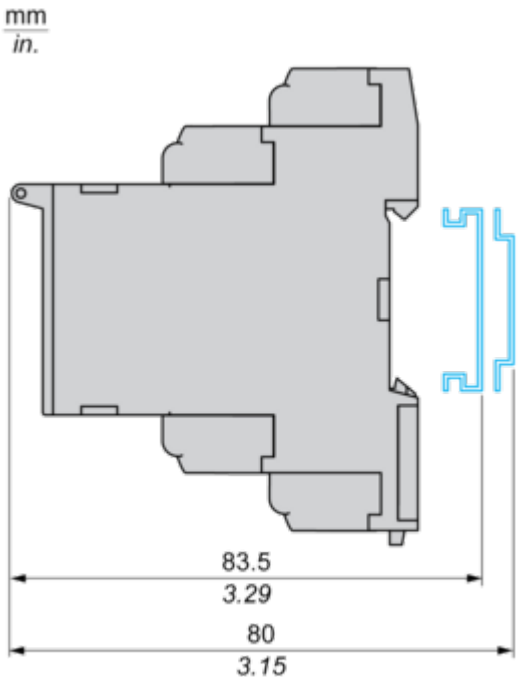
## Dimensions



Mounting and Clearance

## Mounting and Clearance

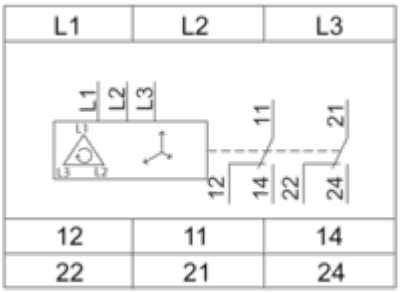
### Rail Mounting



## Connections and Schema

### 3-Phase Control Relay

Wiring Diagram

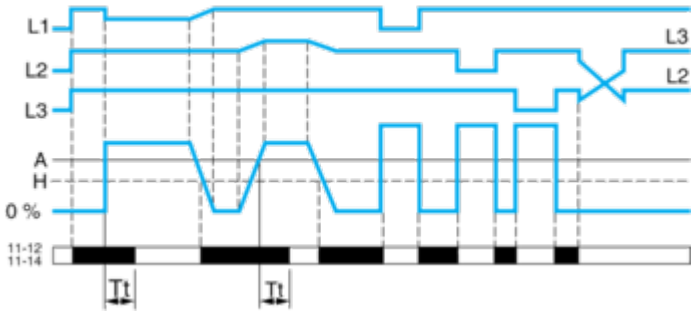



**L1,L2,L3 :** Supply to be monitored
**11-14,12 :** 1st C/O contact of output relay
**21-24,22 :** 2nd C/O contact of output relay

Technical Description

## Function Diagram

### Phase Sequence Control, Phase Failure Detection (U measured < 0.7 x nominal supply voltage), and Asymmetry Detection




### Legend

**Tt** Time delay after crossing of threshold
**L1, L2, L3** Phases of the supply voltage monitored
**A** Asymmetry threshold
**H** Hysteresis
**11-12, 11-14** Output relay connections
**Relay status:** black color = energized.