



Main

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| Range of product | Harmony Control Relays |
| Relay type | Current control relay |
| Product or component type | Current control relay |
| Relay name | RM22JA |
| Relay monitored parameters | Overcurrent or undercurrent detection Overcurrent or undercurrent in window mode |
| Time delay | Adjustable 0.1...30 s, +/- 10 % of the full scale value Tt- time delay upon fault |
| Switching capacity in VA | 2000 VA |
| Minimum switching current | 10 mA at 5 V DC |
| Maximum switching current | 8 A AC |
| Maximum power consumption in VA | 3.5 VA |
| Measurement range | 4 mA...1 A current AC/DC 50/60 Hz |
| 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 |
| 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 |
| Supply voltage limits | 20.4...264 V AC/DC |
| Operating voltage tolerance | - 15 % + 10 % Un |
| Maximum power consumption in W | 1.5 W DC |
| Resistance across terminals | 2.5 Ohm at E1-M terminals 0.5 Ohm at E2-M terminals 0.1 Ohm at E3-M terminals |
| Output contacts | 2 C/O |
| Nominal output current | 8 A |
| Maximum measuring cycle | 100 ms measurement cycle as true rms value |
| Internal input resistance | 0.5 Ohm 2.5 Ohm 0.1 Ohm |
| 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 | 5...50 % adjustable of threshold setting 3 % fixed of full scale for window mode |
| Delay at power up | 0.3 s |
| Repeat accuracy | +/- 0.5 % for input and measurement circuit +/- 0.2 % for time delay |

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| Measurement error | < 1 % over the whole range with voltage variation 0.05 %/°C with temperature variation |
| Response time | <= 500 ms |
| Threshold setting | 10...100 % |
| 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 |
| Insulation | Between supply and measurement |
| 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 |
| Local signalling | LED (yellow) for relay ON LED (green) for power ON |
| Mounting support | 35 mm DIN rail conforming to IEC 60715 |
| Electrical durability | 100000 cycles |
| Mechanical durability | 10000000 cycles |
| [Un] rated nominal voltage | 24...240 V AC/DC 50/60 Hz, non self-powered |
| Safety reliability data | MTTFd = 296.8 years B10d = 270000 |
| Contacts material | Cadmium free |
| Width | 22.5 mm |
| Control type | With test button |
| Net weight | 0.11 kg |

Environment

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| Immunity to microbreaks | 50 ms |
| 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[RETURN]CE[RETURN]EAC[RETURN]CCC[RETURN]GL[RETURN]RCM[RETURN]JUL |
| 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 |
| 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 |

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| 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 |

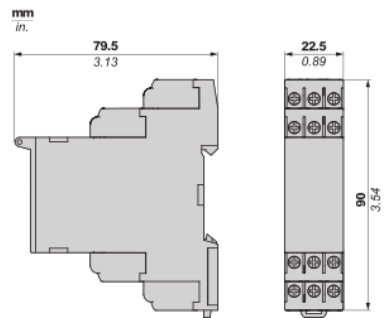
Packing Units

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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 | 121.0 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 | 5.297 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 | 92.58 kg |

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

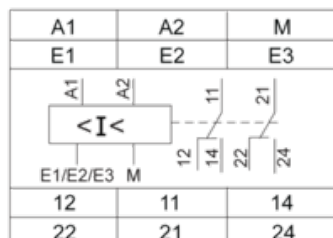
Rail Mounting

mm
in.



Current Measurement Relay

Wiring Diagram



A1,A2 : Supply voltage

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

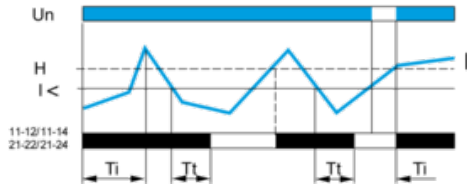
11-14,12 : 1st C/O contact of output relay

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

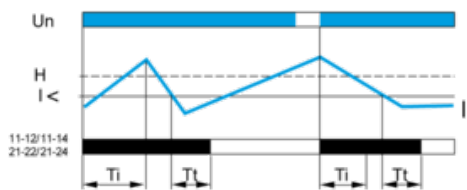
Function Diagrams

Undercurrent Detection

Without memory ("No Memory" mode)

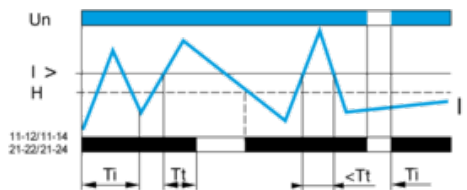


With memory ("Memory" mode)

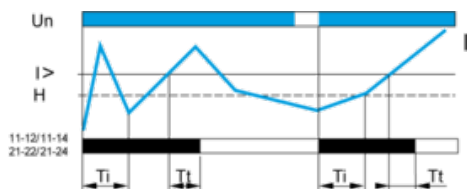


Overcurrent Detection

Without memory ("No Memory" mode)



With memory ("Memory" mode)



Legend

- Ti Starting inhibition time delay
- Tt Time delay after crossing of threshold
- Un Supply voltage
- I Monitored current
- H Hysteresis
- I> Overcurrent threshold
- I< Undercurrent 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.