



## Main

|                               |   |
|-------------------------------|---|
| Range of Product              | Harmony Control Relays  |
| Product or Component Type     | Current control relay   |
| Relay Type                    | Current control relay   |
| Relay name                    | RM22JA  |
| Relay monitored parameters    | Overcurrent or undercurrent detection<br>Overcurrent or undercurrent in window mode   |
| Time delay type               | Adjustable 0.1...30 s, +/- 10 % of the full scale value on crossing the threshold Tt  |
| Switching capacity in VA      | 2000 VA   |
| Measurement range             | 4...40 mA E1-M terminals<br>20...200 mA E2-M terminals<br>100...1000 mA E3-M terminals<br>4 mA...1 A current AC/DC 50/60 Hz |
| 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 5 V DC  |
| Maximum switching current                   | 8 A AC  |
| [Us] Rated Supply Voltage                   | 24...240 V AC/DC 50/60 Hz +/- 10 %  |
| Supply voltage limits                       | 20.4...264 V AC/DC  |
| Operating limits                            | - 15 % + 10 % Un  |
| Power consumption in VA                     | 3.5 VA AC   |
| Maximum power consumption in W              | 1.5 W DC  |
| Supply voltage frequency                    | 50...60 Hz +/- 10 %   |
| Resistance across terminals                 | 2.5 Ohm E1-M terminals<br>0.5 Ohm E2-M terminals<br>0.1 Ohm E3-M terminals  |
| Output contacts                             | 2 C/O   |
| Nominal output current                      | 8 A   |
| Internal input resistance                   | 0.5 Ohm<br>2.5 Ohm<br>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<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                                  | 5...50 % adjustable threshold setting overcurrent or undercurrent detection<br>3 % fixed full scale for window mode     |
| Run-up delay at power-up                    | 0.3 s   |
| Maximum measuring cycle                     | 100 ms measurement cycle as true rms value  |
| Repeat accuracy                             | +/- 0.5 % input and measurement circuit<br>+/- 0.2 % time delay   |
| Measurement error                           | < 1 % over the whole range with voltage variation<br>0.05 %/°C with temperature variation                               |

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|                         |  |
|-------------------------|--|
| Response time           | <= 500 ms  |
| Threshold setting       | 10...100 %   |
| Overvoltage category    | III IEC 60664-1<br>III UL 508  |
| Insulation resistance   | > 100 MOhm 500 V DC IEC 60255-27   |
| Insulation              | Between supply and measurement   |
| 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       | 5.31...8.85 lbf.in (0.6...1 N.m) IEC 60947-1   |
| Housing material        | Self-extinguishing plastic   |
| Status LED              | Relay ON LED Yellow)<br>Power ON LED Green)  |
| Mounting support        | 35 mm DIN rail conforming to EN/IEC 60715  |
| Electrical durability   | 100000 cycles  |
| Mechanical durability   | 10000000 cycles  |
| Utilisation category    | AC-15 IEC 60947-5-1<br>DC-13 IEC 60947-5-1<br>AC-1 IEC 60947-4-1<br>DC-1 IEC 60947-4-1   |
| Safety reliability data | MTTFd = 296.8 years<br>B10d = 270000   |
| Contacts material       | Cadmium free   |
| Width                   | 0.89 in (22.5 mm)  |
| Net Weight              | 0.24 lb(US) (0.11 kg)  |

## Environment

|                                       |   |
|---------------------------------------|---|
| Immunity to microbreaks               | 50 ms   |
| Electromagnetic compatibility         | Immunity for residential, commercial and light-industrial environments EN/IEC 61000-6-1<br>Immunity for industrial environments EN/IEC 61000-6-2<br>Emission standard for residential, commercial and light-industrial environments EN/IEC 61000-6-3<br>Emission standard for industrial environments EN/IEC 61000-6-4<br>Electrostatic discharge 6 kV contact discharge)level 3 IEC 61000-4-2<br>Electrostatic discharge 8 kV air discharge)level 3 IEC 61000-4-2<br>Radiated radio-frequency electromagnetic field immunity test 10 V/mlevel 3 IEC 61000-4-3<br>Electrical fast transient/burst immunity test 4 kV direct)level 4 IEC 61000-4-4<br>Electrical fast transient/burst immunity test 2 kV capacitive coupling)level 4 IEC 61000-4-4<br>Surge immunity test 4 kV common mode)level 4 IEC 61000-4-5<br>Surge immunity test 2 kV differential mode)level 4 IEC 61000-4-5<br>Conducted and radiated emissionsclass B group 1 CISPR 11<br>Conducted and radiated emissionsclass B CISPR 22 |
| Standards                             | EN/IEC 60255-1  |
| Product Certifications                | CSA<br>CE<br>EAC<br>CCC<br>GL<br>RCM<br>UL  |
| Ambient Air Temperature for Storage   | -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 AC/DC  |
| Relative humidity                     | 93...97 % 77...131 °F (25...55 °C) IEC 60068-2-30   |
| Vibration resistance                  | 0.075 mm 10...58.1 Hz) not in operation IEC 60068-2-6<br>1 gn 10...58.1 Hz) not in operation IEC 60068-2-6<br>0.035 mm 58.1...150 Hz) in operation IEC 60068-2-6<br>0.5 gn 58.1...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 terminals)<br>IP40 IEC 60529 housing)<br>IP50 IEC 60529 front panel) |
| Pollution degree        | 3 IEC 60664-1<br>3 UL 508   |
| Dielectric test voltage | 2.5 kV AC 50 Hz, 1 min IEC 60255-27   |

## Ordering and shipping details

|                       |  |
|-----------------------|--|
| Category              | 22380 - RELAYS-MEASUREMENT (RM17-RM35) |
| Discount Schedule     | CP2                                    |
| GTIN                  | 3606480792298                          |
| Nbr. of units in pkg. | 1                                      |
| Package weight(Lbs)   | 4.27 oz (121 g)                        |
| Returnability         | Yes                                    |
| Country of origin     | ID                                     |

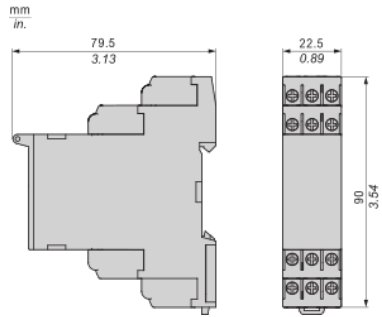
## Packing Units

|                              |                          |
|------------------------------|--------------------------|
| Unit Type of Package 1       | PCE                      |
| Package 1 Height             | 1.02 in (2.6 cm)         |
| Package 1 width              | 3.23 in (8.2 cm)         |
| Package 1 Length             | 3.74 in (9.5 cm)         |
| Unit Type of Package 2       | S02                      |
| Number of Units in Package 2 | 40                       |
| Package 2 Weight             | 11.68 lb(US) (5.297 kg)  |
| Package 2 Height             | 5.91 in (15 cm)          |
| Package 2 width              | 11.81 in (30 cm)         |
| Package 2 Length             | 15.75 in (40 cm)         |
| Unit Type of Package 3       | P06                      |
| Number of Units in Package 3 | 640                      |
| Package 3 Weight             | 204.10 lb(US) (92.58 kg) |
| Package 3 Height             | 19.69 in (50 cm)         |
| Package 3 width              | 31.50 in (80 cm)         |
| Package 3 Length             | 23.62 in (60 cm)         |

## Offer Sustainability

|                            |   |
|----------------------------|---|
| Sustainable offer status   | Green Premium product   |
| 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> |
| REACH Regulation           | <a href="#">REACH Declaration</a>   |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>  |
| Mercury free               | Yes   |
| RoHS exemption information | <a href="#">Yes</a>   |
| 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>   |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.  |

Dimensions

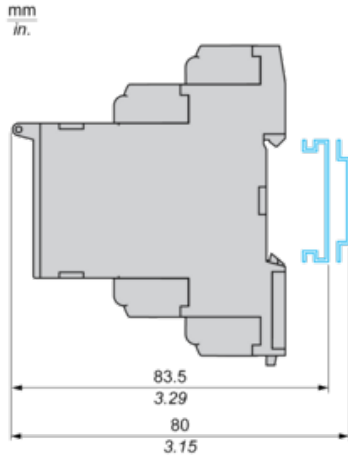


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Mounting and Clearance

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Rail Mounting

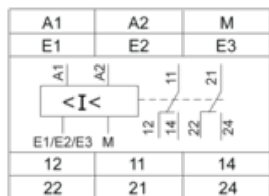


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Current Measurement Relay

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Wiring Diagram



A1,A2 : Supply voltage

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

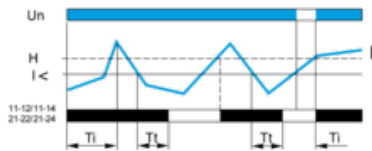
11-14,12 : 1st C/O contact of output relay

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

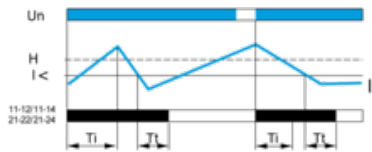
Function Diagrams

Undercurrent Detection

Without memory ("No Memory" mode)

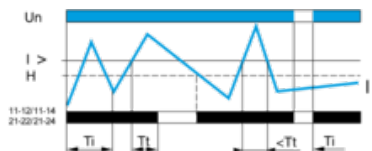


With memory ("Memory" mode)

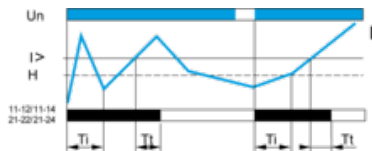


Overcurrent Detection

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.