# Product data sheet
## Characteristics

# RM35JA32MT
## Harmony, Modular 1-phase current control relay, 8 A, 2 CO, 150 mA…15 A, 380…415 V AC




## Main

| | |
|---|---|
| Range of Product | Harmony Control Relays |
| Product or Component Type | Current control relay |
| Relay Type | Current control relay |
| Relay name | RM35JA |
| 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 | 0.15...1.5 A E1-M terminals<br>0.5...5 A E2-M terminals<br>1.5...15 A E3-M terminals<br>150 mA...15 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 | 380...415 V AC 50/60 Hz +/- 10 % |
| Supply voltage limits | 323…456.5 V AC |
| Operating limits | - 15 % + 10 % Un |
| Power consumption in VA | 8 VA AC |
| Resistance across terminals | 0.005 Ohm E3-M terminals<br>0.015 Ohm E2-M terminals<br>0.05 Ohm E1-M terminals |
| Output contacts | 2 C/O |
| Nominal output current | 8 A |
| Internal input resistance | 0.005 Ohm<br>0.015 Ohm<br>0.05 Ohm |
| Setting accuracy of the switching threshold | +/- 10 % of the full scale 1.5 A<br>+/- 10 % of the full scale 5 A<br>+/- 20 % of the full scale 15 A |
| 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>+/- 2 % time delay |
| Measurement error | < 1 % over the whole range with voltage variation<br>0.05 %/°C with temperature variation |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein.
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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|---|---|
| Response time | <= 500 ms (on crossing the threshold) |
| 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 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 | 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 | 1.38 in (35 mm) |
| Net Weight | 0.26 lb(US) (0.12 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 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<br>Emission standard for residential, commercial and light-industrial environments except radiated emission) EN/IEC 61000-6-3 |
| Standards | EN/IEC 60255-1 |
| Product Certifications | CCC<br>EAC<br>CSA<br>RCM<br>UL<br>GL<br>CE |
| 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 |
| Environmental characteristic | 3K3 C |
| 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>IP50 IEC 60529 front panel)<br>IP30 IEC 60529 housing) |
| 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 | 3606480792311 |
| Nbr. of units in pkg. | 1 |
| Package weight(Lbs) | 4.55 oz (129 g) |
| Returnability | No |
| Country of origin | ID |

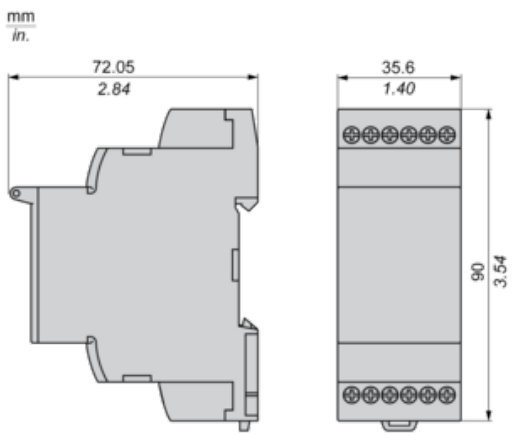
## Packing Units

| | |
|---|---|
| Unit Type of Package 1 | PCE |
| Package 1 Height | 3.07 in (7.8 cm) |
| Package 1 width | 1.77 in (4.5 cm) |
| Package 1 Length | 3.74 in (9.5 cm) |
| Unit Type of Package 2 | S02 |
| Number of Units in Package 2 | 32 |
| Package 2 Weight | 9.99 lb(US) (4.532 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 | 528 |
| Package 3 Weight | 174.47 lb(US) (79.14 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

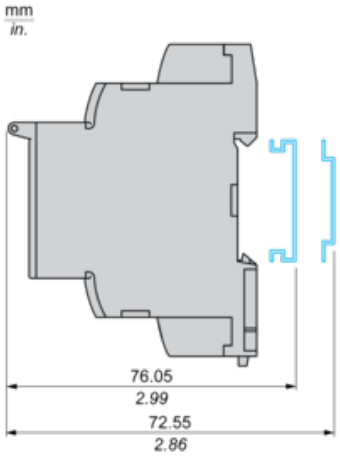
| | |
|---|---|
| Sustainable offer status | Green Premium product |
| California proposition 65 | WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov |
| REACh Regulation | REACh Declaration |
| EU RoHS Directive | Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration |
| Mercury free | Yes |
| RoHS exemption information | Yes |
| China RoHS Regulation | China RoHS Declaration |
| 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



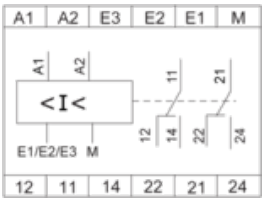
## Mounting and Clearance

### Rail Mounting



## Current Measurement Relay

Wiring Diagram

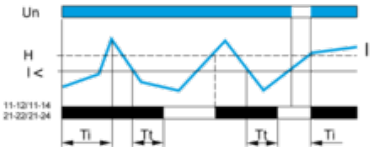



A1,A2 : Supply voltage
E1,E2,E3,M : Currents to be measured
11-14,12 : 1st C/O contact of output relay
21-24,22 : 2nd C/O contact of output relay

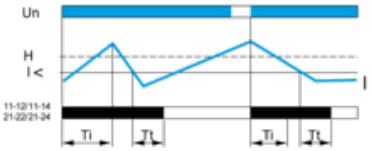
## Function Diagrams

### Undercurrent Detection

Without memory ("No Memory" mode)

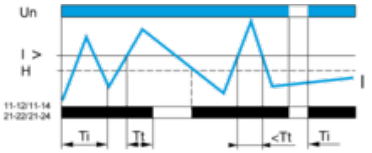



With memory ("Memory" mode)

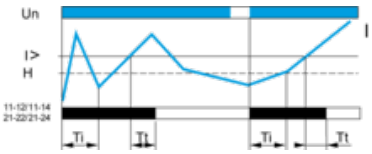



### Overcurrent Detection

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.