

# Product datasheet

Specifications



## Modular 1-phase current control relay, 5 A, 2 CO, 0.15...15 A,, 24...240 V AC/DC

RM35JA32MR

### 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 in window mode Overcurrent or undercurrent detection
Time delay	Adjustable 0.1...30 s, +/- 10 % of the full scale value on crossing the threshold Tt
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	0.15...1.5 A E1-M terminals 0.5...5 A E2-M terminals 1.5...15 A E3-M terminals 150 mA...15 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

Reset time	1500 ms at maximum voltage
Maximum switching voltage	250 V AC
[Us] rated supply voltage	24...240 V AC/DC 50/60 Hz +/- 10 %
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	0.005 Ohm at E3-M terminals 0.015 Ohm at E2-M terminals 0.05 Ohm at E1-M terminals
Output contacts	2 C/O
Nominal output current	8 A

<b>Maximum measuring cycle</b>	100 ms measurement cycle as true rms value
<b>Internal input resistance</b>	0.015 Ohm 0.005 Ohm 0.05 Ohm
<b>Setting accuracy of the switching threshold</b>	+/- 10 % of the full scale
<b>Switching threshold drift</b>	<= 0.05 % per degree centigrade depending permissible ambient air temperature <= 1 % within the supply voltage range
<b>Setting accuracy of time delay</b>	10 P
<b>Time delay drift</b>	<= 0.05 % per degree centigrade depending permissible ambient air temperature <= 1 % within the supply voltage range
<b>Hysteresis</b>	5...50 % adjustable of threshold setting 3 % fixed of full scale for window mode
<b>Delay at power up</b>	0.3 s
<b>Repeat accuracy</b>	+/- 0.5 % for input and measurement circuit +/- 2 % for time delay
<b>Measurement error</b>	< 1 % over the whole range with voltage variation 0.05 %/°C with temperature variation
<b>Response time</b>	<= 500 ms (on crossing the threshold)
<b>Threshold setting</b>	10...100 %
<b>Overvoltage category</b>	III conforming to IEC 60664-1 III conforming to UL 508
<b>Insulation resistance</b>	> 100 MOhm at 500 V DC conforming to IEC 60255-27
<b>Insulation</b>	Between supply and measurement
<b>Connections - terminals</b>	Screw terminals, 2 x 0.5...2 x 2.5 mm <sup>2</sup> (AWG 20...AWG 14) solid without cable end Screw terminals, 2 x 0.2...2 x 1.5 mm <sup>2</sup> (AWG 24...AWG 16) flexible with cable end Screw terminals, 1 x 0.5...1 x 3.3 mm <sup>2</sup> (AWG 20...AWG 12) solid without cable end Screw terminals, 1 x 0.2...1 x 2.5 mm <sup>2</sup> (AWG 24...AWG 14) flexible with cable end
<b>Tightening torque</b>	0.6...1 N.m conforming to IEC 60947-1
<b>Housing material</b>	Self-extinguishing plastic
<b>Local signalling</b>	LED (yellow) for relay ON LED (green) for power ON
<b>Mounting support</b>	35 mm DIN rail conforming to EN/IEC 60715
<b>Electrical durability</b>	100000 cycles
<b>Mechanical durability</b>	10000000 cycles
<b>Safety reliability data</b>	MTTFd = 296.8 years B10d = 270000
<b>Contacts material</b>	Cadmium free
<b>Width</b>	35 mm
<b>Net weight</b>	0.12 kg

## Environment

<b>Immunity to microbreaks</b>	50 ms
<b>Electromagnetic compatibility</b>	Immunity for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-1 Immunity for industrial environments conforming to EN/IEC 61000-6-2 Emission standard for industrial environments conforming to EN/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 Emission standard for residential, commercial and light-industrial environments (except radiated emission) conforming to EN/IEC 61000-6-3

<b>Standards</b>	EN/IEC 60255-1
<b>Product certifications</b>	CE GL CCC EAC RCM UL CSA
<b>Ambient air temperature for storage</b>	-40...70 °C
<b>Ambient air temperature for operation</b>	-20...50 °C at 60 Hz -20...60 °C at 50 Hz
<b>Environmental characteristic</b>	3K3 C
<b>Relative humidity</b>	93...97 % at 25...55 °C conforming to IEC 60068-2-30
<b>Vibration resistance</b>	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
<b>Shock resistance</b>	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
<b>IP degree of protection</b>	IP20 (terminals) conforming to IEC 60529 IP50 (front panel) conforming to IEC 60529 IP30 (housing) conforming to IEC 60529
<b>Pollution degree</b>	3 conforming to IEC 60664-1 3 conforming to UL 508
<b>Dielectric test voltage</b>	2.5 kV, 1 min AC 50 Hz conforming to IEC 60255-27

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Weight</b>	131.0 g
<b>Package 1 Height</b>	7.8 cm
<b>Package 1 width</b>	4.5 cm
<b>Package 1 Length</b>	9.5 cm
<b>Unit Type of Package 2</b>	S02
<b>Number of Units in Package 2</b>	32
<b>Package 2 Weight</b>	4.647 kg
<b>Package 2 Height</b>	15 cm
<b>Package 2 width</b>	30 cm
<b>Package 2 Length</b>	40 cm
<b>Unit Type of Package 3</b>	P06
<b>Number of Units in Package 3</b>	528
<b>Package 3 Weight</b>	79.14 kg
<b>Package 3 Height</b>	50 cm
<b>Package 3 width</b>	80 cm
<b>Package 3 Length</b>	60 cm

## Offer Sustainability

<b>Sustainable offer status</b>	Green Premium product
<b>REACH Regulation</b>	<a href="#">REACH Declaration</a>
<b>EU RoHS Directive</b>	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>

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<b>Mercury free</b>	Yes
<b>RoHS exemption information</b>	<a href="#">Yes</a>
<b>China RoHS Regulation</b>	<a href="#">China RoHS declaration</a>
<b>Environmental Disclosure</b>	<a href="#">Product Environmental Profile</a>
<b>Circularity Profile</b>	<a href="#">End of Life Information</a>
<b>WEEE</b>	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

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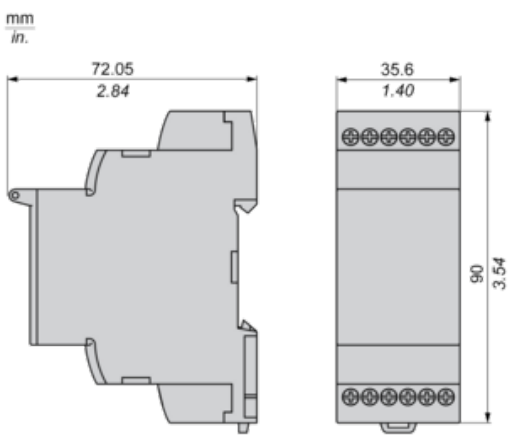
## **Contractual warranty**

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<b>Warranty</b>	18 months
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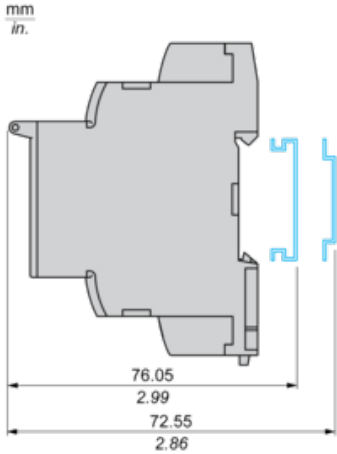
Dimensions



**Mounting and Clearance**

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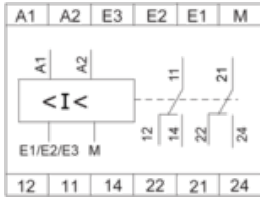
**Rail Mounting**



**Current Measurement Relay**

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Wiring Diagram



**A1,A2** : Supply voltage

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

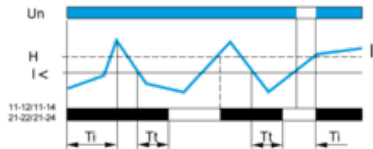
**11-14,12** : 1st C/O contact of output relay

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

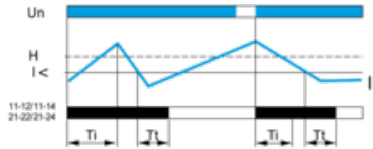
Function Diagrams

Undercurrent Detection

Without memory ("No Memory" mode)

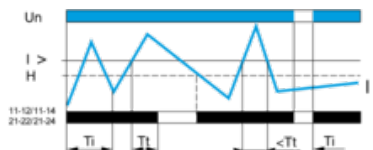


With memory ("Memory" mode)

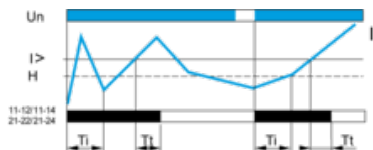


Overcurrent Detection

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.