

# Product data sheet

Specifications



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

RM35JA32MW

### 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
Time delay	Adjustable 1...20 s, 0 + 10 % on energisation $T_i$ Adjustable 0.3...30 s, 0 + 10 % on crossing the threshold $T_t$
Switching capacity in VA	1250 VA
Minimum switching current	10 mA at 5 V DC
Maximum switching current	5 A AC/DC
Maximum power consumption in VA	3.5 VA AC
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
Utilisation category	AC-12 conforming to IEC 60947-5-1 AC-13 conforming to IEC 60947-5-1 AC-14 conforming to IEC 60947-5-1 AC-15 conforming to IEC 60947-5-1 DC-12 conforming to IEC 60947-5-1 DC-13 conforming to IEC 60947-5-1 DC-14 conforming to IEC 60947-5-1
Contacts type and composition	2 C/O

### Complementary

Reset time	1500 ms time delay
Maximum switching voltage	250 V AC/DC
[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 % $U_n$
Maximum power consumption in W	0.6 W DC
Control circuit frequency	40...70 Hz +/- 10 %
Resistance across terminals	0.005 Ohm at E3-M terminals 0.015 Ohm at E2-M terminals 0.05 Ohm at E1-M terminals

<b>Output contacts</b>	2 C/O
<b>Nominal output current</b>	5 A
<b>Maximum measuring cycle</b>	30 ms measurement cycle as true rms value
<b>Hysteresis</b>	5...50 % of threshold setting
<b>Delay at power up</b>	0.3 s
<b>Measurement accuracy</b>	+/- 10 % of the full scale value
<b>Repeat accuracy</b>	+/- 0.5 % for input and measurement circuit +/- 2 % for time delay
<b>Measurement error</b>	0.05 %/°C with temperature variation 1 by volt over the whole range with voltage variation
<b>Polarity</b>	No DC
<b>Threshold setting</b>	10...100 %
<b>Marking</b>	CE : EMC 89/336/EEC CE : 73/23/EEC
<b>Overvoltage category</b>	III conforming to IEC 60664-1
<b>Insulation resistance</b>	> 500 MOhm at 500 V DC between supply and relay output conforming to IEC 60255-5 > 500 MOhm at 500 V DC between measurement and relay output conforming to IEC 60664-1 > 1 MOhm at 500 V DC between supply and measurement conforming to IEC 60255-5 > 500 MOhm at 500 V DC between supply and relay output conforming to IEC 60664-1 > 500 MOhm at 500 V DC between measurement and relay output conforming to IEC 60255-5 > 1 MOhm at 500 V DC between supply and measurement conforming to IEC 60664-1
<b>[Ui] rated insulation voltage</b>	250 V conforming to IEC 60664-1
<b>Operating position</b>	Any position without derating
<b>Connections - terminals</b>	Screw terminals, 1 x 0.5...1 x 4 mm <sup>2</sup> (AWG 20...AWG 11) solid without cable end Screw terminals, 2 x 0.5...2 x 2.5 mm <sup>2</sup> (AWG 20...AWG 14) solid without cable end Screw terminals, 1 x 0.2...1 x 2.5 mm <sup>2</sup> (AWG 24...AWG 12) flexible with cable end Screw terminals, 2 x 0.2...2 x 1.5 mm <sup>2</sup> (AWG 24...AWG 16) 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 (green) for power ON LED (yellow) for relay ON
<b>Mounting support</b>	35 mm symmetrical DIN rail conforming to EN/IEC 60715
<b>Electrical durability</b>	100000 cycles
<b>Mechanical durability</b>	30000000 cycles
<b>Operating rate</b>	<= 360 operations/hour full load
<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>	0.13 kg
<b>Environment</b>	
<b>Immunity to microbreaks</b>	50 ms
<b>Electromagnetic compatibility</b>	Emission standard for industrial environments conforming to EN/IEC 61000-6-4 Emission standard for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-3 Immunity for industrial environments conforming to NF EN/IEC 61000-6-2
<b>Standards</b>	EN/IEC 60255-6
<b>Product certifications</b>	GL UL GOST C-Tick CSA
<b>Ambient air temperature for storage</b>	-40...70 °C

<b>Ambient air temperature for operation</b>	-20...50 °C
<b>Relative humidity</b>	95 % at 55 °C conforming to IEC 60068-2-30
<b>Vibration resistance</b>	0.35 mm (f= 5...57.6 Hz) conforming to IEC 60068-2-6 1 gn (f= 57.6...150 Hz) conforming to IEC 60255-21-1
<b>Shock resistance</b>	15 gn for 11 ms conforming to IEC 60255-21-1
<b>IP degree of protection</b>	IP20 (terminals) conforming to IEC 60529 IP30 (casing) conforming to IEC 60529
<b>Pollution degree</b>	3 conforming to IEC 60664-1
<b>Dielectric test voltage</b>	2 kV, 1 min AC 50 Hz conforming to IEC 60255-5 2 kV, 1 min AC 50 Hz conforming to IEC 60664-1
<b>Non-dissipating shock wave</b>	4 kV conforming to IEC 60255-5 4 kV conforming to IEC 60664-1 4 kV conforming to IEC 61000-4-5

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Height</b>	4.5 cm
<b>Package 1 Width</b>	8 cm
<b>Package 1 Length</b>	9.5 cm
<b>Package 1 Weight</b>	140 g
<b>Unit Type of Package 2</b>	S03
<b>Number of Units in Package 2</b>	48
<b>Package 2 Height</b>	30 cm
<b>Package 2 Width</b>	30 cm
<b>Package 2 Length</b>	40 cm
<b>Package 2 Weight</b>	7.39 kg

## Offer Sustainability

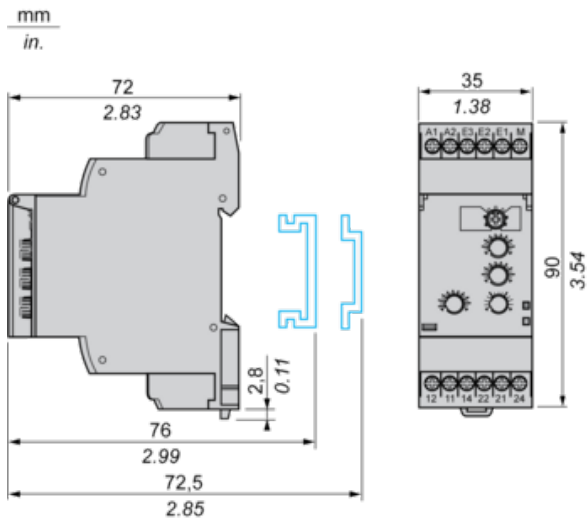
<b>Sustainable offer status</b>	Green Premium product
<b>REACH Regulation</b>	<a href="#">REACH Declaration</a>
<b>EU RoHS Directive</b>	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
<b>Mercury free</b>	Yes
<b>China RoHS Regulation</b>	<a href="#">China RoHS declaration</a>
<b>RoHS exemption information</b>	<a href="#">Yes</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
<b>California proposition 65</b>	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>

## Contractual warranty

<b>Warranty</b>	18 months
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Current Control Relays

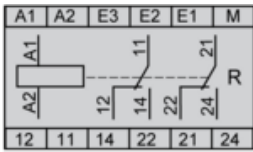
Dimensions and Mounting



**Current Control Relays**

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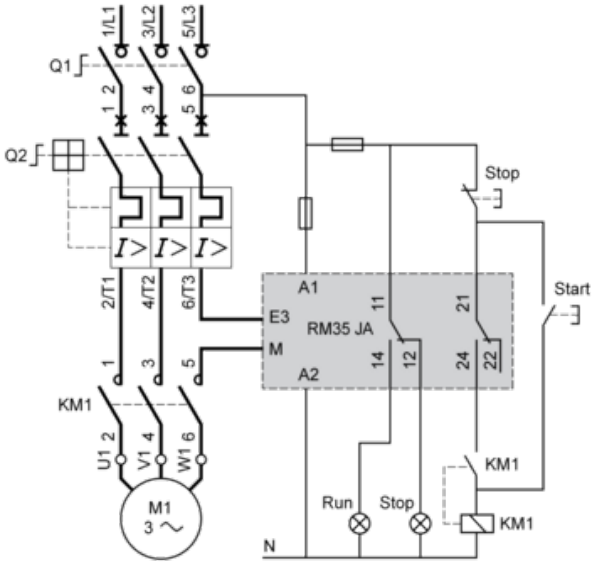
**Wiring Diagram**



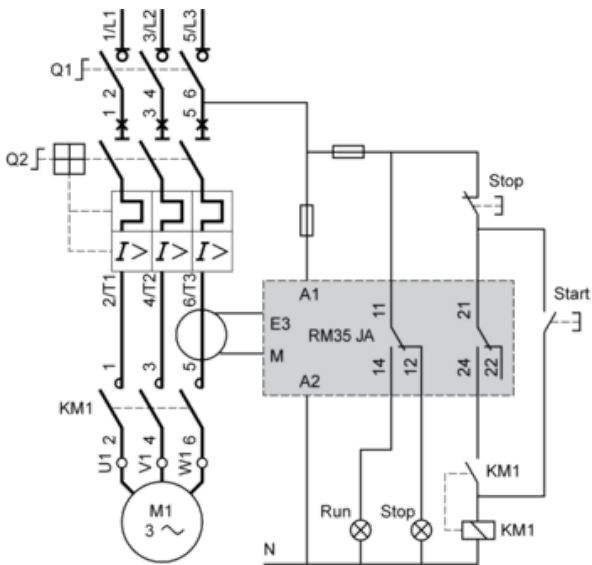
**Application Schemes**

**Example: Detection of Jamming on a Crusher (Overcurrent Function)**

Current measured  $\leq 15$  A



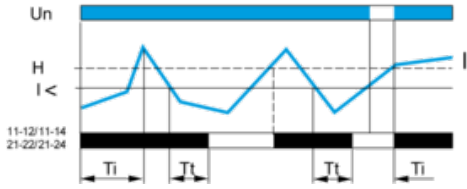
Current measured  $> 15$  A



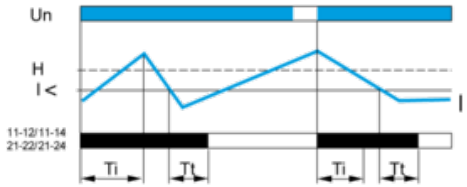
Function Diagrams

Undercurrent Detection

Without memory ("No Memory" mode)

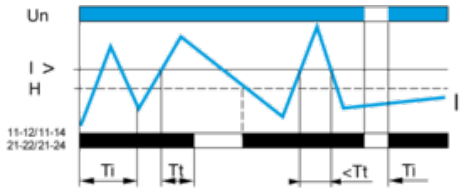


With memory ("Memory" mode)

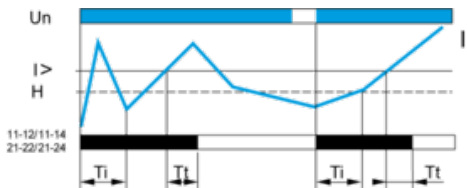


Overcurrent Detection

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.

Recommended replacement(s)