Product data sheet
Characteristics

RM35JA31MW
current control relay RM35-J - range 2..500 mA



Main

Range of product	Zelio Control
Product or component type	Modular measurement and control relays
Relay type	Current control relay
Relay name	RM35JA
Relay monitored parameters	Overcurrent or undercurrent detection Overcurrent or undercurrent in window mode
Time delay	Adjustable 0.3...30 s, 0 + 10 % on crossing the threshold Tt Adjustable 1...20 s, 0 + 10 % on energisation Ti
Switching capacity in VA	1250 VA
Minimum switching current	10 mA at 5 V DC
Maximum switching current	5 A AC
Power consumption in VA	<= 3.5 VA AC
Measurement range	50...500 mA E3-M terminals 2...500 mA current 2...20 mA E1-M terminals 10...100 mA E2-M terminals
Utilisation category	DC-14 conforming to IEC 60947-5-1 DC-13 conforming to IEC 60947-5-1 DC-12 conforming to IEC 60947-5-1 AC-15 conforming to IEC 60947-5-1 AC-14 conforming to IEC 60947-5-1 AC-13 conforming to IEC 60947-5-1 AC-12 conforming to IEC 60947-5-1

Complementary

Reset time	1500 ms for time delay
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
Power consumption in W	<= 0.6 W DC
Control circuit frequency	40...70 Hz +/- 10 %
Resistance across terminals	0.2 Ohm E3-M terminals 5 Ohm E1-M terminals 1 Ohm E2-M terminals
Output contacts	2 C/O
Nominal output current	5 A
Measuring cycle	<= 30 ms measurement cycle as true rms value
Hysteresis	5...50 % of threshold setting
Delay at power up	0.3 s
Measurement accuracy	+/- 10 % of the full scale value
Repeat accuracy	+/- 2 % for time delay +/- 0.5 % for input and measurement circuit
Measurement error	1 by volt over the whole range with voltage variation 0.05 %/°C with temperature variation
Polarity	No DC
Threshold setting	10...100 %

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.
It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof.
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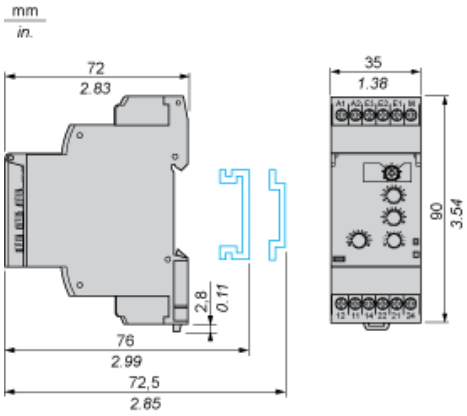
Marking	CE : 73/23/EEC CE : EMC 89/336/EEC
Overvoltage category	III conforming to IEC 60664-1
Insulation resistance	> 500 MOhm at 500 V DC conforming to IEC 60664-1 > 500 MOhm at 500 V DC conforming to IEC 60255-5
[Ui] rated insulation voltage	250 V conforming to IEC 60664-1
Insulation	Between supply and measurement
Operating position	Any position without derating
Connections - terminals	Screw terminals 2 x 0.2...2 x 1.5 mm² - AWG 24...AWG 16, flexible cable with cable end Screw terminals 1 x 0.2...1 x 2.5 mm² - AWG 24...AWG 12, flexible cable with cable end Screw terminals 2 x 0.5...2 x 2.5 mm² - AWG 20...AWG 14, solid cable without cable end Screw terminals 1 x 0.5...1 x 4 mm² - AWG 20...AWG 11, solid cable without 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 symmetrical DIN rail conforming to EN/IEC 60715
Electrical durability	100000 cycles
Mechanical durability	30000000 cycles
Operating rate	<= 360 operations/hour under full load
Contacts material	Cadmium free
Width	35 mm
Product weight	0.13 kg

Environment

Immunity to microbreaks	50 ms
Electromagnetic compatibility	Immunity for industrial environments conforming to NF EN/IEC 61000-6-2 Emission standard for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-3 Emission standard for industrial environments conforming to EN/IEC 61000-6-4
Standards	EN/IEC 60255-6
Product certifications	CSA C-Tick GL GOST UL
Ambient air temperature for storage	-40...70 °C
Ambient air temperature for operation	-20...50 °C
Relative humidity	95 % at 55 °C conforming to IEC 60068-2-30
Vibration resistance	1 gn (f = 57.6...150 Hz) conforming to IEC 60255-21-1 0.35 mm (f = 5...57.6 Hz) conforming to IEC 60068-2-6
Shock resistance	15 gn for 11 ms conforming to IEC 60255-21-1
IP degree of protection	IP30 (casing) conforming to IEC 60529 IP20 (terminals) conforming to IEC 60529
Pollution degree	3 conforming to IEC 60664-1
Dielectric test voltage	2 kV AC 50 Hz, 1 min conforming to IEC 60664-1 2 kV AC 50 Hz, 1 min conforming to IEC 60255-5
Non-dissipating shock wave	4 kV conforming to IEC 61000-4-5 4 kV conforming to IEC 60664-1 4 kV conforming to IEC 60255-5

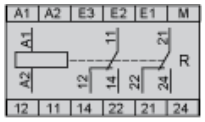
Current Control Relays

Dimensions and Mounting



Current Control Relays

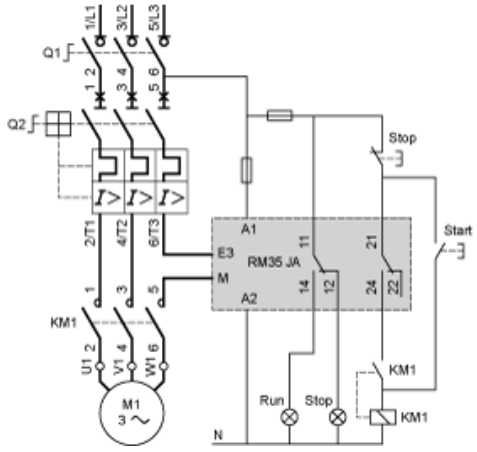
Wiring Diagram



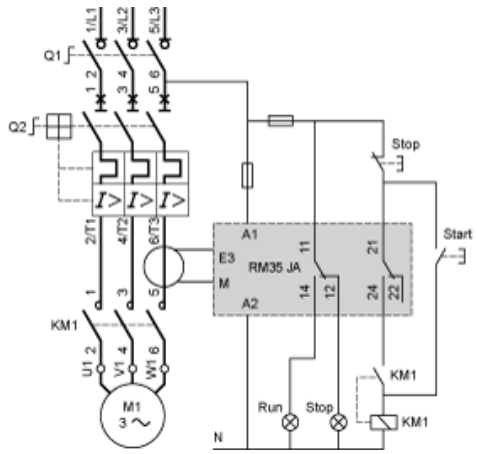
Application Schemes

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

Current measured ≤ 15 A



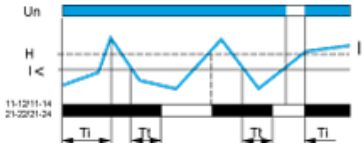
Current measured > 15 A



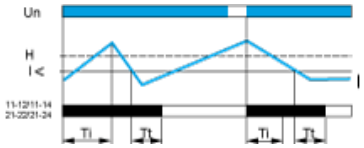
Function Diagrams

Undercurrent Detection

Without memory ("No Memory" mode)

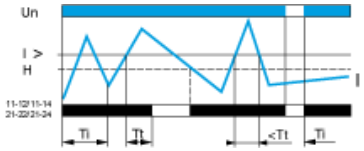


With memory ("Memory" mode)

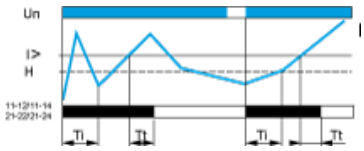


Overcurrent Detection

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.