Product datasheet
Characteristics

RM22JA21MR
Overcurrent control relay 4mA…1A, 2 C/O

Main

Range of product	Zelio Control
Product or component type	Modular measurement and control relays
Relay type	Current control relay
Relay name	RM22JA
Relay monitored parameters	Overcurrent detection
Time delay type	Without
Switching capacity in VA	2000 VA
Measurement range	4...40 mA E1-M terminals 20...200 mA E2-M terminals 100...1000 mA E3-M terminals 4 mA...1 A current AC/DC 50/60 Hz

Complementary

Reset time	<= 1500 ms at maximum voltage
Maximum switching voltage	250 V AC
Minimum switching current	10 mA at 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
Control circuit voltage limits	- 15 % + 10 % Un
Power consumption in VA	3.5 VA AC
Power consumption in W	1.5 W DC
Supply frequency	50...60 Hz +/- 10 %
Resistance across terminals	2.5 Ohm at E1-M terminals 0.5 Ohm at E2-M terminals 0.1 Ohm at E3-M terminals
Output contacts	2 C/O
Nominal output current	8 A
Internal input resistance	2.5 Ohm 0.5 Ohm 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 <= 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 <= 1 % within the supply voltage range
Hysteresis	5...50 % adjustable of threshold setting
Run-up delay at power-up	0.3 s
Measuring cycle	100 ms measurement cycle as true rms value
Repeat accuracy	+/- 0.5 % input and measurement circuit +/- 0.2 % time delay
Measurement error	< 1 % over the whole range with voltage variation 0.05 %/°C with temperature variation
Response time	<= 500 ms
Threshold setting	10...100 %
Overvoltage category	III conforming to IEC 60664-1 III conforming to UL 508
Insulation resistance	> 100 MOhm at 500 V DC conforming to 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 cable without cable end Screw terminals 2 x 0.2...2 x 1.5 mm² - AWG 24...AWG 16, flexible cable with cable end Screw terminals 1 x 0.5...1 x 3.3 mm² - AWG 20...AWG 12, solid cable without cable end Screw terminals 1 x 0.2...1 x 2.5 mm² - AWG 24...AWG 14, flexible cable with cable end
Tightening torque	0.6...1 N.m conforming to IEC 60947-1
Housing material	Self-extinguishing plastic
Status LED	LED yellow for relay ON LED green for power ON
Mounting support	35 mm DIN rail conforming to EN/IEC 60715
Electrical durability	100000 cycles
Mechanical durability	10000000 cycles
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
Safety reliability data	MTTFd = 296.8 years B10d = 270000
Contacts material	Cadmium free
Width	22.5 mm
Product weight	0.11 kg

Environment

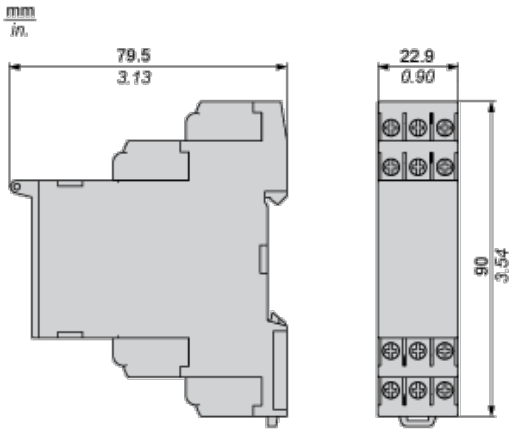
immunity to microbreaks	50 ms
electromagnetic compatibility	Emission standard for industrial environments conforming to EN/IEC 61000-6-4 Emission standard for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-3 Immunity for industrial environments conforming to EN/IEC 61000-6-2 Conducted and radiated emissions class B conforming to CISPR 22 Immunity for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-1 Electrostatic discharge 6 kV level 3 contact discharge conforming to IEC 61000-4-2 Electrostatic discharge 8 kV level 3 air discharge conforming to IEC 61000-4-2 Radiated radio-frequency electromagnetic field immunity test 10 V/m level 3 conforming to IEC 61000-4-3 Electrical fast transient/burst immunity test 4 kV level 4 direct conforming to IEC 61000-4-4 Electrical fast transient/burst immunity test 2 kV level 4 capacitive coupling conforming to IEC 61000-4-4 Surge immunity test 4 kV level 4 common mode conforming to IEC 61000-4-5 Surge immunity test 2 kV level 4 differential mode conforming to IEC 61000-4-5 Conducted and radiated emissions class B group 1 conforming to CISPR 11
standards	EN/IEC 60255-1
product certifications	CCC CE CSA GL UL RCM EAC China RoHS
ambient air temperature for storage	-40...70 °C
ambient air temperature for operation	-20...50 °C at 60 Hz -20...60 °C at 50 Hz AC/DC
relative humidity	93...97 % at 25...55 °C conforming to IEC 60068-2-30
vibration resistance	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
shock resistance	15 gn for 11 ms (not in operation) conforming to IEC 60068-2-27 5 gn for 11 ms (in operation) conforming to IEC 60068-2-27
IP degree of protection	IP20 on terminals conforming to IEC 60529 IP40 on housing conforming to IEC 60529 IP50 on front panel conforming to IEC 60529

pollution degree	3 conforming to IEC 60664-1 3 conforming to UL 508
dielectric test voltage	2.5 kV for 1 min AC 50 Hz conforming to IEC 60255-27

Offer Sustainability

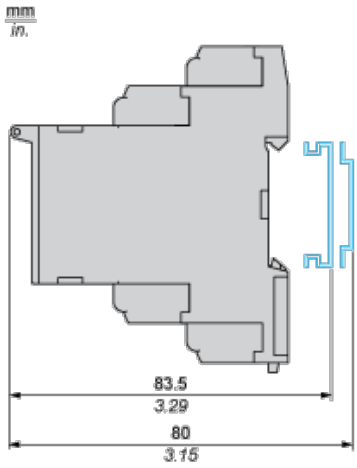
Sustainable offer status	Green Premium product
RoHS (date code: YYWW)	Compliant - since 0701 - Schneider Electric declaration of conformity
REACh	Reference not containing SVHC above the threshold
Product environmental profile	Available
Product end of life instructions	Available

Dimensions



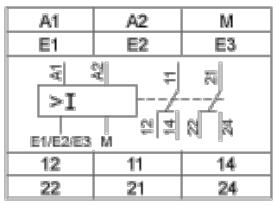
Mounting and Clearance

Rail Mounting



Overcurrent Control Relay

Wiring Diagram



A1,A2 : Supply voltage

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

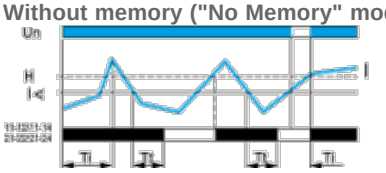
11-14,12 : 1st C/O contact of output relay

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

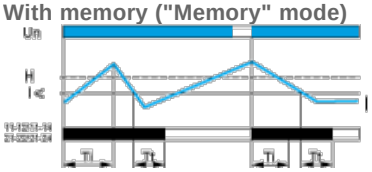
Function Diagrams

Undercurrent Detection

Without memory ("No Memory" mode)

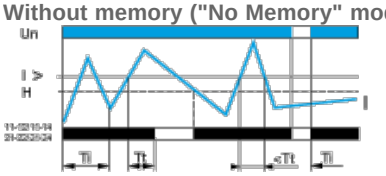


With memory ("Memory" mode)

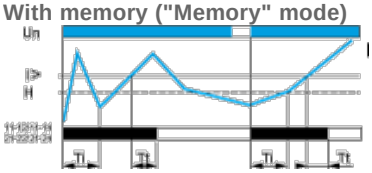


Overcurrent Detection

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.