## RM22JA31MR

Harmony, Modular 1-phase current control relay, 4 mA...1 A, 2 CO, 24...240 V AC/DC





#### Main

Range of Product	Harmony Control Relays	
Product or Component Type	Current control relay	
Relay Type	Current control relay	
Relay name	RM22JA	
Relay monitored parameters	Overcurrent or undercurrent detection Overcurrent or undercurrent in window mode	
Time delay type	Adjustable 0.130 s, +/- 10 % of the full scale value on crossing the threshold $Tt$	
Switching capacity in VA	2000 VA	
Measurement range	440 mA E1-M terminals 20200 mA E2-M terminals 1001000 mA E3-M terminals 4 mA1 A current AC/DC 50/60 Hz	
Contacts type and composition	2 C/O	

#### Complementary

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	24240 V AC/DC 50/60 Hz +/- 10 %	
Supply voltage limits	20.4264 V AC/DC	
Operating limits	- 15 % + 10 % Un	
Power consumption in VA	3.5 VA AC	
Maximum power consumption in W	1.5 W DC	
Supply voltage frequency	5060 Hz +/- 10 %	
Resistance across terminals	2.5 Ohm E1-M terminals 0.5 Ohm E2-M terminals 0.1 Ohm E3-M terminals	
Output contacts	2 C/O	
Nominal output current	8 A	
Internal input resistance	0.5 Ohm 2.5 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	550 % adjustable threshold setting overcurrent or undercurrent detection 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 +/- 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	10100 %	
Overvoltage category	III IEC 60664-1 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 0.52 x 2.5 mm² AWG 20AWG 14) solid without cable end Screw terminals, 2 x 0.22 x 1.5 mm² AWG 24AWG 16) flexible with cable end Screw terminals, 1 x 0.51 x 3.3 mm² AWG 20AWG 12) solid without cable end Screw terminals, 1 x 0.21 x 2.5 mm² AWG 24AWG 14) flexible with cable end	
Tightening torque	5.318.85 lbf.in (0.61 N.m) IEC 60947-1	
Housing material	Self-extinguishing plastic	
Status LED	Relay ON LED Yellow) 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 DC-13 IEC 60947-5-1 AC-1 IEC 60947-4-1 DC-1 IEC 60947-4-1	
Safety reliability data	MTTFd = 296.8 years B10d = 270000	
Contacts material	Cadmium free	
Width	0.89 in (22.5 mm)	
Net Weight	0.24 lb(US) (0.11 kg)	

#### Environment

Immunity to microbreaks	50 ms	
Electromagnetic compatibility	Immunity for residential, commercial and light-industrial environments EN/IEC 61000-6-1 Immunity for industrial environments EN/IEC 61000-6-2 Emission standard for residential, commercial and light-industrial environment EN/IEC 61000-6-3 Emission standard for industrial environments EN/IEC 61000-6-4 Electrostatic discharge 6 kV contact discharge)level 3 IEC 61000-4-2 Electrostatic discharge 8 kV air discharge)level 3 IEC 61000-4-2 Radiated radio-frequency electromagnetic field immunity test 10 V/mlevel 3 IE 61000-4-3 Electrical fast transient/burst immunity test 4 kV direct)level 4 IEC 61000-4-4 Electrical fast transient/burst immunity test 2 kV capacitive coupling)level 4 IE 61000-4-4 Surge immunity test 4 kV common mode)level 4 IEC 61000-4-5 Surge immunity test 2 kV differential mode)level 4 IEC 61000-4-5 Conducted and radiated emissionsclass B group 1 CISPR 11 Conducted and radiated emissionsclass B CISPR 22	
Standards	EN/IEC 60255-1	
Product Certifications	CSA CE EAC CCC GL RCM UL	
Ambient Air Temperature for Storage	-40158 °F (-4070 °C)	
Ambient air temperature for operation	-4122 °F (-2050 °C) 60 Hz -4140 °F (-2060 °C) 50 Hz AC/DC	
Relative humidity	9397 % 77131 °F (2555 °C) IEC 60068-2-30	
Vibration resistance	0.075 mm 1058.1 Hz) not in operation IEC 60068-2-6 1 gn 1058.1 Hz) not in operation IEC 60068-2-6 0.035 mm 58.1150 Hz) in operation IEC 60068-2-6 0.5 gn 58.1150 Hz) in operation IEC 60068-2-6	
Shock resistance	15 gn 11 ms) not in operation IEC 60068-2-27 5 gn 11 ms) in operation IEC 60068-2-27	

IP degree of protection	IP20 IEC 60529 terminals) IP40 IEC 60529 housing) IP50 IEC 60529 front panel)	
Pollution degree	3 IEC 60664-1 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	3606480792298
Nbr. of units in pkg.	1
Package weight(Lbs)	4.27 oz (121 g)
Returnability	Yes
Country of origin	ID

## Packing Units

•	
Unit Type of Package 1	PCE
Package 1 Height	1.02 in (2.6 cm)
Package 1 width	3.23 in (8.2 cm)
Package 1 Length	3.74 in (9.5 cm)
Unit Type of Package 2	S02
Number of Units in Package 2	40
Package 2 Weight	11.68 lb(US) (5.297 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	640
Package 3 Weight	204.10 lb(US) (92.58 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)

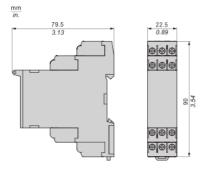
## Offer Sustainability

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) EVEU 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.	

# Product data sheet Dimensions Drawings

## RM22JA31MR

#### **Dimensions**

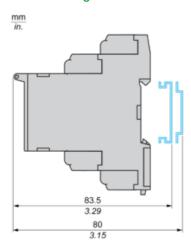


# Product data sheet Mounting and Clearance

## RM22JA31MR

### Mounting and Clearance

#### Rail Mounting



## Product data sheet Connections and Schema

## RM22JA31MR

#### **Current Measurement Relay**

#### Wiring Diagram

A1	A2	M
E1	E2	E3
E1/E3/E3 M		
12	11	14
22	21	24

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

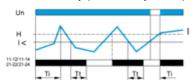
# Product data sheet Technical Description

## RM22JA31MR

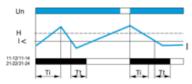
#### **Function Diagrams**

#### **Undercurrent Detection**

Without memory ("No Memory" mode)

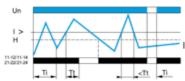


With memory ("Memory" mode)

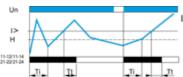


#### **Overcurrent Detection**

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.

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8-1618393-1 GCA63A220VAC60HZ GCA63A277VAC60HZ GCA63A600VAC60HZ 1-1672275-3 1-1833005-4 H-16/S1 A711Z H-8C
H-8/S11 H-8/S68 ACC530U20 ACC730U30 RF303ZM4-12 DH18DA 1423675-8 AR4-15F13-C01 AR7-41F11 AVR907 15732A200
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