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Product data sheet
Characteristics

RM22UA33MR
Modular 1-phase voltage control relay, 8 A, 2 CO, 15…500 V AC/DC, 24…240 V AC/DC



Main

Range of product	Zelio Control
Product or component type	Modular measurement and control relays
Relay type	Voltage control relay
Phase	1 phase
Supply circuit type	DC
Relay name	RM22UA
Relay monitored parameters	Undervoltage and overvoltage in window mode Overvoltage or undervoltage detection
Time delay type	Adjustable 0.1...30 s, +/- 10 % of the full scale value on crossing the threshold Tt
Switching capacity in VA	2000 VA
Measurement range	15...500 V voltage AC/DC 50/60 Hz

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	24...240 V AC/DC 50/60 Hz
Supply voltage limits	20.4…264 V AC/DC
Power consumption in VA	3.5 VA AC
Maximum power consumption in W	1.5 W DC
Supply voltage frequency	40...70 Hz +/- 10 %
Resistance across terminals	150 KOhm E2-M terminals 300 KOhm E1-M terminals 500 kOhm E3-M terminals
Output contacts	2 C/O
Nominal output current	8 A
Hysteresis	3 % fixed full scale for window mode 5…50 % adjustable threshold setting overvoltage or undervoltage detection
Run-up delay at power-up	600 ms
Maximum measuring cycle	100 ms measurement cycle as true rms value
Repeat accuracy	+/- 0.5 % input and measurement circuit +/- 2 % time delay
Measurement error	< 1 % over the whole range with voltage variation 0.05 %/°C with temperature variation
Response time	<= 500 ms
Overvoltage category	III IEC 60664-1
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 0.5...2 x 2.5 mm² AWG 20...AWG 14) solid without cable end Screw terminals, 2 x 0.2...2 x 1.5 mm² AWG 24...AWG 16) flexible with cable end Screw terminals, 1 x 0.5...1 x 3.3 mm² AWG 20...AWG 12) solid without cable end Screw terminals, 1 x 0.2...1 x 2.5 mm² AWG 24...AWG 14) flexible with cable end
Tightening torque	5.31…8.85 lbf.in (0.6…1 N.m) IEC 60947-1

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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Housing material	Self-extinguishing plastic
Status LED	Relay ON LED Yellow) Power ON LED Green)
Mounting support	35 mm DIN rail 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 = 308.2 years B10d = 290000
Contacts material	Cadmium free
Maximum Width	0.89 in (22.5 mm)
Net Weight	0.24 lb(US) (0.11 kg)

Environment

Immunity to microbreaks	10 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 environments 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 IEC 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 IEC 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	RCM UL EAC CSA CE GL CCC
Ambient air temperature for storage	-40…158 °F (-40…70 °C)
Ambient air temperature for operation	-4…122 °F (-20…50 °C) 60 Hz -4…140 °F (-20…60 °C) 50 Hz AC/DC
Relative humidity	93…97 % 77…131 °F (25…55 °C) IEC 60068-2-30
Vibration resistance	0.075 mm 10…58.1 Hz) not in operation IEC 60068-2-6 1 gn 10…58.1 Hz) not in operation IEC 60068-2-6 0.035 mm 58.1…150 Hz) in operation IEC 60068-2-6 0.5 gn 58.1…150 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
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	00785901906179
Nbr. of units in pkg.	1
Package weight(Lbs)	0.27 lb(US) (0.12 kg)

Returnability	Yes
Country of origin	ID

Packing Units

Package 1 Height	0.260 dm
Package 1 width	0.820 dm
Package 1 Length	0.950 dm

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) EU 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.

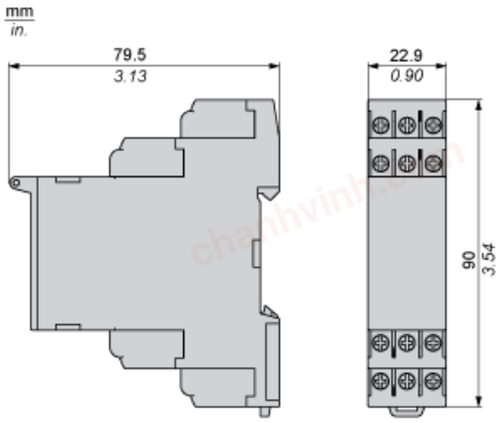
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Product data sheet
Dimensions Drawings

RM22UA33MR

Dimensions



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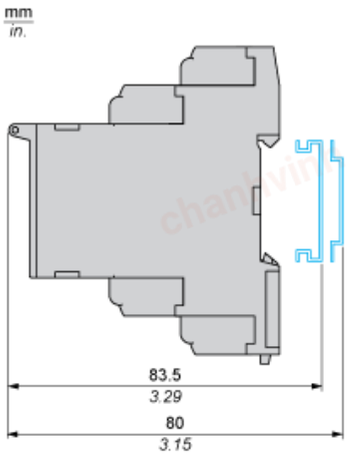
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Product data sheet
Mounting and Clearance

RM22UA33MR

Mounting and Clearance

Rail Mounting

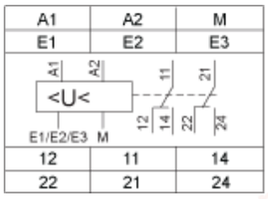


Product data sheet
Connections and Schema

RM22UA33MR

Voltage Measurement Relay

Wiring Diagram



A1,A2 : Supply voltage
E1,E2,E3,M : Voltages to be measured
11-14,12 : 1st C/O contact of output relay
21-24,22 : 2nd C/O contact of output relay

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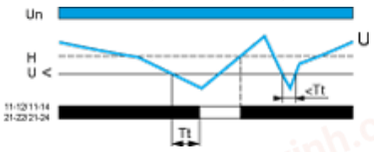
Product data sheet
Technical Description

RM22UA33MR

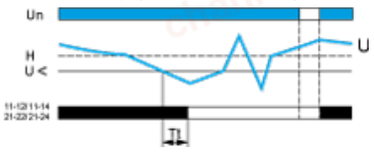
Function Diagrams

Undervoltage Control

Without memory ("No Memory" mode)

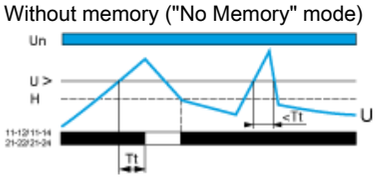


With memory ("Memory" mode)

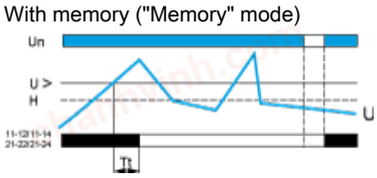


Overvoltage Control

Without memory ("No Memory" mode)



With memory ("Memory" mode)



Legend

Tt Time delay after crossing of threshold

Un Nominal supply voltage

U Monitored supply voltage

H Hysteresis

U> Overvoltage threshold

U< Undervoltage 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.