Product data sheet
Characteristics

RM35UA12MW
Harmony, Modular 1-phase voltage control relay, 5 A, 2 CO, range 1..100 V, 24..240 V AC/DC



Main

Range of Product	Harmony Control Relays
Product or Component Type	Voltage control relay
Relay Type	Multifunction voltage control relay
Relay name	RM35UA
Relay monitored parameters	Overvoltage or undervoltage detection
Time delay	Adjustable 0.3...30 s, 0 + 10 % on crossing the threshold
Switching capacity in VA	1250 VA
Minimum switching current	10 mA 5 V DC
Maximum switching current	5 A AC/DC
Power consumption in VA	0…3.5 VA AC
Measurement range	1...100 V voltage
Utilisation category	AC-12 IEC 60947-5-1 AC-13 IEC 60947-5-1 AC-14 IEC 60947-5-1 AC-15 IEC 60947-5-1 DC-12 IEC 60947-5-1 DC-13 IEC 60947-5-1 DC-14 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
Maximum power consumption in W	0.6 W DC
Immunity to microbreaks	10 ms
Control circuit frequency	40...70 Hz +/- 10 %
Resistance across terminals	110 MOhm E2-M terminals 22 MOhm E1-M terminals 220 mOhm E3-M terminals
Output contacts	2 C/O
Nominal output current	5 A
Maximum measuring cycle	30 ms measurement cycle as true rms value
Hysteresis	5…50 % threshold setting
Delay at power up	600 ms
Measurement accuracy	+/- 10 % of the full scale value
Repeat accuracy	+/- 0.5 % input and measurement circuit +/- 2 % time delay
Measurement error	+/- 0.05 %/°C with temperature variation < 1 % over the whole range with voltage variation
Polarity	Non reversible polarity on DC supply

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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Sensitivity scale	1...10 V E1-M terminals 10...100 V E3-M terminals 5...50 V E2-M terminals
Threshold setting	10...100 %
Quality labels	CE
Overvoltage category	III IEC 60664-1
Insulation resistance	> 500 MOhm 500 V DC between supply and relay output IEC 60255-5 > 500 MOhm 500 V DC between measurement and relay output IEC 60664-1 > 1 MOhm 500 V DC between supply and measurement IEC 60255-5 > 500 MOhm 500 V DC between supply and relay output IEC 60664-1 > 500 MOhm 500 V DC between measurement and relay output IEC 60255-5 > 1 MOhm 500 V DC between supply and measurement IEC 60664-1
[Ui] rated insulation voltage	250 V IEC 60664-1 600 V IEC 60664-1
Operating voltage tolerance	- 15 % + 10 % Un
Operating position	Any position without derating
Connections - terminals	Screw terminals, 1 x 0.5...1 x 4 mm² AWG 20...AWG 11) solid without cable end Screw terminals, 2 x 0.5...2 x 2.5 mm² AWG 20...AWG 14) solid without cable end Screw terminals, 1 x 0.2...2 x 2.5 mm² AWG 24...AWG 12) flexible with cable end Screw terminals, 2 x 0.2...2 x 1.5 mm² AWG 24...AWG 16) flexible with cable end
Tightening torque	5.31…8.85 lbf.in (0.6…1 N.m) IEC 60947-1
Housing material	Self-extinguishing plastic
Local signalling	For power ON LED (green) For relay ON LED (yellow)
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 full load
Safety reliability data	B10d = 290000 MTTFd = 308.2 years
Width	1.38 in (35 mm)
Net Weight	0.18 lb(US) (0.08 kg)
Compatibility code	RM3

Environment

Electromagnetic compatibility	Emission standard for industrial environments EN/IEC 61000-6-4 Emission standard for residential, commercial and light-industrial environments EN/IEC 61000-6-3 Immunity for industrial environments NF EN/IEC 61000-6-2
Standards	EN/IEC 60255-6
Product Certifications	GOST C-tick UL GL CSA
Directives	73/23/EEC - low voltage directive 89/336/EEC - electromagnetic compatibility
Ambient Air Temperature for Storage	-40…158 °F (-40…70 °C)
Ambient air temperature for operation	-4…122 °F (-20…50 °C)
Relative humidity	95 % 131 °F (55 °C) IEC 60068-2-30
Vibration resistance	0.35 mm 5…57.6 Hz)IEC 60068-2-6 1 gn 57.6…150 Hz)IEC 60255-21-1
Shock resistance	5 gn IEC 60068-2-27
IP degree of protection	IP20 IEC 60529 terminals) IP30 IEC 60529 casing)
Pollution degree	3 IEC 60664-1
Dielectric test voltage	2 KV AC 50 Hz, 1 min IEC 60255-5 2 kV AC 50 Hz, 1 min IEC 60664-1
Non-dissipating shock wave	4 KV IEC 60255-5 4 KV IEC 60664-1 4 kV IEC 61000-4-5

Ordering and shipping details

Category	22380 - RELAYS-MEASUREMENT (RM17-RM35)
Discount Schedule	CP2
GTIN	3389119405300
Nbr. of units in pkg.	1
Package weight(Lbs)	4.83 oz (137 g)
Returnability	Yes
Country of origin	ID

Packing Units

Unit Type of Package 1	PCE
Package 1 Height	1.77 in (4.5 cm)
Package 1 width	3.07 in (7.8 cm)
Package 1 Length	3.74 in (9.5 cm)
Unit Type of Package 2	S03
Number of Units in Package 2	48
Package 2 Weight	15.87 lb(US) (7.2 kg)
Package 2 Height	11.81 in (30 cm)
Package 2 width	11.81 in (30 cm)
Package 2 Length	15.75 in (40 cm)

Offer Sustainability

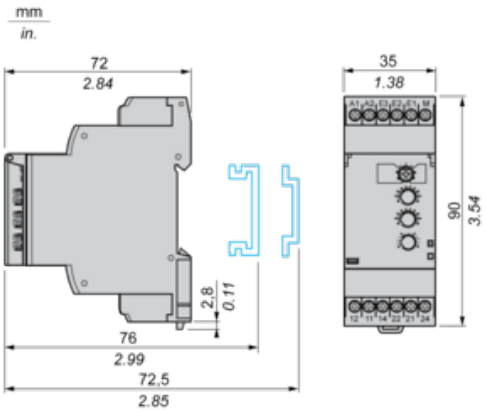
Sustainable offer status	Green Premium product
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov
REACh Regulation	REACh Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) 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.

Contractual warranty

Warranty	18 months

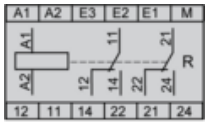
Multifunction Voltage Control Relays

Dimensions and Mounting



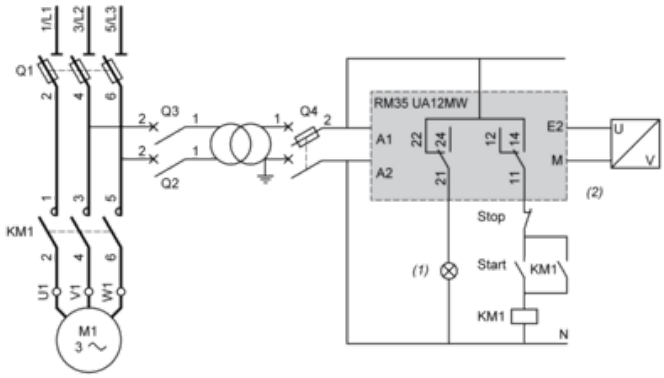
Multifunction Voltage Control Relays

Wiring Diagram



Application Scheme

Example: Overspeed Monitoring (Undervoltage Function)

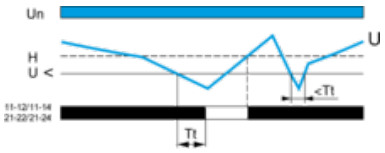


(1) Overspeed
(2) Tachogenerator

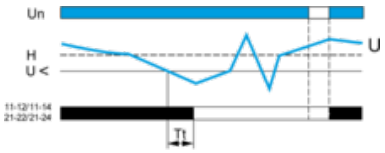
Function Diagrams

Undervoltage Control

Without memory ("No Memory" mode)

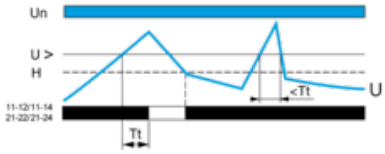


With memory ("Memory" mode)

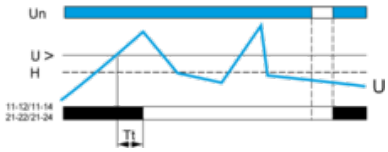


Overvoltage Control

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.