

RM35UA13MW

multifunction voltage control relay RM35-U -
range 15..600 V



Main

Range of product	Zelio Control
Product or component type	Modular measurement and control relays
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 at 5 V DC
Maximum switching current	5 A AC/DC
Power consumption in VA	<= 3.5 VA AC
Measurement range	15...600 V voltage
Electrical connection	1 conductor cable 0.2...2.5 mm ² AWG24...AWG12 flexible cablewith cable end conforming to IEC 60947-1 1 conductor cable 0.5...4 mm ² AWG20...AWG11 solid cablewithout cable end conforming to IEC 60947-1 2 conductors cable 0.2...1.5 mm ² AWG24...AWG16 flexible cablewith cable end conforming to IEC 60947-1 2 conductors cable 0.5...2.5 mm ² AWG20...AWG14 solid cablewithout cable end conforming to IEC 60947-1
Utilisation category	AC-12 conforming to IEC 60947-5-1 AC-13 conforming to IEC 60947-5-1 AC-14 conforming to IEC 60947-5-1 AC-15 conforming to IEC 60947-5-1 DC-12 conforming to IEC 60947-5-1 DC-13 conforming to IEC 60947-5-1 DC-14 conforming to IEC 60947-5-1

Complementary

Reset time	1500 ms for time delay
Maximum switching voltage	250 V AC/DC
[Us] rated supply voltage	24...240 V AC/DC
Supply voltage limits	20.4...264 V AC/DC
Power consumption in W	<= 0.6 W DC
Control circuit frequency	40...70 Hz +/- 10 %
Resistance across terminals	150 mOhm E1-M terminals 300 mOhm E2-M terminals 600 mOhm E3-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	0.6 s
Measurement accuracy	+/- 10 % of the full scale value

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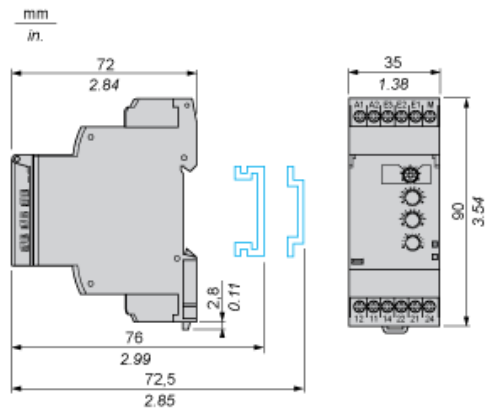
Repeat accuracy	+/- 0.5 % for input and measurement circuit +/- 2 % for time delay
Measurement error	+/- 0.05 %/°C with temperature variation < 1 % over the whole range with voltage variation
Polarity	Non reversible polarity on DC supply
Sensitivity scale	15...150 V E1-M terminals 30...300 V E2-M terminals 60...600 V E3-M terminals
Threshold setting	10...100 %
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 60255-5 > 500 MOhm at 500 V DC conforming to IEC 60664-1
[Ui] rated insulation voltage	250 V conforming to IEC 60664-1 600 V conforming to IEC 60664-1
Operating voltage tolerance	- 15 % + 10 % Un
Supply frequency	50/60 Hz +/- 10 %
Insulation	Between supply and measurement
Operating position	Any position without derating
Tightening torque	0.6...1 N.m conforming to IEC 60947-1
Housing material	Self-extinguishing plastic
Status LED	1 LED green for power ON 1 LED yellow for relay 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
Width	35 mm
Product weight	0.08 kg

Environment

Immunity to microbreaks	10 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 NF EN/IEC 61000-6-2
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	0.35 mm (f = 5...57.6 Hz) conforming to IEC 60068-2-6/IEC 60255-21-1 1 gn (f = 57.6...150 Hz) conforming to IEC 60068-2-6/IEC 60255-21-1
Shock resistance	5 gn conforming to IEC 60068-2-27
IP degree of protection	IP20 (terminals) conforming to IEC 60529 IP30 (casing) 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 60255-5 2 kV AC 50 Hz, 1 min conforming to IEC 60664-1
Non-dissipating shock wave	4 kV conforming to IEC 60255-5 4 kV conforming to IEC 60664-1 4 kV conforming to IEC 61000-4-5
RoHS EUR status	Compliant
RoHS EUR conformity date	0701

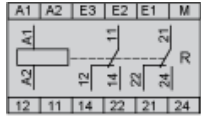
Multifunction Voltage Control Relays

Dimensions and Mounting



Multifunction Voltage Control Relays

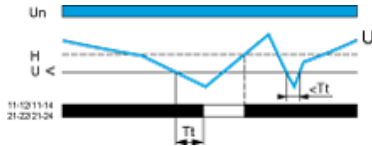
Wiring Diagram



Function Diagrams

Undervoltage Control

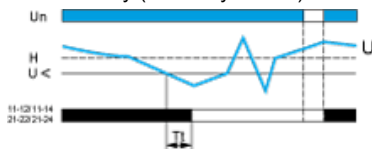
Without memory ("No Memory" mode)



- Tt Time delay after crossing of threshold (adjustable on front panel from 0.3 s to 30 s)
- Un Nominal supply voltage
- U Monitored supply voltage
- H Hysteresis adjusted by means of a potentiometer graduated from 5...50% of the threshold setting
- U< Undervoltage threshold (set by means of a potentiometer graduated as a percentage of the scale value of Un)
- 11-12/11-14 Output relays connections (refer to Connections and Schema)
- 21-22/21-24

Relay status: black color = energized.

With memory ("Memory" mode)



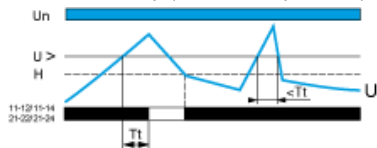
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- 11-12/11-14 Output relays connections (refer to Connections and Schema)
- 21-22/21-24

Relay status: black color = energized.

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.

Overvoltage Control

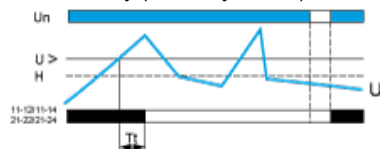
Without memory ("No Memory" mode)



- Tt Time delay after crossing of threshold (adjustable on front panel from 0.3 s to 30 s)
- Un Nominal supply voltage
- U Monitored supply voltage
- H Hysteresis adjusted by means of a potentiometer graduated from 5...50% of the threshold setting
- U> Overvoltage threshold (set by means of a potentiometer graduated as a percentage of the scale value of Un)
- 11-12/11-14 Output relays connections (refer to Connections and Schema)
- 21-22/21-24

Relay status: black color = energized.

With memory ("Memory" mode)



T_t Time delay after crossing of threshold (adjustable on front panel from 0.3 s to 30 s)

U_n Nominal supply voltage

U Monitored supply voltage

H Hysteresis adjusted by means of a potentiometer graduated from 5...50% of the threshold setting

$U >$ Overvoltage threshold (set by means of a potentiometer graduated as a percentage of the scale value of U_n)

11-12/11-14, 21-22/21-24, relays connections (refer to Connections and Schema)

21-22/21-24

Relay status: black color = energized.

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.