



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	1...100 V voltage
Utilisation category	DC-14 conforming to IEC 60947-5-1 DC-13 conforming to IEC 60947-5-1 DC-12 conforming to IEC 60947-5-1 AC-15 conforming to IEC 60947-5-1 AC-14 conforming to IEC 60947-5-1 AC-13 conforming to IEC 60947-5-1 AC-12 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	220 mOhm E3-M terminals 22 mOhm E1-M terminals 110 mOhm E2-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	<= 600 ms
Measurement accuracy	+/- 10 % of the full scale value
Repeat accuracy	+/- 2 % for time delay +/- 0.5 % for input and measurement circuit
Measurement error	< 1 % over the whole range with voltage variation +/- 0.05 %/°C with temperature variation
Polarity	Non reversible polarity on DC supply
Sensitivity scale	5...50 V E2-M terminals 10...100 V E3-M terminals 1...10 V E1-M terminals
Threshold setting	10...100 %
Marking	CE : 73/23/EEC CE : EMC 89/336/EEC

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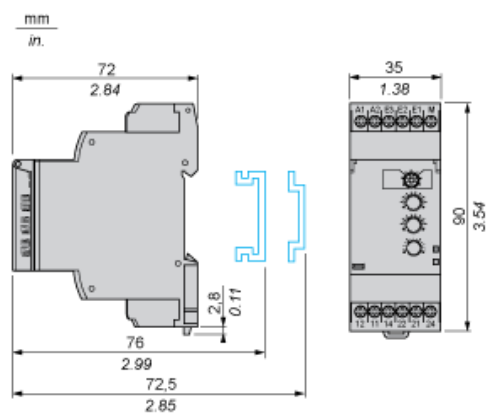
Overvoltage category	III conforming to IEC 60664-1
Insulation resistance	> 500 MOhm at 500 V DC conforming to IEC 60664-1 > 500 MOhm at 500 V DC conforming to IEC 60255-5
[Ui] rated insulation voltage	600 V conforming to IEC 60664-1 250 V conforming to IEC 60664-1
Operating voltage tolerance	- 15 % + 10 % Un
Supply frequency	50/60 Hz +/- 10 %
Insulation	Between supply and measurement
Operating position	Any position without derating
Connections - terminals	Screw terminals 2 x 0.2...2 x 1.5 mm ² - AWG 24...AWG 16, flexible cable with cable end Screw terminals 1 x 0.2...2 x 2.5 mm ² - AWG 24...AWG 12, flexible cable with cable end Screw terminals 2 x 0.5...2 x 2.5 mm ² - AWG 20...AWG 14, solid cable without cable end Screw terminals 1 x 0.5...1 x 4 mm ² - AWG 20...AWG 11, solid cable without cable end
Tightening torque	0.6...1 N.m conforming to IEC 60947-1
Housing material	Self-extinguishing plastic
Status LED	1 LED yellow for relay ON 1 LED green for power 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	Immunity for industrial environments conforming to NF EN/IEC 61000-6-2 Emission standard for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-3 Emission standard for industrial environments conforming to EN/IEC 61000-6-4
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	1 gn (f = 57.6...150 Hz) conforming to IEC 60068-2-6/IEC 60255-21-1 0.35 mm (f = 5...57.6 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	IP30 (casing) conforming to IEC 60529 IP20 (terminals) 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 60664-1 2 kV AC 50 Hz, 1 min conforming to IEC 60255-5
Non-dissipating shock wave	4 kV conforming to IEC 61000-4-5 4 kV conforming to IEC 60664-1 4 kV conforming to IEC 60255-5

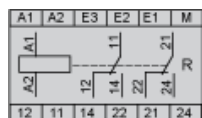
Multifunction Voltage Control Relays

Dimensions and Mounting



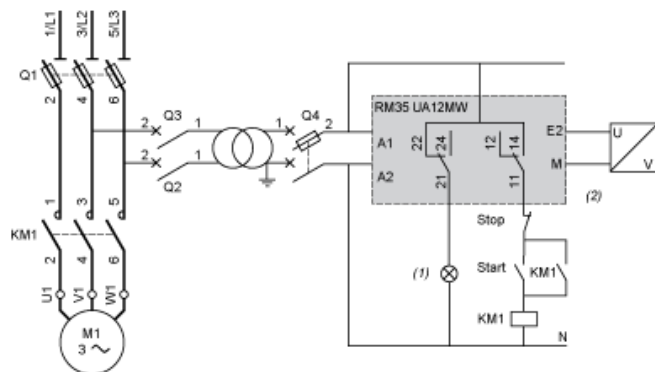
Multifunction Voltage Control Relays

Wiring Diagram



Application Scheme

Example: Overspeed Monitoring (Undervoltage Function)

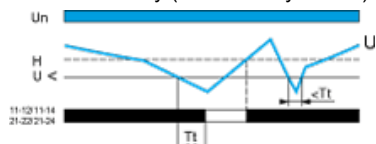


- (1) Overspeed
- (2) Tachogenerator

Function Diagrams

Undervoltage Control

Without memory ("No Memory" mode)



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

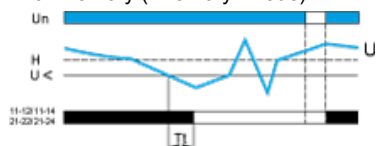
$U<$ Undervoltage threshold (set by means of a potentiometer graduated as a percentage of the scale value of U_n)

11-12 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

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

11-12 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)



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

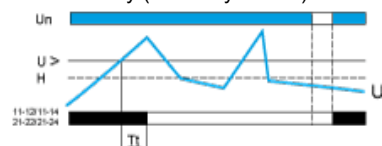
$U>$ Overvoltage threshold (set by means of a potentiometer graduated as a percentage of the scale value of U_n)

11-12 Output, relays connections (refer to Connections and Schema)

21-22/21-24

Relay status: black color = energized.

With memory ("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)

11-12/15-14, 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.

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