

DESCRIPTION

Relay module RM 12-24 consists of 12 independent, parallel channels with input pulled-up by internal resistor and output relay following the state of the input. Pulled-up inputs can be directly driven by detector loops w/o need of additional resistors and access to polarizing voltage. Output relay always follows the state of channel input – relay is energized when input loop of channel is violated. The state of every channel is displayed in front panel – LED is lit when input loop is violated. RM 12-24 is programmed to work with input loops configured as EOL/NC-NO with EOL resistor 2.2 kohm. Loop logical state depends on loop resistance:

- **NORMAL**
 - 2.2 kohm +/- 20%
- **VIOLATED**
 - From 0 (shunt) to less than (2.2 kohm – 20%)
 - From above (2.2 kohm + 20%) to ∞ (open)

Operation mode of unit is programmed with the help of 2 shunts: LED and BUZZER. LED shunt defines 2 modes:

- **FOLLOW:**
 - LED1...LED12 is following the state of channel
 - OUT13 relay, LED13 and buzzer is following actual state of logical OR of all inputs
- **LATCH:**
 - LED1...LED12 is latching-up the state of channel
 - OUT13 relay, LED13 and buzzer is latching-up the state of logical OR of all inputs

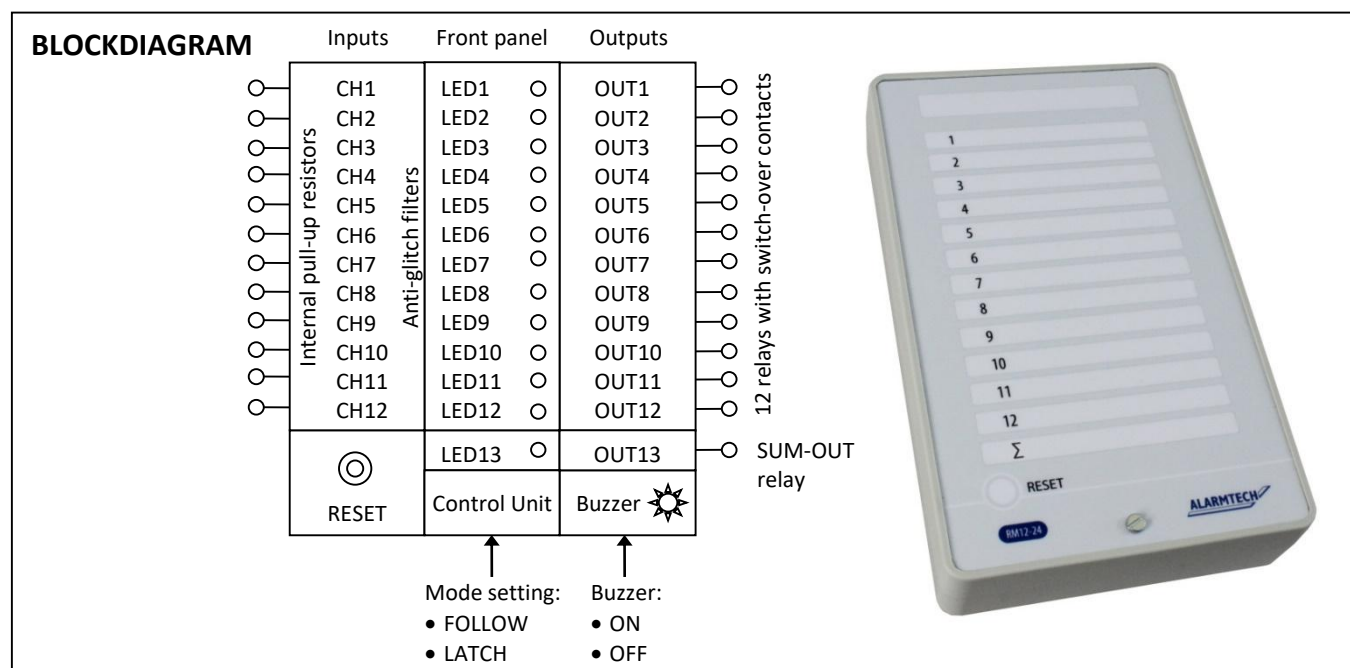
Latched state can be cleared by RESET button in front panel. Buzzer can be disabled with BUZZER shunt.

FEATURES AND PERIPHERALS

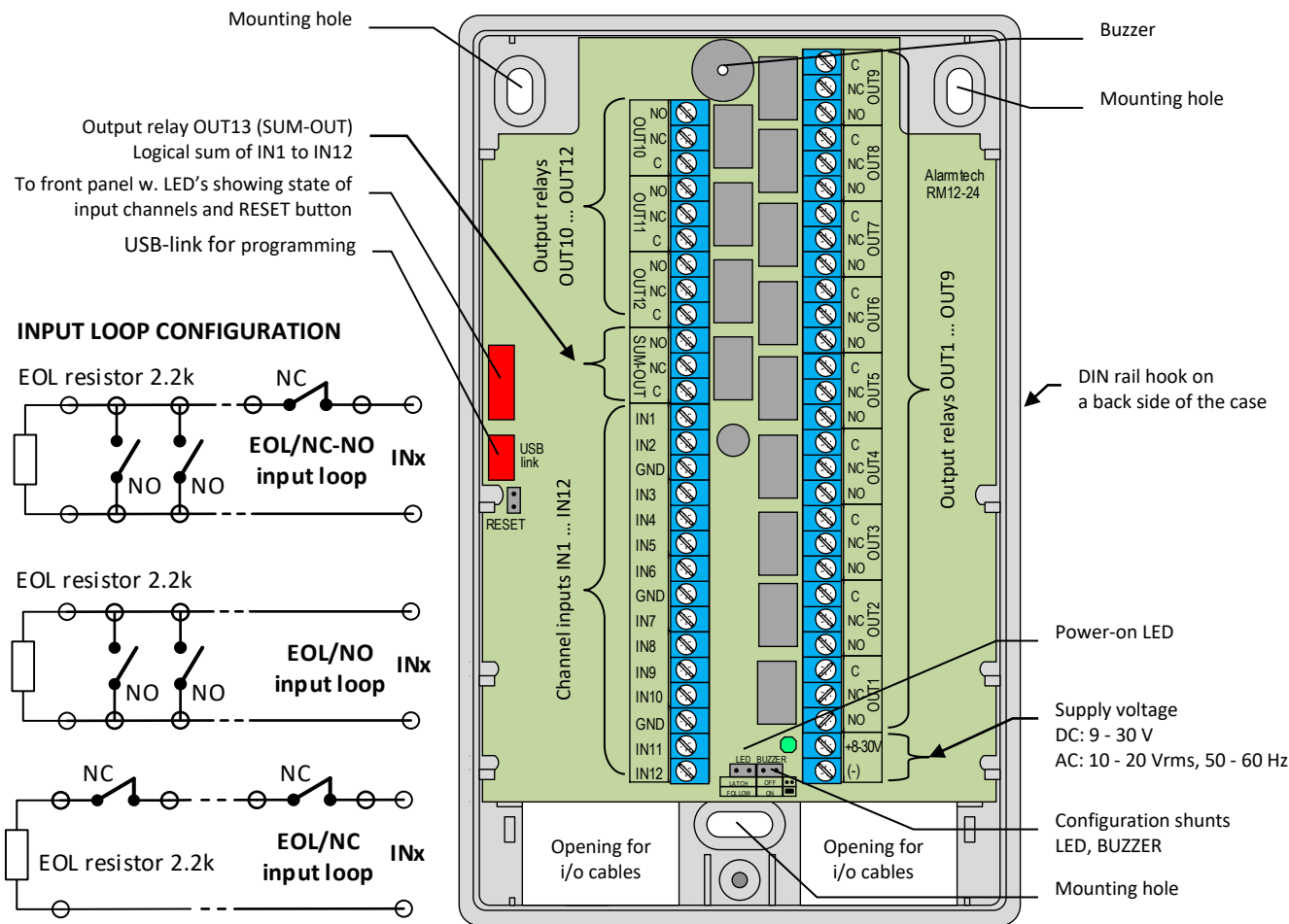
- Inputs:
 - 12 input channels internally pulled-up to work directly with EOL/NC-NO, EOL/NO or EOL/NC loops with 2.2k EOL resistor
 - Button in the front panel (RESET) resetting internal unit memory in LATCH mode
- Outputs:
 - 12 independent relays with C, NC and NO outputs following state of input channels
 - 12 LED's showing state of input channels
 - Relay OUT13 (SUM-OUT) and LED13 showing the state of logical OR function of input channels IN1 ... IN12
 - EM speaker signalling state of logical OR function of input channels IN1 ... IN12
- Additional channel #13 calculating logical sum of all 12 input channels with LED13 and OUT13 (SUM-OUT) relay
- FOLLOW and LATCH operating modes for LED's, OUT13 relay and buzzer
- Acoustic signalling of SUM-OUT state - can be switched off with shunt
- Test of LED by pressing RESET for 5 seconds
- Wide range of supply voltage, 8-30V DC
- USB-link connector for programming
- Plastic case with metal front panel
- Optional mounting – 3 screws or DIN rail

APPLICATIONS

- Monitoring of up to 12 input channels with follow or latching function
- 12-channel relay module controlled by external unit with EOL/NC-NO outputs
- Door state display panel in access control systems
- Synoptic table



INSTALLATION



LED mode shunt	LED 1-12	Relay 1-12	Relay 13	LED 13
ON	Follow	Follow	Follow*	Follow
OFF	Latch	Follow	Latch	Latch

* if every input returns to OK state, so will Relay 13 and LED 13 (immediately – no delay)

BUZZER mode shunt	
ON	buzzer is signalling active state of OUT13 relay and LED 13
OFF	buzzer is off

TECHNICAL DATA

Case:	plastic case with metal front panel
Operating environment:	-10° C...+55° C, RH up to 90%, non-condensing
Supply voltage:	8 to 30 V DC
Current consumption (12 V / 24 V):	min 17 mA / 11 mA, max 232 mA / 121 mA
Number of independent input channels:	12 with internal pull-up resistors
Internal pull-up resistor and pull-up voltage:	2.2 kohm, 5 V
Configuration of input loop:	EOL/NC-NO, EOL/NO, EOL/NC
Normal state of input loop:	input loop resistance = 2.2 kohm +/- 20%
Violated state of input loop:	input loop resistance < 2.2 kohm -20%, > 2.2 kohm +20%
Minimal input signal duration time:	0.4 s
EOL resistor:	2.2 kohm
Number of output relays:	13 with potential-free contacts
Relay contacts rating:	30 W, 30 V DC/AC, 1 A
Front panel peripherals:	13 LED's, 1 RESET button
Dimensions:	110 x 180 x 43 mm (W x H x D)
Weight:	0.35 kg

Compliance to EU Directives:

