



CRM-101

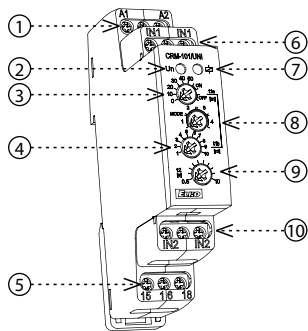
Room energy-saving relay



Characteristic

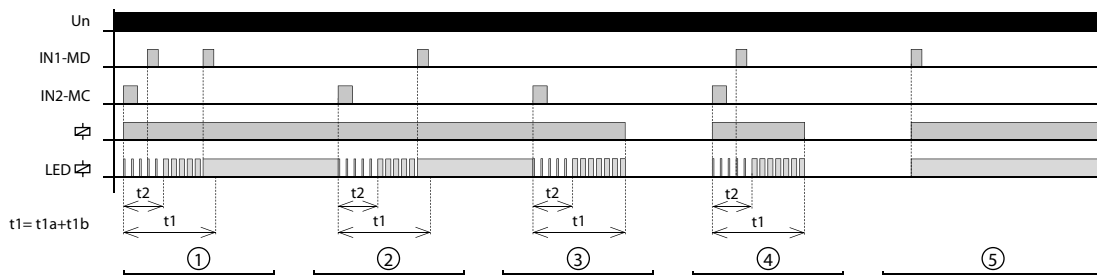
- Time relay for automatic switching on and off of electricity in hotel rooms, with the help of connected sensors (replacement of common card switches).
- 2 control inputs - **potential-free contacts**:
 IN1 (MD) - motion detector
 IN2 (MC) - magnetic door contact
- Optional type of control inputs
 (Switching - NO / opening - NC, according to the type of connected sensors).
- Time delay t1 (delayed switch-off of electricity).
 Adjustable in the range of 1 - 60min in minute steps.
- Time delay t2 (input blocking for motion detector).
 Adjustable continuously in the range 0.5 - 10s.
- The multifunction red LED flashes or lights up depending on the operating status.

Description



1. Supply terminals
2. Supply indication
3. Setting the time t1a (tens of minutes)
4. Setting the time t1b (units of minutes)
5. Output contact
6. Control input IN1 (MD)
7. Output indication
8. Setting the type of control input
9. Time setting t2
10. Control input IN2 (MC)

Functions



1. Arrival of persons in the room

- When people enter the room, IN2 is activated (MC - magnetic door contact)
- closes the relay (turns on the electricity) and at the same time the delay t1 and t2 starts
 - The red LED flashes depending on the delay in progress.
- Contact IN1 (MD - motion detector), responds to the movement of people in the room
- during the delay t2, the MD operation is blocked
 - if IN1 is activated after the delay t2 has elapsed or if the contact IN1 is already closed, the delay t1 ends and the red LED lights up permanently. The relay remains permanently closed.

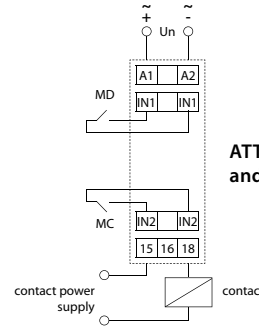
2. Person leaving the room

- When the person leaves the room, contact IN2 is activated
- delays t1 and t2 start at the same time
 - if there is a movement in the room after the delay t2 has elapsed, IN1 is activated, the delay t1 is terminated and the relay remains closed

3. Last person leaving the room

- When the person leaves the room, contact IN2 is activated
- Delays t1 and t2 start at the same time
 - if IN1 is not activated after the delay t2 has elapsed (there is no movement in the room), then after the delay t1 the red LED goes out and the relay opens (switches off the electricity).

Connection



ATTENTION: no voltage must be connected to inputs IN1 and IN2 - the control contacts must be potential-free!

Setting the type of control input

MODE	IN1	IN2
1	NO	NO
2	NO	NC
3	NC	NO
4	NC	NC

Example settings:

- Door contact is NC (closed when the door is closed)
- Motion detector has NC contact (closed at rest, opens when motion is detected)
- MODE must be set to position 4

4. No movement after delay t2

- When people enter the room, IN2 is activated (MC - magnetic door contact)
- closes the relay (turns on the electricity) and at the same time the delay t1 and t2 starts
 - if IN1 is not activated after the delay t2 has elapsed (e.g. a brief insight into the room), then after the delay t1 the red LED goes out and the relay opens (switches off the electricity).

5. Movement at rest

- Idle state - in case the IN1 does not activate the relay (switches off the electricity) after the person leaves the room after the delay t2 has elapsed. However, another person remains in the room motionless (e.g. sleeping)
- if IN1 is activated (e.g. by waking up a sleeping person), the relay closes without delay (turns on the electricity).

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Power supply

Supply terminals:	A1 - A2
Voltage range:	AC/DC 12 - 240 V (AC 50 - 60 Hz)
Power input (max.):	2 VA / 1.5W
Supply voltage tolerance:	-15 %; +10 %
Supply indication:	green LED

Time circuit

Time range t1:	1 - 60 min ($t1 = t1a + t1b$)
Time range t2:	0.5 - 10s
Time setting:	rotary switch and potentiometer
Time deviation:	5 % - mechanical setting
Repeat accuracy:	0.2 % - set value stability
Temperature coefficient:	0.01 % / °C, at = 20 °C (0.01 % / °F, at = 68 °F)

Output

Number of contacts:	1x changeover / SPDT (AgNi)
Current rating:	16A / AC1
Breaking capacity:	4000VA / AC1, 384W / DC
Switching voltage:	250V AC / 24V DC
Max. power dissipation:	1.2 W
Output indication:	multifunction red LED
Mechanical life:	10 000 000 operations
Electrical life (AC1):	50 000 operations

Control

Control terminals:	IN1-IN1, IN2-IN2
Impulse length:	min. 25 ms / max. unlimited
Reset time:	max. 150 ms

Other information

Operating temperature:	-20 °C to +55 °C
Storage temperature:	-30 °C to +70 °C
Dielectrical strength:	4kV AC (supply - output)
Operating position:	any
Mounting:	DIN rail EN 60715
Protection degree:	IP40 from front panel / IP20 terminals
Overvoltage category:	III.
Pollution degree:	2
Max. cable size (mm ²):	solid wire max. 1x 2.5 or 2x 1.5 / with sleeve max. 1x 2.5 (AWG 12)
Dimensions:	90 x 17.6 x 64 mm (3.5 x 0.7 x 2.5 inch)
Weight:	70 g (2.5 oz)
Standards:	EN 61812-1

Device is constructed for connection in 1-phase AC/DC 12- 240 V main alternating current voltage and must be installed according to norms valid in the state of application. Connection according to the details in this direction. Installation, connection, setting and servicing should be installed by qualified electrician staff only, who has learnt these instruction and functions of the device. This device contains protection against overvoltage peaks and disturbances in supply. For correct function of the protection of this device there must be suitable protections of higher degree (A, B, C) installed in front of them. According to standards elimination of disturbances must be ensured. Before installation the main switch must be in position "OFF" and the device should be de-energized. Don't install the device to sources of excessive electro-magnetic interference. By correct installation ensure ideal air circulation so in case of permanent operation and higher ambient temperature the maximal operating temperature of the device is not exceeded. For installation and setting use screw-driver cca 2 mm. The device is fully-electronic - installation should be carried out according to this fact. Non-problematic function depends also on the way of transportation, storing and handling. In case of any signs of destruction, deformation, non-function or missing part, don't install and claim at your seller it is possible to dismount the device after its lifetime, recycle, or store in protective dump.