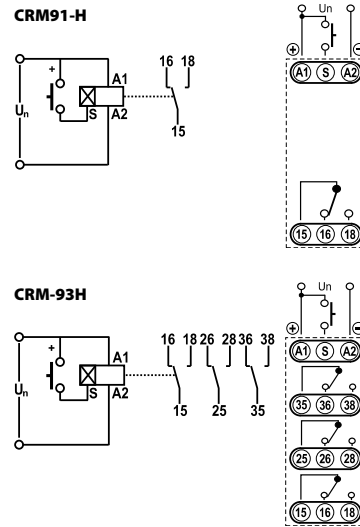


# Multifunction time relay CRM-91H, CRM-93H

**Advantages**

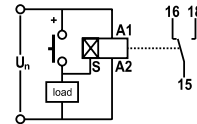
- 1-module, DIN rail mounted
- Universal supply voltage: AC/DC 12V - 240V
- 10 functions:
  - 5 time functions controlled via supply voltage
  - 4 time functions controlled via control input
  - 1 function of memory (latching) relay
- Time scale 0.1 s - 10 days divided into 10 ranges
- User-friendly setting of functions and time via rotary switch
- Output contact:
  - CRM-91H 1x16A changeover
  - CRM-93H 3x8A changeover
- Output indication: multifunction red LED, flashing at certain states

**Connection**



**Load with control input possible.**

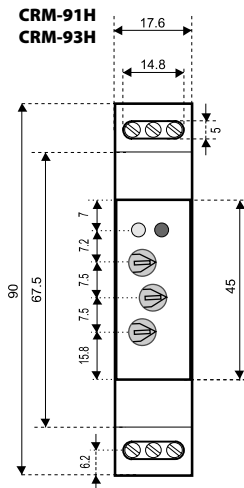
Load between S-A2 possible to connect in parallel way, without disturbing of proper operation of the relay.



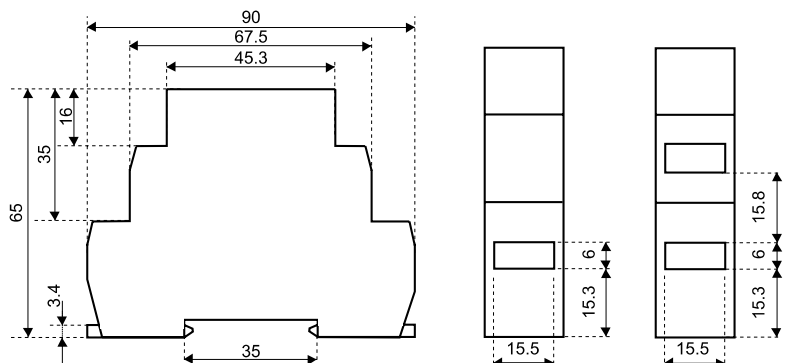
**Technical data**

	CRM-91H	CRM-93H
Number of functions	10	
Supply	A1-A2	
Supply voltage	12-240 V AC/DC(50-60 Hz AC)	
Consumption	AC 0,7-3 VA / DC 0,5 - 1,7 W	
Supply indication	green LED	
Time ranges	0.1 s-10 days	
Time settings	rotary switch	
Time deviation	5%-mechanical setting	
Repeat accuracy	0,2%-set value stability	
Temperature coefficient	0,01% / °C at 20 °C	
<b>Output</b>		
Changeover contacts	1	3
Rated current	16 A / AC1	8 A / AC1
Breaking capacity	4000 VA / AC1,	2000 VA / AC1,
	384 W / DC	192 W / DC
Inrush current	30 A / <3 s	10 A / <3 s
Switching voltage	250 V AC1 / 24 V DC	
Min. breaking capacity DC	500 mW	
Output indication	multifunction red LED	
Mechanical life	3x10 <sup>7</sup>	
Electrical life	0,7x10 <sup>5</sup>	
<b>Controlling</b>		
Controlling voltage	12-240 V AC/DC	
Consumption of output	AC 0,025-0,2 VA / DC 0,1-0,7 W	
Load between S-A2	✓	
Glow-tubes	✗	
Control. terminals	A1-S	
Impulse length	min. 25 ms/ max. unlimited	
Reset time	max. 150 ms	
Operating temperature	-20...+55 °C	
Storing temperature	-30...+70 °C	
Electrical strength	4 kV	
Operating position	any	
Mounting	DIN rail EN 60715	
Protection degree	IP 40 from frontal panel	
Overvoltage category	III.	
Pollution degree	2	
Max. cable size	2.5 mm <sup>2</sup>	
Dimensions	90 x 17,6 x 64 mm	
Standards	EN 61812-1, EN 61010-1	

**Dimensions**

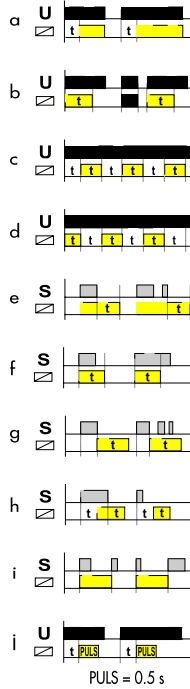


**1-module design**

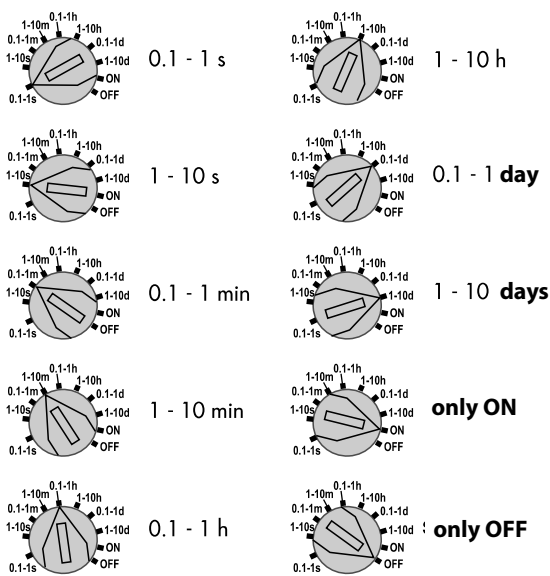


**Functions**

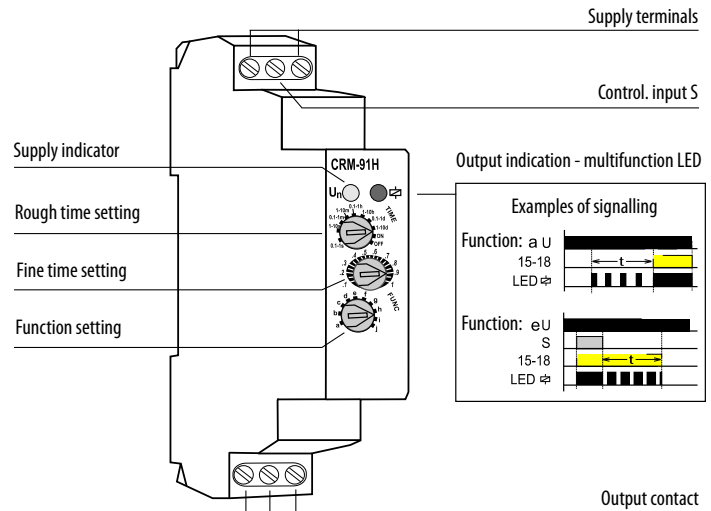
- a) Delay ON after energisation
- b) Delay OFF after energisation
- c) Cycler beginning with pause after energisation
- d) Cycler beginning with impulse after energisation
- e) Delay OFF after de-energisation, instant make of output
- f) Delay OFF responding to make of control contact regardless its length
- g) Delay OFF after break of control. contact with instant output
- h) Delay OFF after make and break of control. contact
- i) Memory (latching) relay
- j) Pulse generator



**Time ranges**



**Description**



**Time relay CRM-2H**

**Advantages**

- 1-module, DIN rail mounted
- Universal supply voltage: AC/DC 12V - 240V
- 2 time functions:
  - cycler beginning with pulse
  - cycler beginning with pause
- Time scale 0.1s - 100 days divided into 10 time ranges
- Rough time setting by rotary switch
- Output contact: 1x 16 A changeover
- Output indication: multifunction red LED

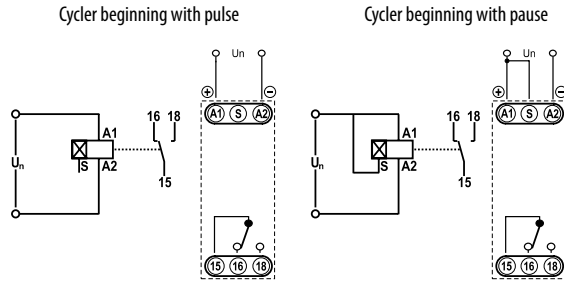
**Technical data**

Number of functions	2
Supply	A1-A2
Supply voltage	12-240 V AC/DC (50-60 Hz AC)
Consumption	AC 0,7-3 VA / DC 0,5 - 1,7 W
Supply indication	green LED
Time ranges	0.1 s-100 days
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

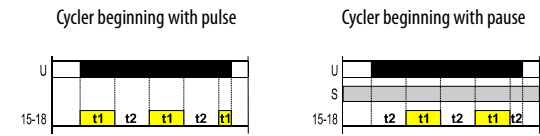
**Output**

Changeover contacts	1
Rated current	16A / AC1
Breaking capacity	4000 VA / AC1, 384 W / DC
Inrush current	30 A / <3 s
Switching voltage	250 V AC1 / 24 V DC
Min. breaking capacity DC	500 mW
Output indication	multifunction red LED
Mechanical life	3x10 <sup>7</sup>
Electrical life	0,7x10 <sup>5</sup>
Reset time	max. 150 ms
Operating temperature	-20...+55 °C
Storage temperature	-30...+70 °C
Electrical strength	4 kV (supply-output)
Operating position	any
Mounting/DIN rail	EN 60715
Protection degree	IP 40 from frontal panel
Overvoltage category	III
Pollution degree	2
Max. cable size	2,5 mm <sup>2</sup>
Dimensions	90x17,6x64 mm <sup>2</sup>
Standards	EN 61812-1, EN 61010-1

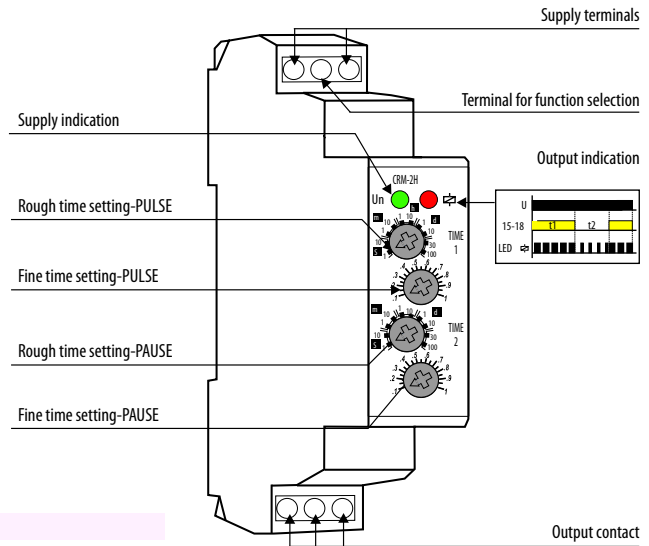
**Connection**



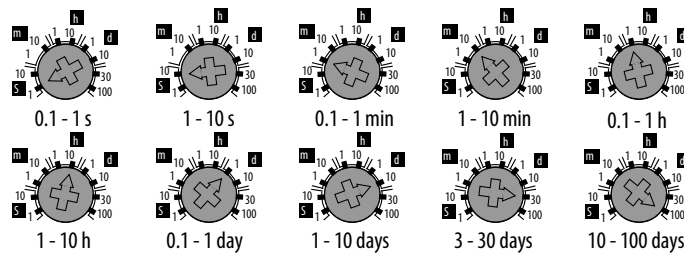
**Functions**



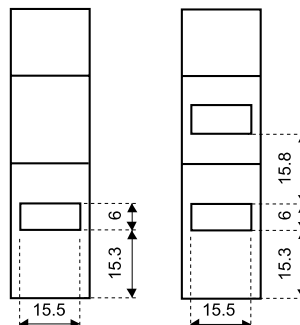
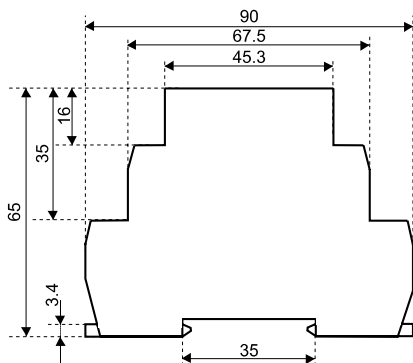
**Description**



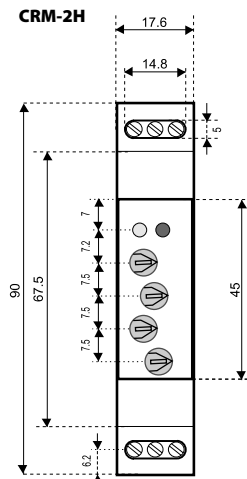
**Time ranges**



**1-module design**



**Dimensions**



# Delay ON star/delta CRM-2T

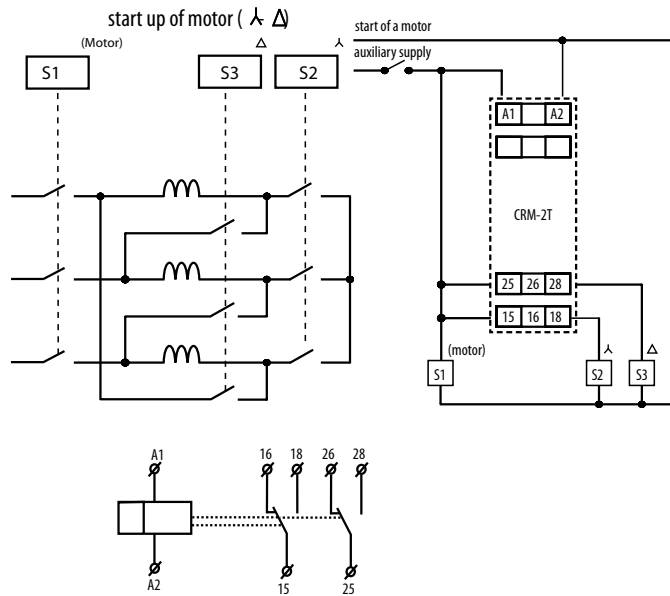
### Advantages

- 1-module, DIN rail mounting
- Supply voltage: AC/DC 12V - 240 V
- Generates motor starting cycle star-delta
- Time t1 (star)
  - time scale 0.1 s - 100 days is divided into 10 time ranges
  - rough time setting by rotary switch
  - fine time setting by potentiometer (from 0,1 to 1)
- Time t2 (delay) between star/delta:
  - time range 0.1 s - 1 s is set by potentiometer
- Output contact: 2x 16 A (AC1)
- Output indication: multifunction red LED

### Technical data

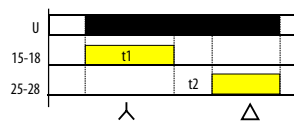
	CRM-2T
Number of functions	1
Supply	A1-A2
Universal supply	AC/DC 12-240 V (AC 50-60 Hz)
Consumption	AC 0,7-3VA/DC 0,5-1,7 W
Supply voltage tolerance	-15% - +10%
Supply indication	green LED
Time ranges	t1: 0.1 s - 100 days
Time setting	rotary switch and potentiometer
Time deviation	5%-mechanical setting
Repeat accuracy	0,2%-set value stability
Temperature coefficient	0,01% / °C at 20 °C
<b>Output</b>	
Number of contacts	2 x changeover (AgNi)
Rated current	16 A / AC1
Breaking capacity	4000 VA / AC1, 384 W / DC
Inrush current	30A/<3s
Switching voltage	max. 250 V AC1 / 24 V DC
Min. breaking capacity DC	500 mW
Output indication	multifunction red LED
Mechanical life	3x10 <sup>7</sup>
Electrical life	0.7x10 <sup>5</sup>
Reset time	max. 150 ms.
<b>Controlling</b>	
Operating temperature	-20...+55 °C
Storage temperature	-30...+70 °C
Electrical strength	4 kV
Operating position	any
Mounting	DIN rail EN 60715
Protection degree	IP 40 from front panel
Oversvoltage category	III.
Pollution degree	2
Max. cable size	2.5 mm <sup>2</sup>
Dimensions	90 x 17,6 x 64 mm
Standards	EN 61812-1, EN 61010-1

### Connection

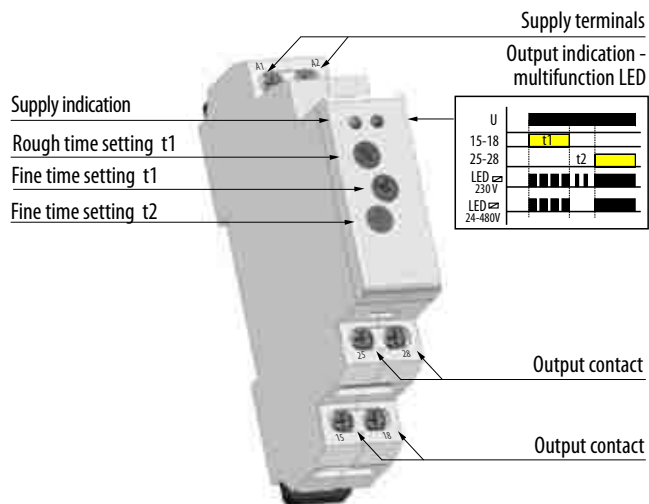


### Functions

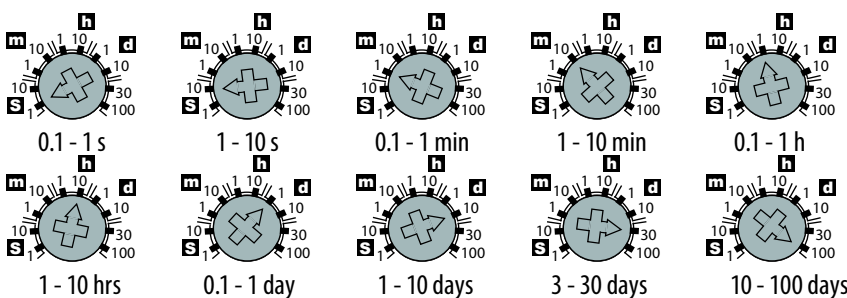
#### Delay ON star/delta



### Description



### Time ranges



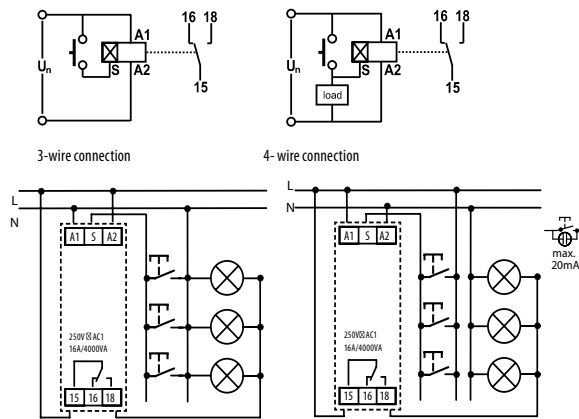
# Staircase switch CRM-4

Technical data	
Function	delay OFF
Supply	A1-A2
Supply voltage	AC-230 V/50-60 Hz
Consumption	AC max. 12 VA/1.8 W
Supply voltage tolerance	- 15%; + 10%
Supply indication	green LED
Time ranges	0,5 - 10 min
Time setting	potentiometer
Time deviation	10% mechanical setting
Repeat accuracy	5% set value stability
Temperature coefficient	0,05% / °C at 20 °C
Output	
Changeover contacts	1
Rated current	16 A / AC1
Breaking capacity	4000 VA / AC1, 384 W / DC
Inrush current	30 A / <3 s
Switching voltage	250 V AC1 / 24 V DC
Min. breaking capacity DC	500 mW
Output indication	red LED
Mechanical life	3x10 <sup>7</sup>
Electrical life	0,7x10 <sup>5</sup>
Controlling	
Control. voltage	AC 230 V
Consumption of input	AC 0,53 VA
Load between S-A2	yes
Glow-tubes	yes, max. 20 pcs. (at 1 mA)
Control. terminals	A1-S
Impulse length	min. 25 ms/max. unlimited
Reset time	max. 150ms
Operating temperature	-20... +55 °C
Storage temperature	-30... +70 °C
Electrical strength	4 kV (supply - output)
Operating position	any
Mounting	DIN rail EN 60715
Protection degree	IP 40 from frontal panel
Overtoltage category	III
Pollution degree	2
Max. cable size	2,5 mm <sup>2</sup>
Dimensions	90x17, 6x64 mm
Standards	EN 60669-2-3, EN 61010-1

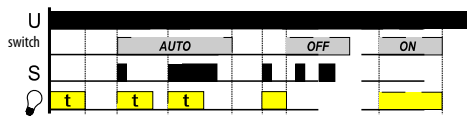
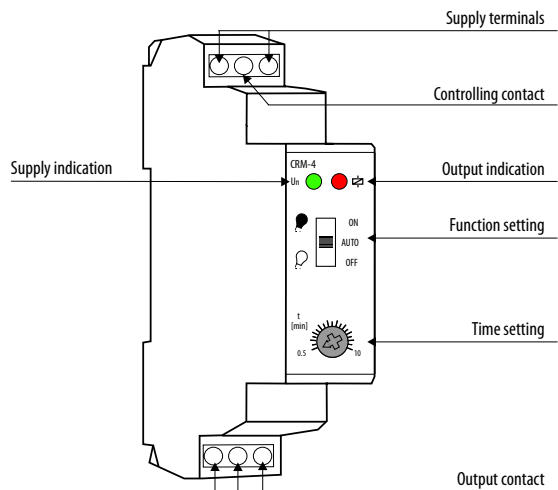
### Advantages

- 1-module, DIN rail mounted
- Supply voltage: AC 230 V
- Protection against control push-button blocking
- Time range: 0,5 - 10 min
- Selector switch:
  - AUTO: normal function acc. to set time
  - OFF: permanent off
  - ON: permanent on
- Time setting via potentiometer
- Output contact: 1x 16 A changeover (load up to 4000 VA/AC1)

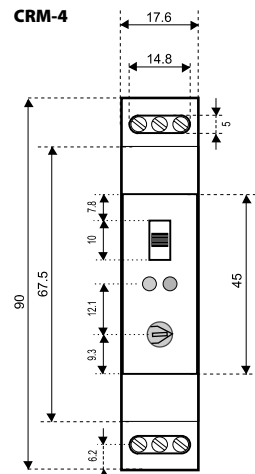
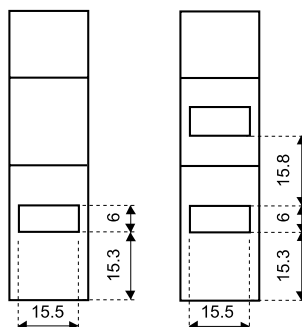
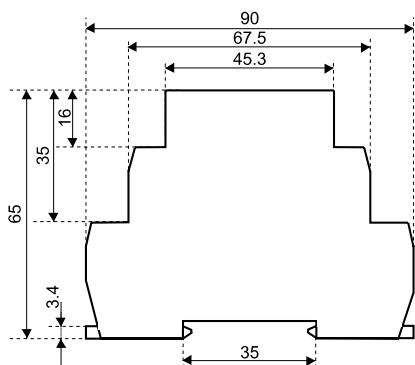
### Connection



### Description



### 1-module design and dimensions



# Programmable staircase switch CRM-42

### Advantages

- 1-module, DIN rail mounted.
- Supply voltage: AC 230 V
- Intelligent staircase switch, the same use as CRM-4, but with increased possibility of control. In mode "PROG" it is possible to select the time of delayed OFF by number of button-pressing sequences. Each pressing multiplies the time set by potentiometer, which that the time is set to 5 min and the button is pressed on 3 times, the output is automatically prolonged to 15 min. The output can also be switched off earlier (reset) by a long pressing of button (longer than 2 sec)
- Output relay contact 16A/AC1 with inrush current up to 80 A enables switching of electrical bulbs and also fluorescent lights.
- Selector switch:
  - ON - Output permanent ON
  - AUTO - timing according to adjusting by potentiometer in range of 30 s - 10 min
  - PROG - timing with time prolongation option by a number of

- button pressing
- Timing (in mode AUTO and PROG) can be stopped by long pressing of the button (longer than 2 sec)
- Output indication: multifunctional red LED, flashing at certain states
- Possibility to connect up to 100 buttons equipped with glow lamps (up-to 100mA)
- 3-wire or 4-wire connection (it is possible to control input S by potential A1 or A2)
- Warning before switch OFF- output double flash 40 and 30 sec before switch OFF

### Connection

3-wire connection

4-wire connection

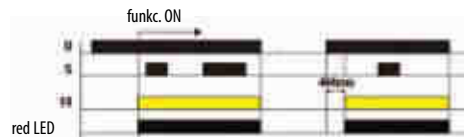


### Technical data

	CRM-42
Functions	delay OFF responsive to control contact switch on
Supply	A1-A2
Supply voltage	AC 230 V50-60Hz
Consumption	AC max. 12VA / 1.8 W
Supply voltage tolerance	-15% - +10%
Supply indication	green LED
Time ranges	0.5 - 10 min.
Time setting	potentiometer
Time deviation	5%-mechanical setting
Repeat accuracy	5%-set value stability
Temperature coefficient	0,05% / °C at 20 °C
<b>Output</b>	
Number of contacts	1, (AgSnO <sub>2</sub> ), switching potential A1
Rated current	16 A / AC1
Breaking capacity	4000 VA / AC1, 384W / DC
Inrush current	30A / < 3s.
Switching voltage	max. 250 V AC1 / 24 V DC
Min. breaking capacity DC	500 mW
Output indication	red LED
Mechanical life	3x10 <sup>7</sup>
Electrical life	0.7x10 <sup>5</sup>
Reset time	max. 150 ms.
<b>Controlling</b>	
Control Voltage	AC 230 V
Input consumption	A0.53 VA
Glow tubes	yes, max. 100 pcs. (at 1mA)
Control terminals	A1-S / A2-S
Impulse length	min 50ms. / max.unlimited
Reset time	max. 150 ms.
Operating temperature	-20...+55 °C
Storage temperature	-30...+70 °C
Operating position	any
Mounting	DIN rail EN 60715
Protection degree	IP 40 from front panel
Overvoltage category	III.
Pollution degree	2
Max. cable size	2.5 mm <sup>2</sup>
Dimensions	90 x 17,6 x 64 mm
Standards	EN 60669-2-3, EN 61010-1

### Functions

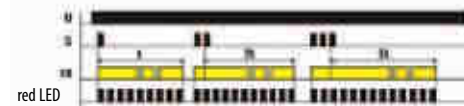
Function ON



Function AUTO



Function PROG



### Description

