

# CRM-121H | Multifunction time relay with galvanically separated control input



EAN code  
CRM-121H/UNI: 8595188175555

## Technical parameters

## CRM-121H

### 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

Number of functions:	11
Time ranges:	50 ms - 30 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 (0.01 %/°F, at = 68 °F)

### Output

Number of contacts	1x changeover/SPDT (AgNi)
Current rating:	16 A/AC1; 1 HP 240 Vac, 1/2 HP 120 Vac; PD. B300
Breaking capacity:	4000 VA/AC1, 384 W/DC
Switching voltage:	250 V AC/24 V DC
Max. power dissipation:	1.2 W
Output indication:	multifunction red LED
Mechanical life:	10.000.000 ops.
Electrical life (AC1):	100.000 ops.

### Control

Control terminals:	S1-S2
Impulse length:	min. 25 ms/max. unlimited
Reset time:	max. 150 ms

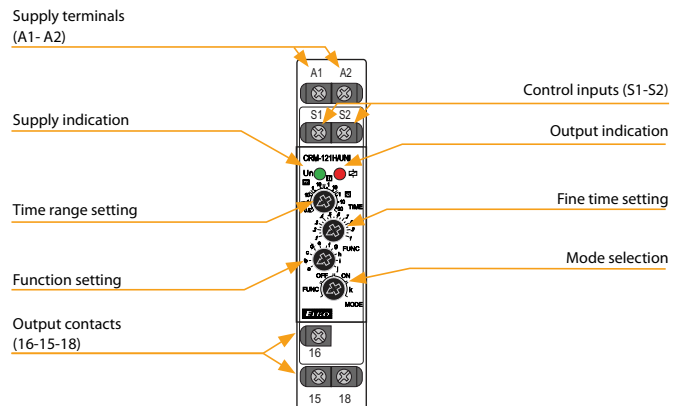
### Other information

Operating temperature:	-20 .. +55 °C (-4 ..131 °F)
Storage temperature:	-30 .. +70 °C (-22 ..158 °F)
Dielectric strength:	4 kV AC (supply - output)
	4 kV AC (supply - control input)
Operating position:	any
Mounting:	DIN rail EN 60715
Protection degree:	IP40 from front panel/IP10 terminals
Overvoltage category:	III.
Pollution degree:	2
Max. cable size (mm²):	solid wire max. 2x 2.5 or 1x 4/ with sleeve max. 1x 2.5 or 2x 1.5 (AWG 12)
Dimensions:	90 x 17.6 x 64 mm (3.5" x 0.7" x 2.5")
Weight:	72 g (2.5 oz.)
Standards:	EN 61812-1

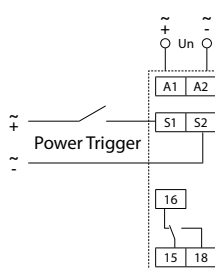
\* for adjustable delay <100 ms, a time deviation of ± 10 ms applies

- Multifunction time relay for universal use in automation, control and regulation or in house installations.
- Galvanically separated control input (Power Trigger).
- All functions initiated by the supply voltage, except for the flasher function, can use the control input to inhibit the delay (pause).
- Mode selection - according to the set function, permanently closed, permanently open, function of MEMORY LATCH with delay.
- Time scale 50 ms - 30 days divided into 10 ranges.
- Multifunction red LED flashes or shines depending on the operating status.

## Description

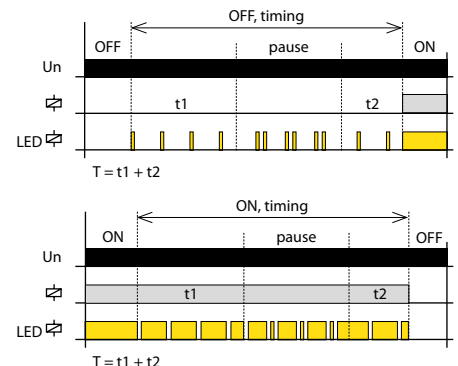


## Connection



(Range of control voltage same as supply voltage)

## Indication of operating states



## Mode selection

### FUNC. Settings function mode

The desired function a-j is set with the FUNC rotary switch.

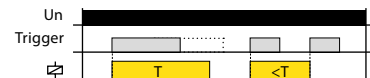
### OFF. Output contact open mode



### ON. Output contact closed mode



### k. Function: MEMORY LATCH with delay



When the supply voltage is applied, the relay is open. If the control contact is closed, the relay closes and the time delay T starts. It does not matter the length of the control pulse. When the timing is complete, the relay opens. If the control contact is closed during timing, the relay opens immediately. Each time the control contact closes during relay timing, it changes status.

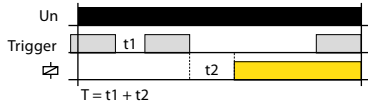
## Function

### a. ON DELAY



When the supply voltage is applied, the time delay T begins. When the timing is complete, the relay closes and this condition continues until the supply voltage is disconnected.

#### ON DELAY with Inhibit



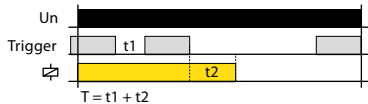
If the control contact is closed and the supply voltage is connected, the relay is opened and timing does not start until the control contact opens. When the timing is complete, the relay closes. If the control contact is closed during timing, the timing is interrupted and continues only after the control contact opens.

### b. INTERVAL ON



After supply voltage relay closes and starts the delay time T. After the end of the timing relay opens and this state lasts until the supply voltage is disconnected.

#### INTERVAL ON with Inhibit



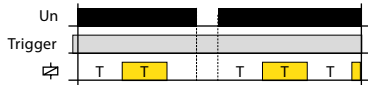
If the control contact is closed and the supply voltage is connected, the relay will close and the timing will start only after the control contact has been opened. When the timing is complete, the relay opens. If the control contact is closed during timing, the timing is interrupted and continues only after the control contact opens.

### c. FLASHER - ON first



After supply voltage relay closes and starts the delay time T. After the end of the timing relay opens and again runs delay time T. When the timing is complete, the relay closes again and the sequence is repeated until the supply voltage is disconnected. If the control contact is closed during timing, this does not affect the operation of the cycler.

#### FLASHER - OFF first



If the control contact is closed during timing; this does not affect the operation of the cycler. If the control contact is closed and the supply voltage is connected, the cycler starts with a pause (relay open).

### d. MEMORY LATCH



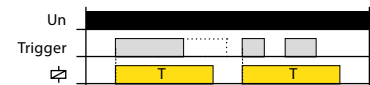
When the supply voltage is applied, the relay is open. When the control contact is closed, the relay closes. The status does not change when the control contact is opened. When the control contact is closed again, the relay opens. Each time the control contact is closed, the relay changes status.

### e. OFF DELAY



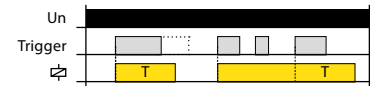
When the supply voltage is applied, the relay is open. When the control contact is closed, the relay closes. When the control contact opens, the time delay T begins. If the control contact is closed during timing, the time is reset and the relay remains closed. When the control contact opens, the time delay T starts again and opens when the relay closes.

### f. SINGLE SHOT



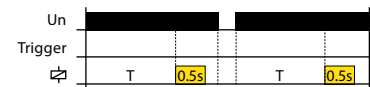
When the supply voltage is applied, the relay is open. When the control contact is closed, the relay closes and the time delay T begins. Closing the control contact during timing is ignored.

### g. WATCHDOG



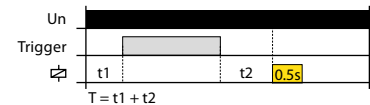
When the supply voltage is applied, the relay is open. When the control contact is closed, the relay closes and the time delay T begins. Closing the control contact during timing triggers a new time delay T - the relay closing time is thus increased.

### h. PULSE GENERATOR 0.5 s



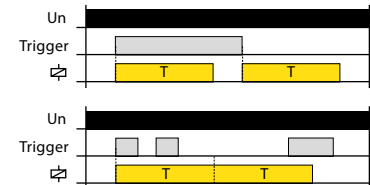
After the supply voltage has been applied, the time delay T begins. When the timing is complete, the relay closes for a fixed time (0.5 s).

#### PULSE GENERATOR 0.5 s with Inhibit



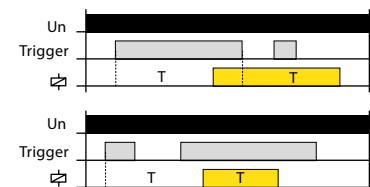
After supply voltage starts the time delay T. By closing timing of the control contact during timing is suspended. When the control contact opens, the time interval is completed and the relay closes for a fixed time (0.5 s).

### i. INTERVAL ON/OFF



When the supply voltage is applied, the relay is open. When the control contact is closed, the relay closes and the time delay T begins. When the control contact is opened, the relay closes and the time delay T begins. If the control contact is open during timing, the relay remains closed for 2T. When the timing is complete, the relay opens. Any other change of control contact status during timing is ignored.

### j. ON/OFF DELAY



When the supply voltage is applied, the relay is open. If control contact is closed, time delay T starts. When the control contact is opened, a new time delay T begins. If the control contact is open during timing, the relay closes at the end of the timing and opens the relay after the new time delay. Any other change of control contact status during timing is ignored.