

Multifunction time relay CRM-91H, CRM-93H, CRM-9S



1M

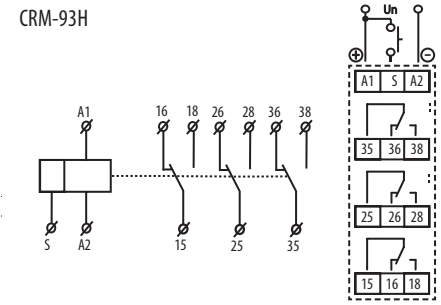
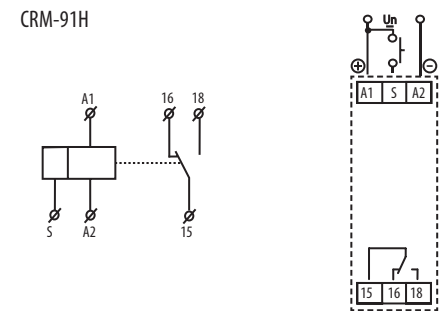


- ! multifunction time relay to be used for electrical appliances, control of lights, heating, motors, pumps, fans, due to its complexity (10 functions, 10 time ranges, multivoltage, 16Amps or 3x8Amps contacts)
- ! fulfils all requirements for timer relays
- ! 10 functions: - 5 time functions controlled by supply voltage
- 4 time functions controlled by control input
- 1 function of latching relay
- ! comfortable and well-arranged function and time-range setting by rotary switches
- ! time scale 0.1 s - 10 days divided into 10 ranges:
(0.1 s - 1 s / 1 s - 10 s / 0.1 min - 1 min / 1 min - 10 min / 0.1 hrs - 1 hrs / 1 hrs - 10 hrs / 0.1 day - 1 day / 1 day - 10 days / only ON / only OFF)
- ! **CRM-91H, CRM-93H:** Universal supply voltage AC/DC 12 - 240 V or AC 230 V,
Output contact: CRM-91H: 1x changeover 16 A; CRM-93H: 3 x changeover 8 A
- ! **CRM-9S:** Universal supply voltage AC 12 - 240 V AC 12 - 240 V, absolutely noise-less switching
1x static contactless output (triac) 01.7 A (60A/<10 ms), switches potential A1
- ! output indication: multifunction red LED, which flashes or shines in dependance on output status
- ! 1-MODULE, DIN rail mounting

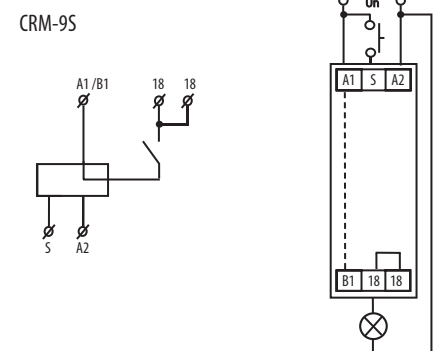
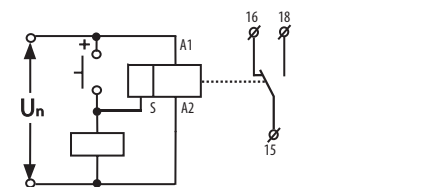


| Technical parameters | CRM-91H | CRM-93H | CRM-9S |
|-------------------------------------|--|--|--|
| Number of functions: | 10 | | |
| Supply terminals: | A1 - A2 | | |
| Supply voltage: | UNI | AC/DC 12 - 240 V (AC 50 - 60 Hz) | AC 12 - 240 V (50 - 60 Hz) |
| Consumption: | AC 0.7 - 3 VA / DC 0.5 - 1.7 W | | AC max. 0.35 VA |
| Supply voltage: | 230 | AC 230 V / 50 - 60 Hz | X |
| Consumption (apparent/loss): | AC max. 12 VA / 1.3 W | AC max. 12 VA / 1.9 W | X |
| Supply voltage tolerance: | -15 %; +10 % | | |
| Supply indication: | green LED | | |
| Time ranges: | 0.1 s - 10 days | | |
| Time setting: | rotaty switch | | |
| Time deviation: | 5 % - mechanical setting | | |
| Repeat accuracy: | 0.2 % - set value stability | | |
| Temperature coefficient: | 0.01 % / °C, at = 20 °C | | |
| Output | | | |
| Number of contacts: | 1x changeover (AgNi) | 3x changeover (AgNi) | 1x static output (triac) |
| Rated current: | 16 A / AC1 | 8 A / AC1 | 0.7 A |
| Breaking capacity: | 4000 VA / AC1, 384 W / DC | 2000 VA / AC1, 192 W / DC | X |
| Inrush current: | 30 A / <3 s | 10 A / <3 s | 60 A / <10 ms |
| Switching voltage: | 250 V AC1 / 24 V DC | 250 V AC1 / 24 V DC | X |
| Min. breaking capacity DC: | 500 mW | 500 mW | X |
| Voltage drop on switch: | X | X | max. 0.9 V at I max. |
| Load on B1 terminal: | X | X | Yes / I max. 0.7 A |
| Output indication: | multifunction red LED | multifunction red LED | multifunction red LED |
| Mechanical life: | 3x10 ⁷ | 3x10 ⁷ | >10 ⁸ |
| Electrical life (AC1): | 0.7x10 ⁵ | 0.7x10 ⁵ | >10 ⁸ |
| Controlling | | | |
| Power on control input: | AC 0.025 - 0.2 VA / DC 0.1 - 0.7 W (UNI), AC 0.53 VA (AC 230 V), AC 0.025 - 0.2 VA (AC 12 - 240 V) | | |
| Load between S-A2: | Yes (UNI, AC 230 V, AC 12 - 240 V) | | |
| Control terminals: | A1-S | | |
| Max. capacity of cable control: | | | |
| -without connected glow-lamps | 12 nF (UNI), 12 nF (AC 230 V) | | 12 nF (UNI) |
| - with connected glow-lamps | (UNI), glow lamps cannot connected/NO 9 nF (AC 230 V), max.20pcs(1pc-1mA) | (UNI), glow lamps cannot connected/NO 9 nF (AC 230 V), max.20pcs(1pc-1mA) | (UNI), glow lamps cannot connected/NO X |
| Impulse length: | | | |
| Reset time: | max. 150 ms | max. 150 ms | max. 250 ms |
| Other information | | | |
| Operating temperature: | -20 .. +55 °C | | |
| Storage temperature: | -30 .. +70 °C | | |
| Electrical strength: | 4 kV (supply-output) | 4 kV (supply-output) | X |
| Operating position: | any | | |
| Mounting/DIN rail: | DIN rail EN 60715 | | |
| Protection degree: | IP 40 from front panel | | |
| Overvoltage category: | ///. | | |
| Pollution degree: | 2 | | |
| Max. cable size (mm ²): | solid wire max.1x 2.5 or 2x1.5/ with sleeve max. 1x2.5 | | |
| Dimensions: | 90 x 17.6 x 64 mm, see page 157-159 | | |
| Weight: | (UNI) - 64 g, (230) - 62 g | (UNI) - 89 g, (230) - 87 g | 51 g |
| Standarts: | EN 61812-1, EN 61010-1 | | |

Symbol Connection



Load with control input possible
Load between S-A2 possible to connect in parallel way, without disturbing of proper operation of the relay. Load is energized for a period of time when a button is switched.

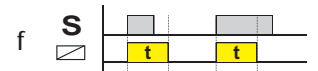


Function

Delay ON
after energization



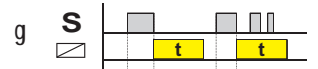
Delay OFF
after break of control contact with instant output



Delay OFF
after energization



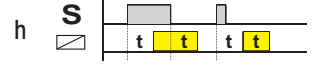
Delay OFF
after make and break of control contact



Cycler beginning with impulse
after energization



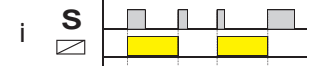
Delay OFF after closing and braking of control contact



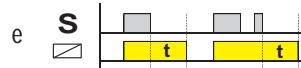
Delay OFF
after de-energization, instant make of output



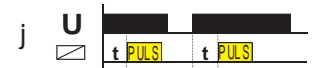
Latching relay



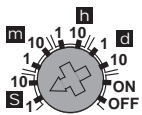
Delay OFF responding to make
of control contact regardless its length



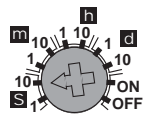
Pulse generator



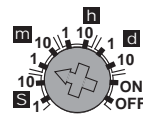
Time ranges



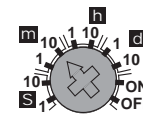
0.1 - 1s



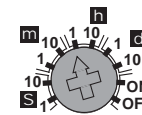
1 - 10s



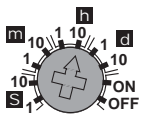
0.1 - 1 min



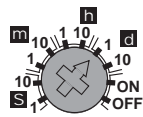
1 - 10 min



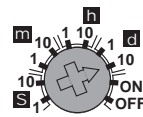
0.1 - 1 h



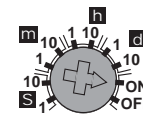
1 - 10 hrs



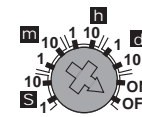
0.1 - 1 day



1 - 10 days

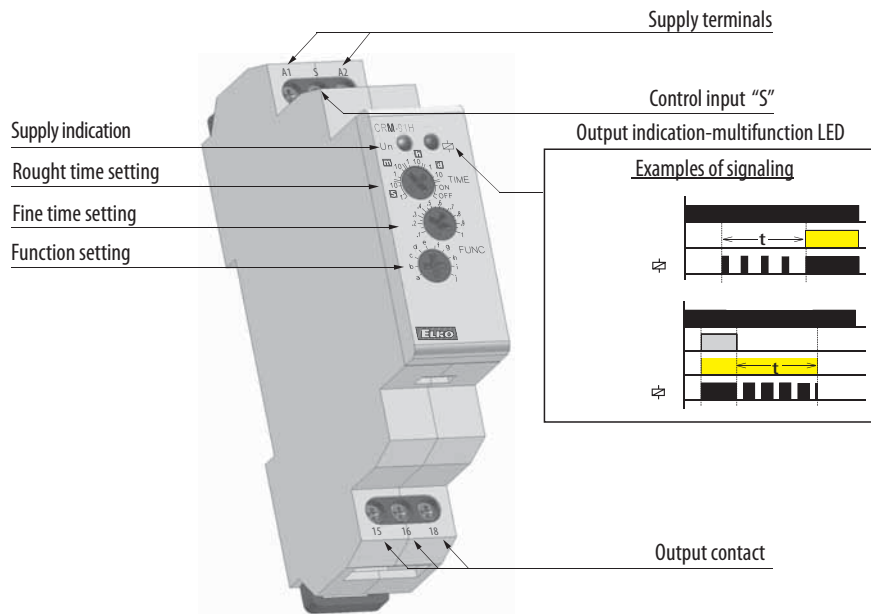


only ON



only OFF

Description



Notes

- 1) CRM-93H doesn't allow switching of different phases or 3-phase voltages.
- 2) When mounting into steel-plated switchboards, it is necessary keep safety distance of min. 3 mm from terminal's screws 35-36-38 and 25-26-28 towards the shutter of a switchboard.