

CRM-91H CRM-93H CRM-9S



CRM-91H



Multifunction time relay

Warning!

The device is constructed for 1-phase main installation of 230V AC or AC/DC 12-240 V, CRM-9S is constructed for connection for 1-phase main AC 12-240 and must be installed in accordance with regulations and standards applicable in the country of use. While installing the device follow the instructions in this manual and on the cover packaging of the device. Do not operate the device out of the specified range of technical parameters. Installation and launching can be done only by a person with an adequate electro-technical qualification who is accredited for this work and is informed about this manual. The person who executes the installation is responsible for correct and safe installation of this device. Pay attention on the device between transportation, storing and handling. If you find any sign of damage, deformation, malfunction or a missing part, do not install this device and claim it at its seller. After stop using the product it is possible to demount and recycle.

| Technical parameters | CRM-91H | CRM-93H | CRM-9S | |
|---|---|---|--------------------------------------|---|
| Number of functions | 10 | | | |
| Supply: | A1-A2 | | | |
| Supply voltage: | UNI 230 | AC/DC 12-240V (AC50-60Hz) | AC12-240V (50-60Hz) | |
| Consumption | | AC 0.7-3VA/DC 0.5-1.7 W | AC max.0.35 VA | |
| Supply voltage: | | AC 230V/50-60 Hz | x | |
| Consumption: | | AC max.12VA/1.3W | AC max.12VA/1.9W | x |
| Supply voltage tolerance: | | -15%;+10% | | |
| Supply indication: | green LED | | | |
| Time ranges: | 0.1 s - 10 days | | | |
| Time setting: | rotaty switch and potentiometer | | | |
| Time deviation: | 5% mechanical setting | | | |
| Reeat accuracyp: | 0.2% set value stability | | | |
| Temperature coefficient: | 0.01%/°C, at =20°C | | | |
| Output | | | | |
| Changeover contacts: | 1x changeover/ SPDT (AgNi / Silver Alloy) | 3x changeover/ SPDT (AgNi / Silver Alloy) | 1x static contactless output (triac) | |
| Rated current: | 16 A/ AC1 | 8 A/ AC1 | 0.7 A | |
| Breaking capacity: | 4000VA/AC1,384W/DC | 2000VA/AC1,192W/DC | x | |
| Inrush current: | 30 A/ <3s | 10 A/<3s | 60 A/ <10 ms | |
| Switching voltage: | 250 V AC1/ 24 V DC | x | | |
| Min. breaking capacity DC: | 500 mW | x | | |
| Switch drop: | x | max. 0.9V at I max | | |
| Load-B1 terminal connect. | x | Yes / I max. 0.7A | | |
| Output indication: | multifunction red LED | | | |
| Mechanical life: | 3x10 ⁷ | >10 ⁸ | | |
| Electrical life (AC1): | 0.7x10 ⁵ | >10 ⁸ | | |
| Controlling | | | | |
| Consumption of 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 | | | |
| Glow tubes connections: | 230 V - Yes / UNI - No | | | |
| Max. amount of glow lamps connected to controlling input: | UNI - glow lamps cannot connected / NO 230 V - max.20 pcs (measured with glow lamp 0.68mA/230V AC) | | glow lamps cannot connected / NO | |
| Control. terminals: | A1-S | | | |
| Impulse length: | min. 25 ms/ max. unlimited | | | |
| Reset time: | max. 150 ms | | max. 250 ms | |
| Other information | | | | |
| Operating temperature: | -20..+55°C | | | |
| Storage temperature: | -30..+70°C | | | |
| Electrical strength: | 4kV (supply - output) | | x | |
| Operating position: | any | | | |
| Mounting: | DIN rail EN 60715 | | | |
| Protection degree: | IP40 from front panel; IP20terminals | | | |
| Overvoltage catagory: | III. | | | |
| Pollution degree: | 2 | | | |
| Max. cable size: | max. 1x2.5, max.2x1.5/ with cavern max.1x2.5 | | | |
| Dimensions: | 90 x 17.6 x 64 mm | | | |
| Weight: | (UNI)-64g, (230)-62g | (UNI)-89g, (230)-87g | 51g | |
| Standards: | EN 61812-1, EN 61010-1 | | | |

Characteristic

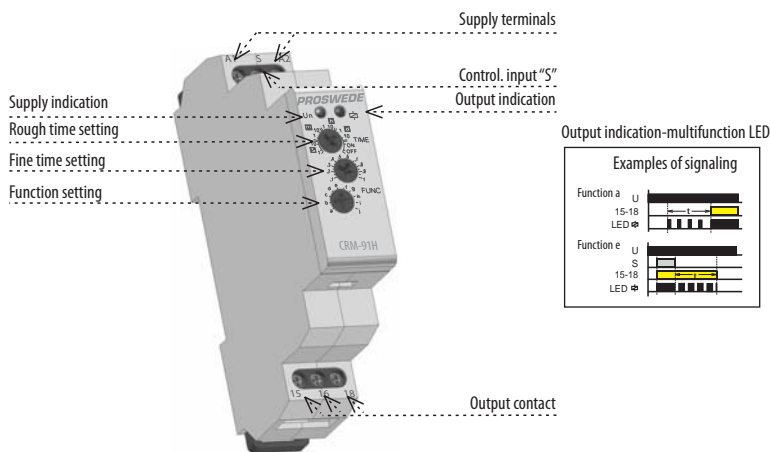
- using for warning illuminatin on the road, flashers, cyclers, often switched systems
- 10 functions: - 5 time functions controlled via supply voltage
 - 4 time functions controlled via control input
 - 1 function of latching relay
- Output indication: multifunction red LED, flashing at certain states
- 1-MODULE, DIN rail mounted

Notes:

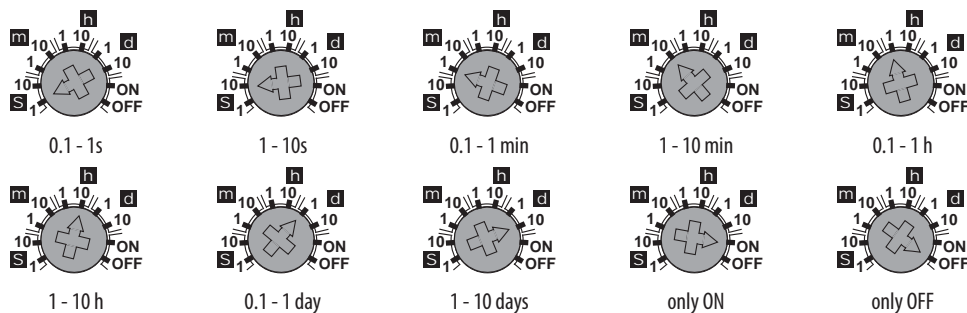
- 1) CRM-93H doesn't allow switching of different phases or 3-phase voltages.
- 2) When mounting into steal-plated switchboards, it is necessary keep safety distance of min. 3 mm from terminal's screws 35-36-38 and 25-26-28 towards the shutter of a switchboard.

Description

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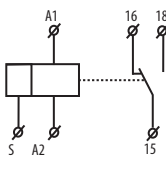


Time ranges

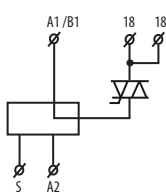


Symbol / Connection

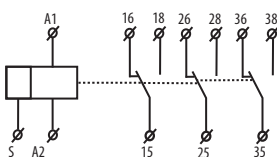
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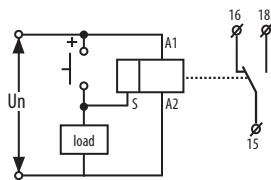
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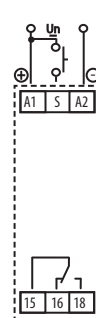
Loading can be connect to controll entry

Through clamps S-A2 can be connect the loading paralll (for example contactor or other units) - without damage of right operation.

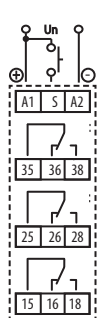
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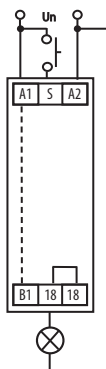
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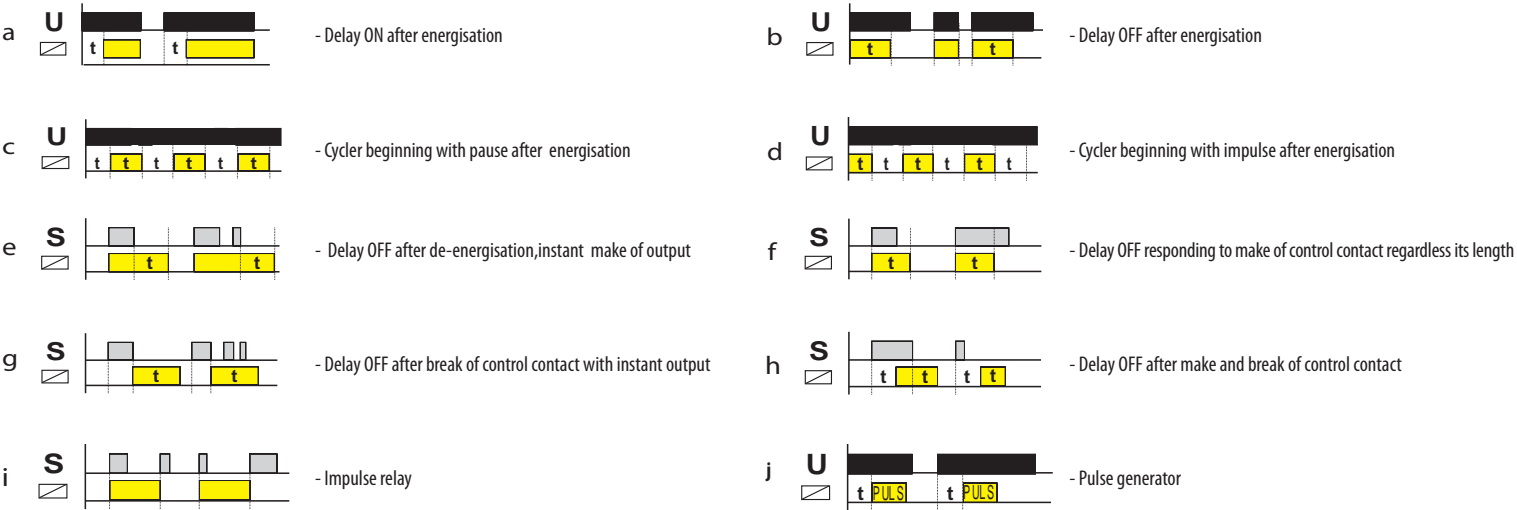


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



















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





















Product: CRM-91H

| Type of load |  cos φ ≥ 0.95 AC1 |  AC2 |  AC3 |  AC5a uncompensated |  AC5a compensated |  AC5b |  AC6a |  AC7b |  AC12 |
|------------------------------------|--|---|---|--|--|--|---|---|---|
| mat. contacts AgNi, contact 16A | 250V / 16A | 250V / 5A | 250V / 3A | 230V / 3A (690VA) | x | 800W | x | 250V / 3A | 250V / 10A |
| Type of load |  AC13 |  AC14 |  AC15 |  DC1 |  DC3 |  DC5 |  DC12 |  DC13 |  DC14 |
| mat. contacts AgNi, contact 16A | 250V / 6A | 250V / 6A | 250V / 6A | 24V / 16A | 24V / 6A | 24V / 4A | 24V / 16A | 24V / 2A | 24V / 2A |

Product: CRM-93H

| Type of load |  cos φ ≥ 0.95 AC1 |  AC2 |  AC3 |  AC5a uncompensated |  AC5a compensated |  AC5b |  AC6a |  AC7b |  AC12 |
|-----------------------------------|--|---|---|--|--|--|---|---|---|
| mat. contacts AgNi, contact 8A | 250V / 8A | 250V / 3A | 250V / 2A | 230V / 1.5A (345VA) | x | 300W | x | 250V / 1A | 250V / 1A |
| Type of load |  AC13 |  AC14 |  AC15 |  DC1 |  DC3 |  DC5 |  DC12 |  DC13 |  DC14 |
| mat. contacts AgNi, contact 8A | x | 250V / 3A | 250V / 3A | 24V / 8A | 24V / 3A | 24V / 2A | 24V / 8A | 24V / 2A | x |