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02-91/2016 Rev.: 1



CRM-81J CRM-83J

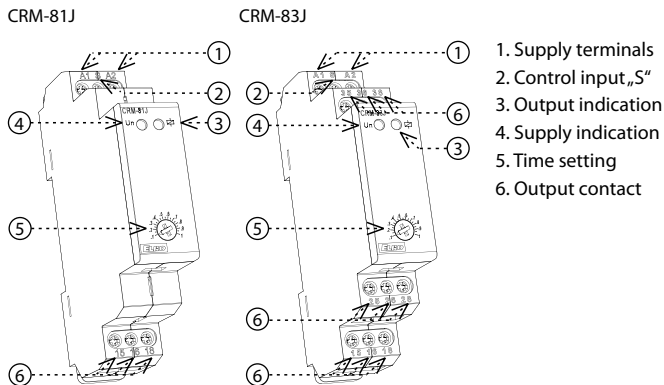
Single-function time relay



Characteristic

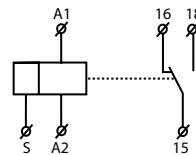
- single-function and single-time relay with possibility of fine time setting by a potentiometer (within the frames of a particular time range)
- suitable for applications where function and time requirements are known
- time switch, possible to be used for pump decay time after switching heating off, switching of fans
- choice of 3 functions:
 - 1) ZR - delay ON
 - 2) ZN - delay OFF
 - 3) BL - cycler 1:1
- every function can be controlled by supply voltage or control input
- choice of 6 time ranges:
 - (0.1 s - 1 s / 1 s - 10 s / 6 s - 60 s / 1 min - 10 min / 6 min - 60 min / 1 h - 10 hrs)
- universal supply voltage AC/DC 12 - 240 V or AC 230 V
- output contact: CRM-81J: 1x changeover / SPDT 16 A
CRM-83J: 3x changeover / 3PDT 8 A
- output indication: red LED
- 1-MODULE, DIN rail mounting

Description

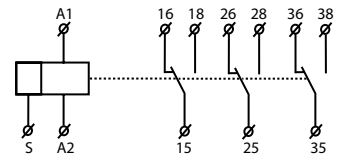


Symbol

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CRM-83J

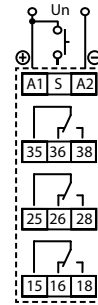


Connection

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Possibility to connect load onto controlling input:

It is possible to connect the load (e.g.: contactor) between terminals S-A2, without any interruption of correct relay function.

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| | | | | | | | | | |
|----------------------------------|--------------------------|-------------------|-------------------|--------------------|------------------|-----------------|-------------------|------------------|------------------|
| Type of load | $\cos \varphi \geq 0.95$ | M | M | AC5a uncompensated | AC5a compensated | HAL 230V | AC6a | AC7b | AC12 |
| Mat. contacts AgNi, contact 16 A | AC1 250V / 16A | AC2 250V / 5A | AC3 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 16 A | AC13 250V / 6A | AC14 250V / 6A | AC15 250V / 6A | DC1 24V / 16A | DC3 24V / 6A | DC5 24V / 4A | DC12 24V / 16A | DC13 24V / 2A | DC14 24V / 2A |

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| | | | | | | | | | |
|---------------------------------|--------------------------|-------------------|-------------------|---------------------|------------------|-----------------|------------------|------------------|-----------|
| Type of load | $\cos \varphi \geq 0.95$ | M | M | AC5a uncompensated | AC5a compensated | HAL 230V | AC6a | AC7b | AC12 |
| Mat. contacts AgNi, contact 8 A | AC1 250V / 8A | AC2 250V / 3A | AC3 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 8 A | x | AC14 250V / 3A | AC15 250V / 3A | DC1 24V / 8A | DC3 24V / 3A | DC5 24V / 2A | DC12 24V / 8A | DC13 24V / 2A | x |

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| | | | | |
|--------------------------------|------------------------------------------------|------------------------|-------------------------------|------------------------|
| Function: | ZR - delay ON, ZN - delay OFF, BL - cyclor 1:1 | | | |
| Supply terminals: | A1 - A2 | | | |
| Voltage range: | AC/DC12-240V (AC 50-60 Hz) | AC 230 V / 50-60 Hz | AC/DC12-240V (AC 50-60 Hz) | AC 230 V / 50-60 Hz |
| Power input (apparent / loss): | AC 0.7-3 VA / DC 0.5-1.7 W | AC max. 12VA/ 1.3 W | AC 0.7-3 VA / DC 0.5-1.7 W | AC max.12VA/ 1.9 W |
| Supply voltage tolerance: | -15%; +10% | | | |
| Supply indication: | green LED | | | |
| Time ranges: | 0.1 s - 10 h (in 6 ranges) | | | |
| Time settings: | potentiometer | | | |
| Time deviation: | 5 % - mechanical setting | | | |
| Repeat accuracy: | 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) |
| Rated current: | 16 A / AC 1 | 8 A / AC1 |
| Breaking capacity: | 4000 VA / AC1, 384 W / DC | 2000 VA / AC1, 192 W / DC |
| Inrush current: | 30 A / < 3 s | 10 A / < 3 s |
| Switching voltage: | 250 V AC1 / 24 V DC | |
| Output indication: | red LED | |
| Mechanical life: | 3x10 ⁷ | |
| Electrical life (AC1): | 0.7x10 ⁵ | |

Control

| | | | | |
|-----------------------------------------------------------|-------------------------------|--------------|-------------------------------|--------------|
| Consumption of input: | AC0.025-0.2VA/ DC 0.1-0.7W | AC 0.53 VA | AC0.025-0.2VA/ DC 0.1-0.7W | AC 0.53 VA |
| Load between S-A2: | Yes | | | |
| Control. terminals: | A1-S | | | |
| Glow tubes connection: | No | Yes | No | Yes |
| Max. amount of glow lamps connected to controlling input: | x | max. 10 pcs* | x | max. 10 pcs* |
| Impulse length: | min. 25 ms / max. unlimited | | | |
| Reset time: | max. 150 ms | | | |

Other information

| | | | | |
|-------------------------------------|------------------------------------------------------------------------|---------------|--------------|----------------|
| Operating temperature: | -20 °C to +55 °C (-4 °F to 131 °F) | | | |
| Storage temperature: | -30 °C to +70 °C (-22 °F to 158 °F) | | | |
| Electrical strength: | 4 kV (supply - output) | | | |
| Operating position: | any | | | |
| Mounting / DIN rail: | DIN rail EN 60715 | | | |
| Protection degree: | IP40 from front panel / IP20 terminals | | | |
| Overvoltage cathogory: | 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") | | | |
| Weight: | 62 g (2.2 oz.) | 60 g (2.1 oz) | 86 g (3 oz.) | 82 g (2.9 oz.) |
| Standards: | EN 61812-1, EN 61010-1 | | | |

* measured with glow lamp 0.68 mA / 230 V AC

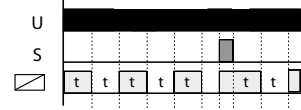
ZR - Delay ON



ZN - Delay OFF



BL - Cyclor 1:1



Note: the function ZR and ZN is controlled by supply voltage and control input ie. Once phase failure is detected and supply voltage is re applied. The relay automatically makes one cycle.

Warning

Device is constructed for connection for 1-phase main 230 V or AC 12-240 V 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.