CRM-181J
CRM-182J
CRM-183J

Single-function time relays

Characteristic

- Single-function time relays are suitable for universal use in automation, control and regulation or in house installations where there is a clear function requirement in advance.
- Choice of four types function: ZR, ZN, BL, OD
- All functions initiated by the supply voltage can use the control input to inhibit the ongoing delay (pause).
- Universal supply voltage AC/DC 12 – 240 V.
- Time scale 0.1 s - 100 h divided into 10 ranges:
  (0.1 - 1 s / 1 - 10 s / 3 - 30 s / 6 - 60 s / 1 - 10 min / 3 - 30 min / 6 - 60 min / 1 - 10 h / 3 - 30 h / 10 - 100 h).
- Output contact:
  CRM-181J: 1× changeover / SPDT 16 A
  CRM-182J: 2× changeover / SPDT 16 A
  CRM-183J: 1× changeover / SPDT 16 A, 2× changeover / DPDT 8 A
- Multifunction red LED flashes or shines depending on the operating states.
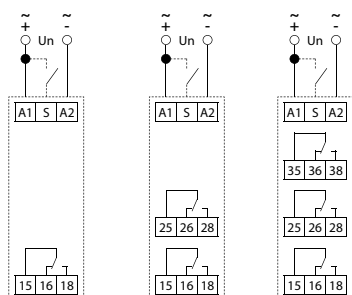
Description

CRM-183J
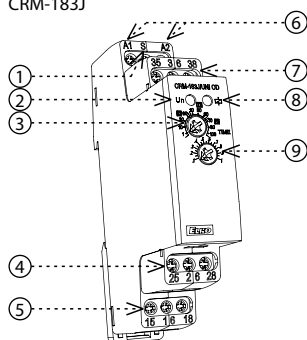
1. Control input (S)
2. Supply voltage indication
3. Time range setting
4. Output contact 2 (25-26-28)
5. Output contact 1 (15-16-18)
6. Supply voltage terminals (A1-A2)
7. Output contact 3 (35-36-38)
8. Indication of operating states
9. Fine time setting

## Connection

CRM-181J   CRM-182J   CRM-183J

CRM-183J:
The potential difference between the supply terminals (A1-A2), output contact 2 (25-26-28) and output contact 3 (35-36-38) must be a maximum of AC rms/DC 250 V.

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.
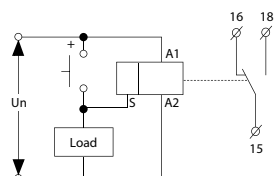
Technical parameters

|	CRM-181J	CRM-182J	CRM-183J
Power supply			
Supply terminals:	A1-A2		
Supply voltage:	AC/DC 12 – 240 V (AC 50-60 Hz)		
Consumption (max.):	2 VA/1.5 W	2.5 VA/1.5 W	2.5 VA/1.5 W
Supply voltage tolerance:	−15 %; +10 %		
Supply voltage indication:	green LED		
Time circuit			
Time ranges:	0.1 s – 100 h		
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			
Contact type 1:	1× changeover/SPDT (AgNi)		
Current rating:	16 A/AC1; PD. B300		
Breaking capacity:	4000 VA/AC1, 384 W/DC1		
Electrical life (AC1):	100.000 ops.		
Contact type 2 (3):	x	1× chang./SPDT (AgNi)	2× chang./DPDT (AgNi)
Current rating:	x	16 A/AC1; PD. B300	8 A/AC1; PD. B300
Breaking capacity:	x	4000 VA/AC1, 384 W/DC1	2000 VA/AC1, 192 W/DC1
Electrical life (AC1):	x	100.000 ops.	50.000 ops.
Switching voltage:	250 V AC/24 V DC		
Power dissipation (max.):	1.2 W	2.4 W	2.4 W
Mechanical life:	10.000.000 ops.		
Control			
Control terminals:	A1-S		
Load between S-A2:	Yes		
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:			
supply – output 1	AC 4 kV		
supply – output 2 (3)	x	AC 4 kV	AC 1 kV
output 1 – output 2	x	AC 4 kV	AC 1 kV
output 2 – output 3	x	x	AC 1 kV
Operating position:	any		
Mounting:	DIN rail EN 60715		
Protection degree:	IP40 front panel/IP20 terminals		
Overvoltage category:	III.		
Pollution degree:	2		
Cross-wire section – solid/ stranded with ferrule (mm²):	max. 1× 2.5, 2× 1.5/ max. 1× 2.5 (AWG 12)		
Dimensions:	90 × 17.6 × 64 mm (3.5″ × 0.7″ × 2.5″)		
Weight:	61 g (2.2 oz)	84 g (3 oz)	84 g (3 oz)
Standards:	EN 61812-1		

Functions

ⓏⓇ ON DELAY
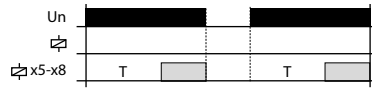
When the supply voltage "Un" is applied, the time delay "T" starts. The output contact(s) "⇦" will close after the delay has elapsed. If the supply voltage "Un" is disconnected, the output contact(s) "⇦" are opened and the function is reset. Control input "S" is not used in this function.
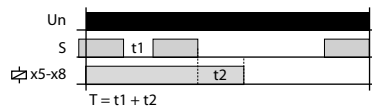
ON DELAY with Inhibit
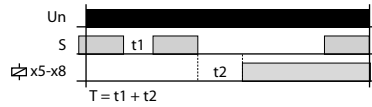
When the supply voltage "Un" is applied while the control input "S" is closed, the time delay "T" doesn't start. The delay only starts when the control input "S" is open. The output contact(s) "⇦" will close after the delay has elapsed. If the supply voltage "Un" is disconnected, the output contact(s) "⇦" are opened and the function is reset.

ⓏⓃ INTERVAL ON

When the supply voltage "Un" is applied, output contact(s) "⇦" closes immediately and time delay "T" starts. Output contact(s) "⇦" opens after the delay has elapsed. If the supply voltage "Un" is disconnected, the output contact(s) "⇦" are opened and the function is reset. Control input "S" is not used in this function.
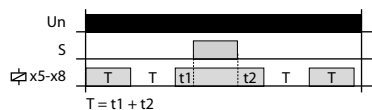
INTERVAL ON with Inhibit

When the supply voltage "Un" is applied while the control input "S" is closed, the output contact(s) "⇦" are immediately closed and the time delay "T" doesn't start. The delay only starts when the control input "S" is open. The output contact(s) "⇦" will open after the delay has elapsed. If the supply voltage "Un" is disconnected, the output contact(s) "⇦" are opened and the function is reset.

ⒷⓁ FLASHER - ON first

When the supply voltage "Un" is applied, output contact(s) "⇦" closes immediately and time delay "T" starts. Output contact(s) "⇦" opens after the delay has elapsed and the delay starts from the beginning. After the delay has elapsed, output contact(s) "⇦" closes again. This repeats as a cycle until the supply voltage "Un" is disconnected. If the supply voltage "Un" is disconnected, the output contact(s) "⇦" are opened and the function is reset. Control input "S" is not used in this function.

FLASHER - ON first with Inhibit

When the supply voltage "Un" is applied while the control input "S" is closed, the output contact(s) "⇦" closes immediately and time delay "T" doesn't start. The delay only starts when the control input "S" is open. Output contact(s) "⇦" opens after the delay has elapsed and the delay starts from the beginning. After the delay has elapsed, output contact(s) "⇦" closes again. This repeats as a cycle until the supply voltage "Un" is disconnected. If the supply voltage "Un" is disconnected, the output contact(s) "⇦" are opened and the function is reset.

## ⓄⒹ OFF DELAY

When the supply voltage "Un" is applied, the output contact(s) "⇦" are opened. If the control input "S" is closed, the output contact(s) "⇦" will closes as well. If the control input "S" is opened, the time delay "T" starts. The output contact(s) "⇦" will open after the delay has elapsed. If the control input "S" is re-closed during the delay, the time delay "T" is reset and will start from beginning when the control input "S" is re-opened. If the supply voltage "Un" is disconnected, the output contact(s) "⇦" open and the function is reset.

Note: ZR, ZN and BL functions are initiated by connecting the supply voltage to the device, i.e. in the event of a failure and recovery of the supply voltage, the relay automatically performs 1 cycle.

Indication of operating states
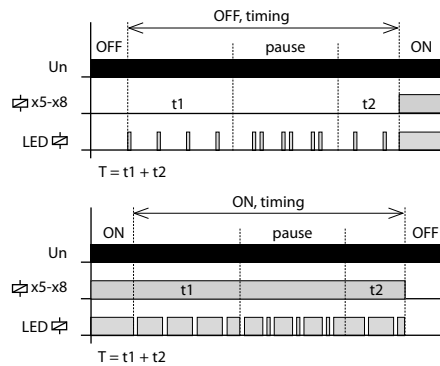
Tip for more accurate time setting (long periods of time)

Example of time setting to 8 hours period:

For time range setting use time scale 1 – 10 s on the potentiometer.

For fine time setting aim for 8 s on potentiometer, then re-check accuracy (e.g. using stopwatch).

On time range setting, set potentiometer to originally desired scale 1 – 10 h.

Leave fine time setting as it is.

Warning

This device is constructed for connection in 1-phase network AC/DC 12 – 240 V and must be installed according to norms valid in the state of an application. Installation, connection, setting and servicing must be carried out by qualified electrician staff only, which have perfectly understood the instructions and functions of the device. This device contains protection against overvoltage peaks and disturbing impulses in the power supply network. For the correct function of the protection of this device, there must be suitable protections of higher degrees (A,B,C) installed in front of them and according to the standards, interference of switching devices must be securely eliminated (contactors, motors, inductive loads, etc.). Before installation, make sure that the device is de-energized and the main switch is in the "OFF" position. Don't install the device to sources of excessive electromagnetic interference. Ensure correct installation by perfect air circulation so that during continuous operation and a higher ambient temperature, the device does not exceed the maximum allowed operating temperature. For installation and setting use a screwdriver with a width of approx 2 mm. Keep in mind that this is a fully electronic device and approach accordingly with the installation. Non-problematic function of the device is also dependent on the previous method of transportation, storage, and handling. In case of any signs of damage, deformation, malfunction, or missing parts, don't install this device and claim it at the dealer. The product must be treated as electronic waste at the end of its life.