

**ELKO EP, s.r.o.**  
 Palackého 493  
 769 01 Holešov, Všetuly  
 Czech Republic  
 Tel.: +420 573 514 211  
 e-mail: elko@elkoep.com  
 www.elkoep.com



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## CRM-2T

### Delay ON star / delta

#### Characteristic

- designated of delay On of motors star/delta

##### CRM-2T/230V, CRM-2T/UNI

- time t1 (star)
  - time scale 0.1 s - 100 days - divided into 10 time ranges (0.1 s-1 s / 1 s-10 s / 0.1 min-1 min / 1 min-10 min / 0.1 h-1 h / 1 h-10 hrs / 0.1 day-1 days / 1 day-10 days / 3 days-30 days / 10 days-100 days)
  - rough time setting by rotary switch
- time t2 (delay) between  $\lambda$  /  $\Delta$ :
  - time range 0.1 s - 1 s
  - fine time setting by potentiometer
- supply voltage: AC 230 V, AC/DC 12-240V
- output contact: 2 x changeover 16 A

##### CRM-2T/24-480V

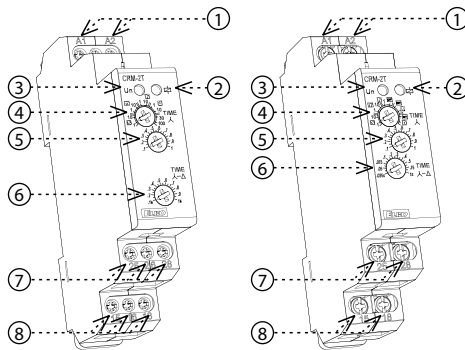
- time t1 (star)
  - programmable time from 0.1s up to 1 hr., divided into 5 ranges (0.1 s-1 s / 1 s-10 s / 0.1 min-1 min / 1 min-10 min / 0.1 h-1 h)
  - time range gross setting is performed using a turn switch
  - fine time setting is performed using a potentiometer
- time t2 (delay) between  $\lambda$  /  $\Delta$ :
  - time range 0.025 sec - 1 sec
  - time is set by using by potentiometer
- supply voltage: AC/DC 24-480 V
- output contact: 2x NO 8A

- output indication: multifunction red LED
- 1-MODULE, DIN rail mounting

#### Description

##### CRM-2T/UNI, CRM-2T/230V

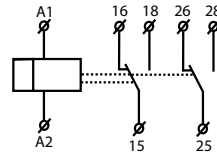
##### CRM-2T/24-480V



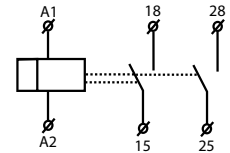
1. Supply terminals
2. Output indication multi-function red
3. Supply indication
4. Rough time setting t1
5. Fine time setting t1
6. Fine time setting t2
7.  $\Delta$  Output contact
8.  $\lambda$  Output contact

#### Symbol

##### CRM-2T/UNI, CRM-2T/230V

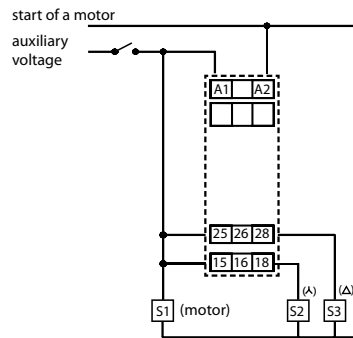


##### CRM-2T/24-480V

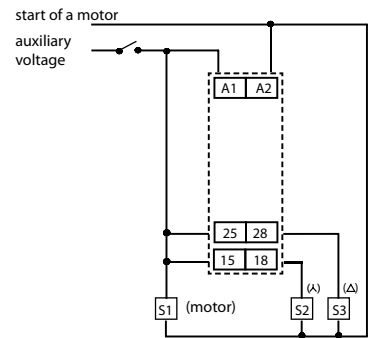


#### Connection

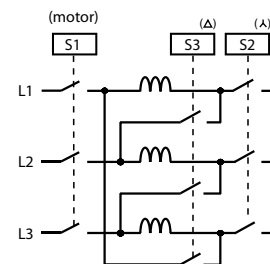
##### CRM-2T/UNI, CRM-2T/230V



##### CRM-2T/24-480V



##### start up of motor ( $\lambda$ - $\Delta$ )



#### CRM-2T

Type of load	$\cos \varphi \geq 0.95$	M	M	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

#### CRM-2T/24-480V

Type of load	$\cos \varphi \geq 0.95$	M	M	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

CRM-2T

Number of functions:	1		
Supply terminals:	A1 - A2		
Voltage range:	AC/DC 12-240V/ AC 50 - 60 Hz	AC 230 V / 50 - 60 Hz	AC/DC 24 - 480 V/ AC 50 - 60 Hz
Burden:	AC 0.7-3 VA / DC 0.5-1.7W	AC max. 12 VA / 1.9 W	max. 1 VA / DC max. 0.6 W
Operating range:	-15 %; +10 %		
Supply indication:	green LED		
Time scale:	t1: 0.1 s - 100 days; t2: 0.1 s-1 s	t1: 0.1 s - 1h; t2: 0.025 s-1s	
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

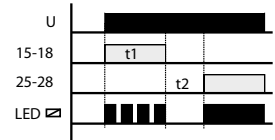
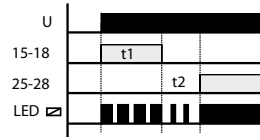
Number of contacts:	2x changeover/ DPDT (AgNi/Silver Alloy)	2x NO (AgNi)
Current rating:	16 A / AC1	8 A / AC1
Breaking capacity:	4000 VA / AC1, 384 W / DC	2000 VA / AC1
Inrush current:	30 A / <3 s	x
Switching voltage:	250 V AC1 / 24 V DC	max. 250 V
Output indication:	multifunction red LED	
Mechanical life:	3x10 <sup>7</sup>	
Electrical life (resistive):	0.7x10 <sup>5</sup>	1x10 <sup>5</sup>
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	IP40 from front pan., IP10 terminals
Overvoltage category:	III.	
Pollution degree:	2	
Terminal wire capacity (mm <sup>2</sup> ):	max. 1x 2.5; 2x1.5 with sleeve max.1x2.5 (AWG 12)	max. 2x 2.5; 1x4 with sleeve max.1x 2.5, 2x 1.5
Dimensions:	90 x 17.6 x 64 mm (3.5" x 0.7" x 2.5")	
Weight:	84 g (3 oz.)	72 g (2.54 oz.)
Standards:	EN 61812-1, EN 61010-1	

CRM-2T/UNI, CRM-2T/230V

CRM-2T/24-480V



More accurate setting of timing for long periods of time

Example of time setting to 8 hours period:

For rough setting use time scale 1-10s on the potentiometer.

For fine time setting aim for 8s on potentiometer, then recheck accuracy (using stop-watch etc).

On rough time setting, set potentiometer to originally desired scale 1-10 hours, leave a fine setting as it is.

Warning

Device is constructed for connection in 1-phase AC/DC 12- 240 V and 230 V or 24-480V main alternating current voltage 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. After stop using the product it is possible to demount and recycle.