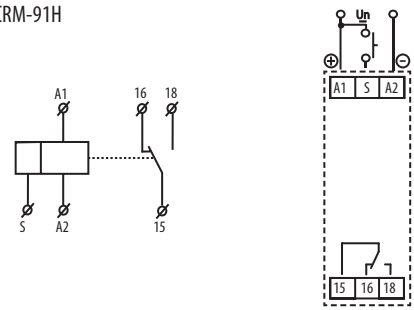
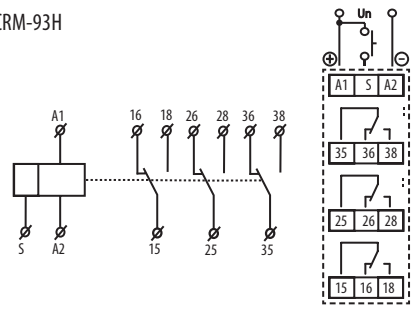
Multifunction time relay CRM-91H, CRM-93H, CRM-9S

1M

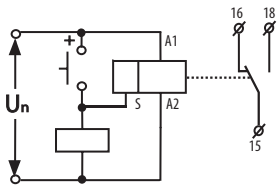
- multifunction time relay to be used for electrical appliances, control of lights, heating, motors, pumps, fans, due to its complexity (10 functions, 10 time ranges, multivoltage, 16Amps or 3x8Amps contacts)
- fulfils all requirements for timer relays
- 10 functions: - 5 time functions controlled by supply voltage
  - 4 time functions controlled by control input
  - 1 function of memory (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:	UNI	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):	230	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:		12 nF (UNI), 12 nF (AC 230 V)		
-without connected glow-lamps				
- with connected glow-lamps		9 nF (UNI), glow lamps cannot connected/NO	9 nF (UNI), glow lamps cannot connected/NO	x
		9 nF (AC 230 V), max.20pcs(1pc-1mA)	9 nF (AC 230 V), max.20pcs(1pc-1mA)	x
Impulse length:		min. 25 ms / max. unlimited		
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 cathegory:		III.		
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		

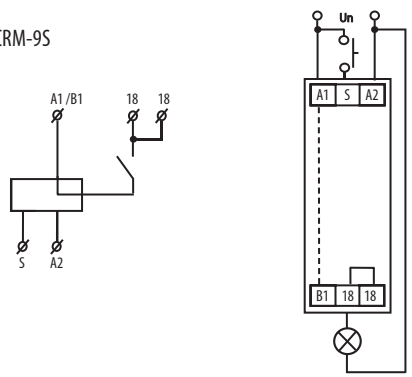
Symbol	Connection
CRM-91H	
CRM-93H	

Load with control input possible

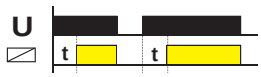
Load between S-A2 possible to connect in parallel way, without disturbing of proper operation of the relay.
Load is energized for a period of time when a button is switched.



CRM-9S



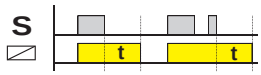
Function

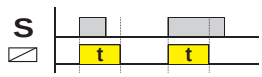
Delay ON
after energization
a


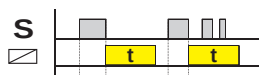
Delay OFF
after energization
b

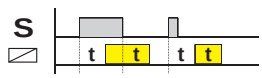

Cycler beginning with impulse
after energization
c

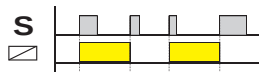

Delay OFF
after de-energization, instant make of output
d


Delay OFF responding to make
of control contact regardless its length
e


Delay OFF
after break of control contact with instant output
f


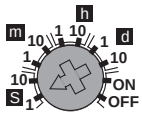
Delay OFF
after make and break of control contact
g


Delay OFF after closing and braking of control
contact
h


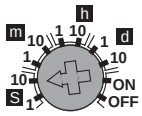
Latching relay
i


Pulse generator
j

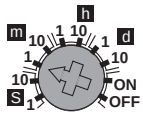

Time ranges



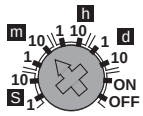
0.1 - 1s



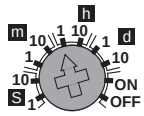
1 - 10 s



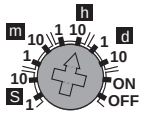
0.1 - 1 min



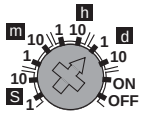
1 - 10 min



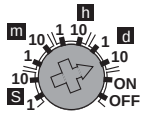
0.1 - 1 h



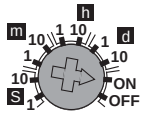
1 - 10 hrs



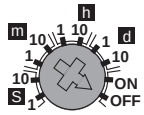
0.1 - 1 day



1 - 10 days

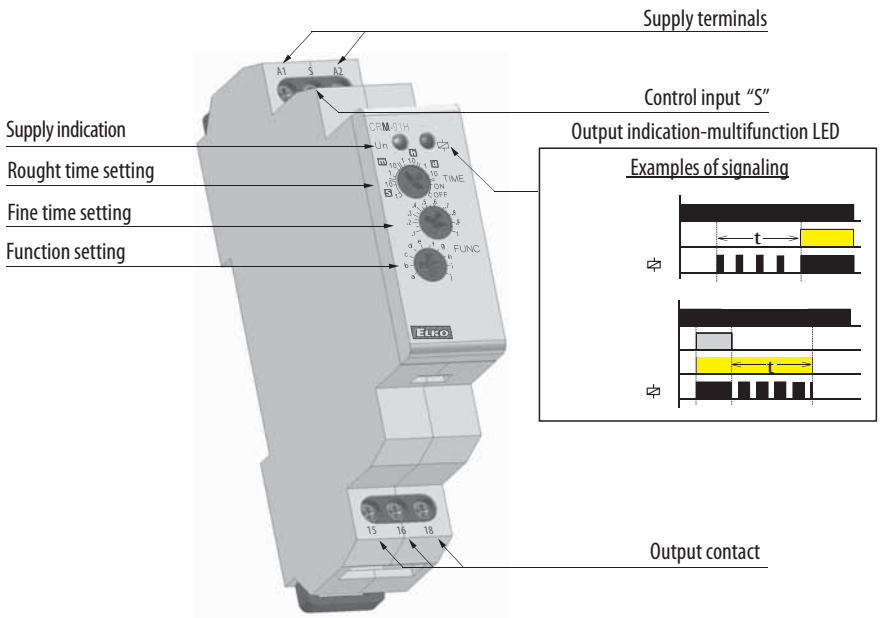


only ON



only OFF

Description



Notes

1) CRM-93H doesn't allow switching of different phases or 3-phase voltages .

2) When mounting into 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.