

# KOP.J

## Timer, electronic

- Multi function or mono function
- 10 time ranges
- 22.5 mm width for DIN rail
- 24...48 VDC and 24...240 VAC
- 24...240 VAC/DC
- 1 changeover contact

From left to right: KOP 111, KOP 160, KOP 170



		KOP.J				
Functions	Delayed operation	•		•	•	
	Delayed release		•			
	Delayed operation and release					
	Fleeting-on delay timer			•	•	
	Fleeting-off delay timer			•	•	
	Pulse converter			•	•	
	Pulse generator			•	•	
	Flasher relay with pulse starting			•	•	
	Asymmetrical pulse generator					•
	On/ off function for startup and maintenance			•	•	
Time ranges	0.05 s...60 h	•	•	•	•	•
Operating voltage	24...48 VDC and 24...240 VAC	•	•	•	•	•
	24...240 VDC/VAC			•		
Number of contacts	1 changeover contact	•	•	•	•	•
Order no.		KOP111J7MWWVPN00	KOP112J7MWWVPN00	KOP160J7MWWAN00	KOP160J7MWWVPN00	KOP170J7MWWVPN00

## Settings

**KOP 170**

- Start setting with pulses or with interval
- Fine setting T2
- Rough setting T2  
e.g., 1 m = 1 minute
- Rough setting T1
- T1 fine setting  
Divides the value set in the rough setting by a factor of 10  
Example: rough setting 1 m = 1 minute  
1 unit = 6 s.  
If 24 s are necessary, factor 4 must be set here

**All except KOP 170**

- Function settings (only with KOP 160)  
Here you can set the relay function, e.g.: 11 - delayed operation
- Rough setting
- Fine setting

## Technical data

Multi time ranges	0.05...1 s, 0.15...3 s, 0.5...10 s 0.05...1 min, 0.15...3 min, 0.5...10 min 0.05...1 h, 0.15...3 h, 0.5...10 h, 3...60 h Time range can be easily selected on the front of the relay, using a screwdriver	
Setting accuracy	± 5% of the time range final value ( $t_{max}$ )	
Repeat accuracy	± 0.2% of the set value	
Operating voltage	24...48 VDC and 24...240 VAC, 50/60 Hz (VP) 24...240 VAC/DC, 50/60 Hz (VA) DC: ± 20% AC: -15%...+10%	
Power consumption	VP version: 5.0 VA(AC) 0.5 W(DC)	VA version: 3 VA(AC) 3 W(DC)
Duty cycle	100%	
Pulse control	Operating voltage range, current 1 mA, duration of the control pulse >30 ms (DC), >50 ms (AC); interval >55 ms (DC)	
Outputs	1 changeover contact, status display by LED	
Switching capacity	U = 440 VAC, $I_{th}$ = 8 A, P = 2000 VA 3 A/250 VAC (AC15), 3 A/440 VAC (AC14) or 1 A/24 VDC (DC13) in accordance with IEC 60947-5-1	
Insulation characteristics	2.5 kVAC/50 Hz test voltage in accordance with VDE 0435 and 6 kV 1.2/50 $\mu$ s surge voltage in accordance with IEC 60947-5-1 between all outputs and inputs	
EMC/immunity to interference	Surge capacity in accordance with IEC 61000-4-5, 4 kV Burst in accordance with IEC 61000-4-4, 6 kV ESD in accordance with IEC 61000-4-2, with contact 8 kV, in air 8 kV	
Secure disconnection	in accordance with VDE 0106, part 101	
Protection class	Housing IP 40, terminals IP 20	
Approvals	UL, C-UL, GL	
Ambient temperature	Open -20°C to +60°C, encapsulated -20°C to +45°C	
Connections	Screw terminals for 1 × 0.5 mm <sup>2</sup> or 2 × 2.5 mm <sup>2</sup> (solid wire) or 2 × 1.5 mm <sup>2</sup> (multistrand with end sleeve). AWG 14...20, with two-chamber system, M3.5 screws for Pozidrive no. 2 (Phillips) and slotted head no. 2, suitable for drill/driver (max. 1.2 Nm). Finger protection in accordance with VDE 0106	
Mounting	Snap-on mounting on DIN rail 35 mm or screw mounting by adapter (accessories) and 2 M4 screws. Any mounting position	

## Accessories

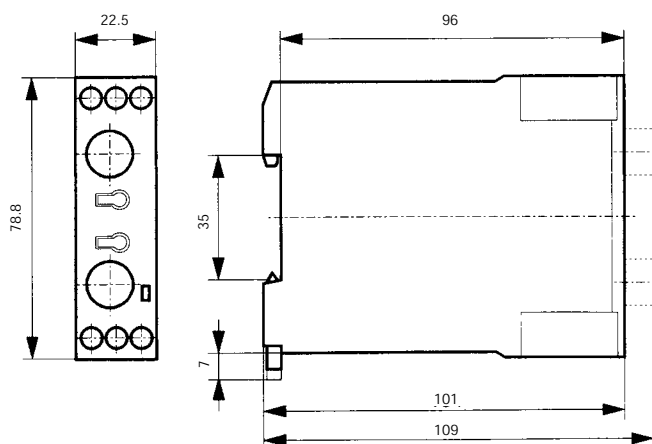
Order no.

- Adapter for screw mounting

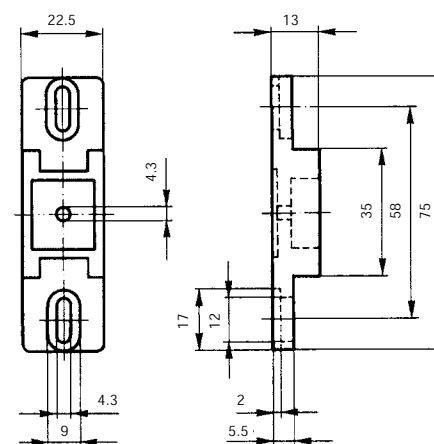
CJ260

## Dimension diagrams

Timer

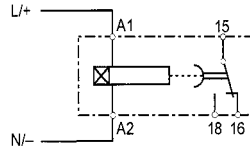
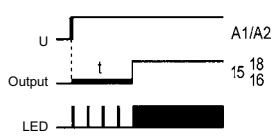


Screw adaptor (accessories - order no.: CJ260)

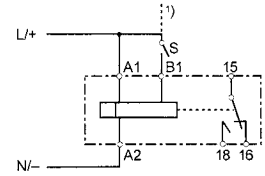
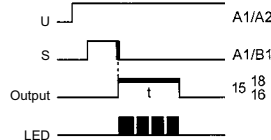


## Time diagram and connection diagram

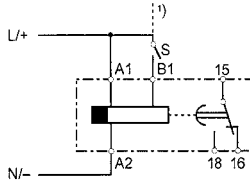
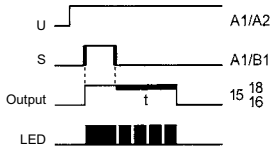
### Delayed operation (11)



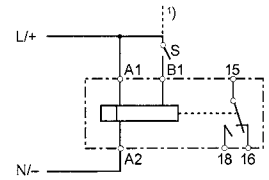
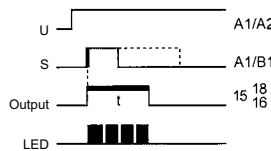
### Fleeting-off delay timer (22)



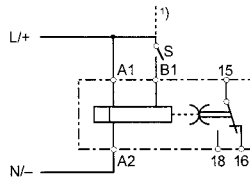
### Delayed release (12)



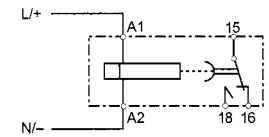
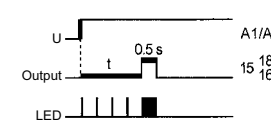
### Pulse converter (23)



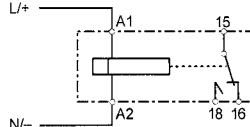
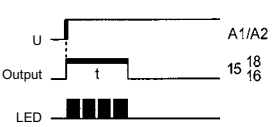
### Delayed release and operation (16)



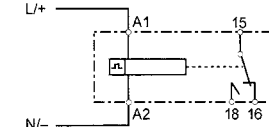
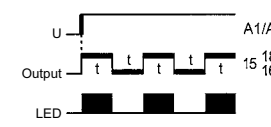
### Pulse generator (24)



### Fleeting-on delay timer (21)

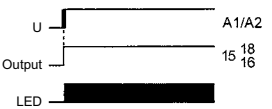


### Flasher relay with pulse starting (12)

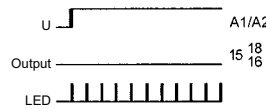


### KOP 160: universal timer with 10 time ranges, 8 functions (11, 12, 16, 21, 22, 23, 24, 42) and an on/off function for startup and maintenance

#### On function

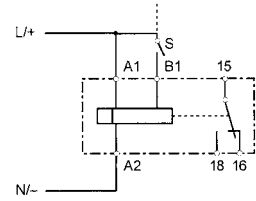
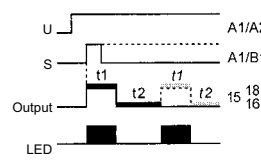
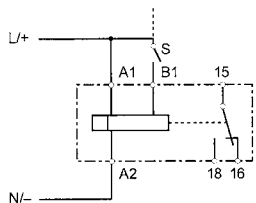
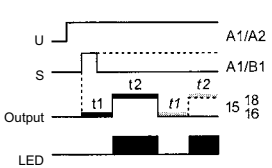


#### Off function



- Output in rest position, no timing
- ▬ Output in rest position, time running
- ▬ Output in operating position, no timing
- ▬ Output in operating position, time running

### Asymmetrical pulse generator



<sup>1)</sup> For pulse control, a different voltage than the supply voltage can be optionally used, for example A1-A2=230 VAC and B1-A2=24 VDC.