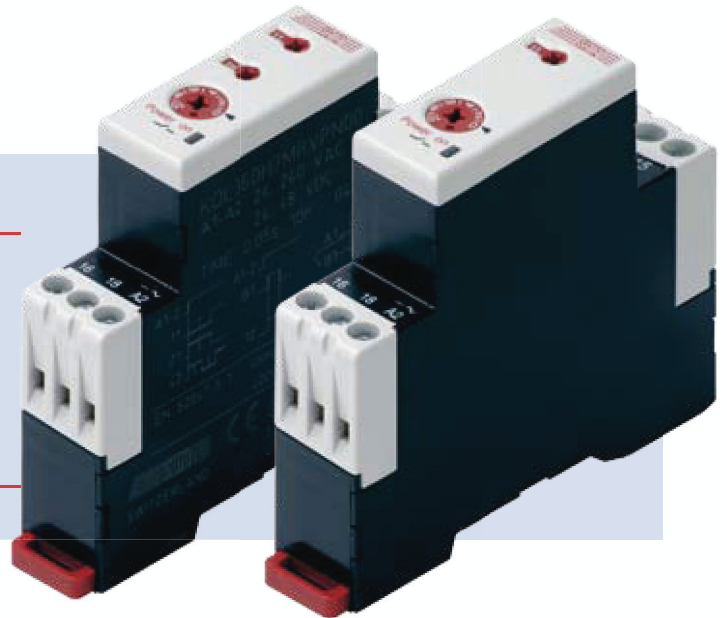


KOL

Timer, electronic

- Multi function or mono function
- 4 (KOL 1/..251) or 6 time ranges (KOL 3)
- 17.5 mm width for DIN rail
- 24 VAC/DC or 110...240 VAC
- 24...48 VDC and 24...240 VAC
- 1 make contact (KOL 1) or 2 make contacts (KOL 251)
- 1 changeover contact (KOL 3)

From left to right: KOL360, KOL 311



		KOL 1/2						KOL 3					
Functions	Delayed operation	•					•	•					•
	Delayed release		•				•		•				•
	Fleeting-on delay timer			•			•			•			•
	Flasher relay				•	•					•		•
	Star-delta timer											•	
Time ranges	0.15 s...10 min												•
	0.75 s...1 h	•		•	•								
	0.5 s...1 h		•				•						
	0.05 s...10 h							•	•	•	•	•	•
Operating voltage	24...48 VDC and 24...240 VAC						•	•	•	•	•	•	•
	24 VAC/DC or 110...240 VAC	•	•	•	•	•							
Number of contacts	1 make contact	•	•	•	•	•							
	2 make contacts with a joint connection						•						
	1 changeover contact							•	•	•	•	•	•
Order no.		KOL111H7MNVVN00	KOL112H7MNVVN00	KOL121H7MNVVN00	KOL142H7MNVVN00	KOL160H7MNVVN00	KOL251H7MKVVPN00	KOL311H7MRVVPN00	KOL312H7MRVVPN00	KOL321H7MRVVPN00	KOL342H7MRVVPN00	KOL360H7MRVVPN00	

Settings

Rough time setting
e.g., 1 m = 1 minute

Fine setting time

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



Function settings (only with KOL 160/360)
Here you can set the relay function, e.g.,
11 - delayed operation

Technical data

Multi time ranges	KOL 111/ 121/ 142 0.75...15 s, 3...60 s, 0.4...8 min, 3...60 min KOL 251 0.15...3 s, 0.5...10 s, 3 s...60 s, 0.5...10 min	KOL 160/ 112 0.5...10 s, 3...60 s, 0.5...10 min, 3...60 min KOL 311, 312, 321, 342, 360 0.05...1 s, 0.5...10 s, 0.05...1 min, 0.5...10 min, 0.05...1 h, 0.5...10 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	1% of the time range final value (t_{max})	
Reset time	KOL 1 = 250 ms or KOL 251, KOL 3 = 100 ms	
Operating voltage	KOL 1 110...240 VAC, 50/60 Hz (A1/A2) 24 VDC/VAC, 50/60 Hz (A3/A2) -15%/+20% (DC) or , -15%/10% (AC)	KOL 251, KOL 3 24...48 VDC and 24...230 VAC, 50/60 Hz
Power consumption	0.5 W at 24 VDC, 9 VA at 240 VAC (KOL 1) or 5 VA at 250 VAC (KOL 251, KOL 3)	
Duty cycle	100%	
Pulse control	Operating voltage range, current 1 mA, duration of the control pulse >250 ms for KOL1 and > 50 ms for KOL 2 or KOL 3	
Outputs	1 make contact (KOL 1), 2 make contacts (KOL 251) or 1 changeover contact (KOL 3)	
Switching capacity	KOL 1 U = 250 VAC, I_{th} = 5 A, P = 1000 VA 1 A/250 VAC (AC14) or 1 A/24 VDC (DC13) in accordance with IEC 60947-5-1	KOL 251 or KOL 3 U = 250 VAC, I_{th} = 5 A, P = 1250 VA 1.5 A/250 VAC (AC15) or 1 A/24 VDC (DC13) in accordance with IEC 60947-5-1
Insulation characteristics	2 kV/50 Hz test voltage in accordance with VDE 0435 and 4 kV 1.2/50 μ s surge voltage in accordance with IEC 60947-5-1 between all inputs and outputs	
EMC/immunity to interference	Surge capacity in accordance with IEC 61000-4-5, 4 kV (2 kV to A3-A2) Burst in accordance with IEC 61000-4-4, 4 kV ESD in accordance with IEC 61000-4-2, 8 kV	
EMC/emissions	electromagnetic fields in accordance with EN 55022, class B	
Approvals	UL, C-UL (KOL 1) or UL, C-UL, Germanischer Lloyd (KOL 251, KOL 3)	
Ambient temperature	KOL 1 -20°C to +50°C	KOL 2 and KOL 3 -20°C to + 60°C
Connections	Screw terminals for 1 × 0.5 mm ² or 2 × 2.5 mm ² , for Pozidrive no. 1 (max. 1 Nm) or screwdriver. Finger protection in accordance with VDE 0106	
Mounting	Snap-on mounting on DIN rail 35 mm or screw mounting by adapter (accessories)	

Accessories

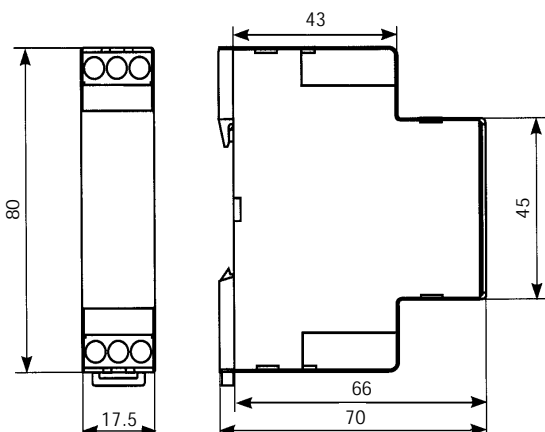
Order no.

- Adapter for screw mounting

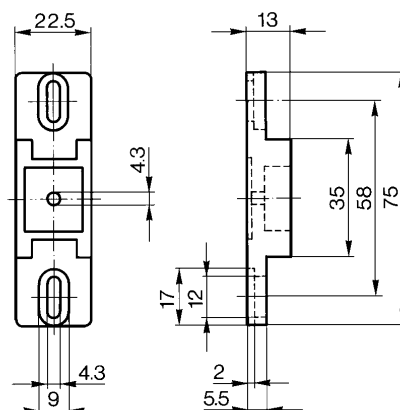
CJ260

Dimension diagrams

Timer



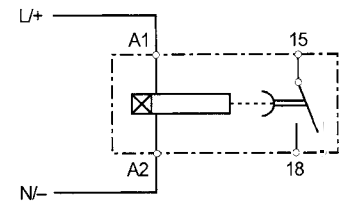
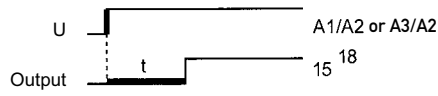
Screw adaptor (accessories, order no. CJ260)




Time diagram and connection diagram

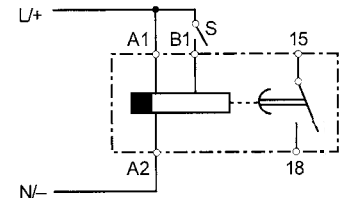
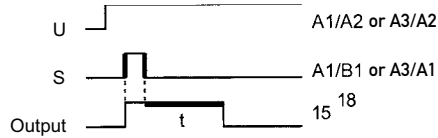
KOL 1/2


Delayed operation (11)



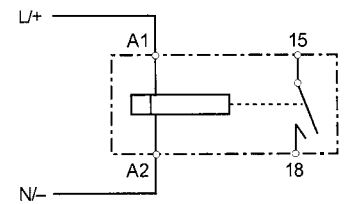
 = LED green: Output in operating mode


Delayed release (12)



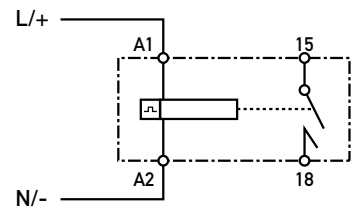
 = LED green: Output in operating mode


Fleeting-on delay timer (21)



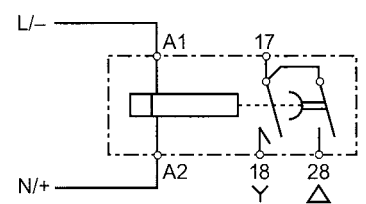
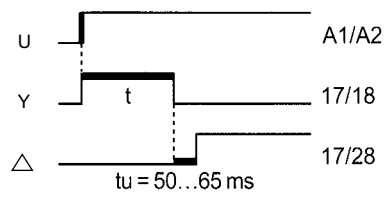
 = LED green: Output in operating mode


Flasher relay (42)



 = LED green: Output in operating mode

Star-delta (51)





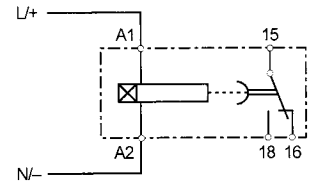
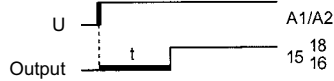
 = LED green: Δ in operating mode

Time diagram and connection diagram



KOL 3

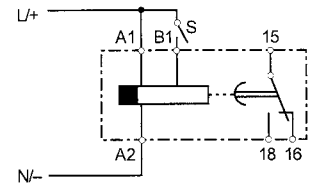
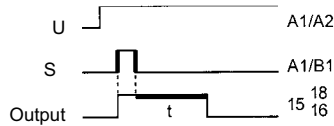
Delayed operation (11)

-  = LED orange: Output in operating mode
-  = LED green: Operating voltage available





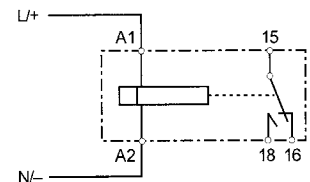
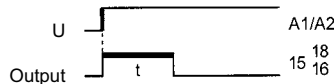
Delayed release (12)

-  = LED orange: Output in operating mode
-  = LED green: Operating voltage available





Fleeting-on delay timer (21)

-  = LED orange: Output in operating mode
-  = LED green: Operating voltage available



Flasher relay (42)

-  = LED orange: Output in operating mode
-  = LED green: Operating voltage available

