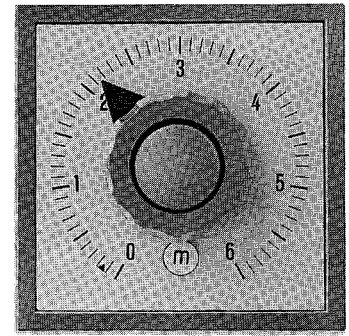


The sturdy manual start timer with manual or automatic reset



Characteristic features

- Manual time preselection by rotary knob. Timing run started with push-button for accurate operating times.
- Versions with 1 or 5 time ranges (with changeover facility)
- 2 or 4 changeover contacts with an electrical rating of up to 16(3)A/380 VAC
- Large setting knob, easy to read setting scale, suitable for rigorous operating conditions
- High quality SAIA® industrial components (snap-action switches, synchronous motors, reduction gears)

Function

After setting the time the outputs are operated and latched and the motor started by actuating the push-button. After the set time has run the latch is released, the outputs revert to the rest position and the motor comes to rest.

KOA 217/KOA 417:

The setting knob rotates during the timing run back to the zero position. Prior to a new run the desired time must be set again (manual reset). This version is suitable for processes in which the preselected time has to be started at a later instant.

KOA 218/KOA 418:

The setting knob stands still during the timing run. After the set time has run the timing element is decoupled and jumps automatically back to the initial value (automatic reset). Before a new run with the same time it is only necessary to actuate the push-button. (On request: Screw fixture for locking the setting knob. Adjustment only possible with the use of a tool). This version is especially suited to processes requiring repeated running of the same time setting.

The mains frequency serves as a time base which is converted to a rotary movement via a synchronous motor with reduction gear.

Technical data

Timing characteristics

Time ranges	Versions with 1 time range and 5 time ranges, details see summary list
Min. setting time	2.5% of the full time range value
Setting accuracy	± 1% of the full time range value
Repetition accuracy	± 0.5% of the full time range value (KOA 218/KOA 418) ¹⁾
Running off indication	by the rotating setting knob (KOA 217/KOA 417)

¹⁾ The motor start delay of ± 1s should be taken into account with times < 60 s.

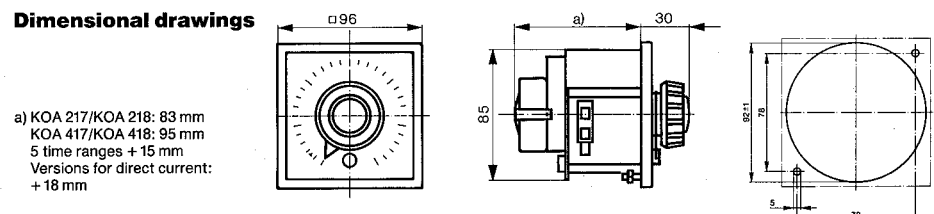
Output

Contacts	2 or 4 changeover (contact gap approx. 0.7 mm, non qualified as a mains isolating switch)	
Type of contacts	SAIA® snap-action switch XF with pure silver contacts	
Breaking capacity		
Alternating current	16 A/380 VAC according to SEV	16(3)A/380 VAC according to VDE
	15 A/250 VAC according to CSA	
Life expectancy		
electrical	300 000 operations at 16 A/220 VAC, cos φ = 1	
	150 000 operations at 16 A/220 VAC, cos φ = 0.3	
mechanical	500 000 cycles or 30 000 motor running hours	

General data

Supply voltage U _n	Versions for alternating current and direct current, details see summary list	
Voltage tolerance	-15%/+10%	
Power consumption	3 W at 220 ... 240 V/50 Hz	
Insulation voltage	2.5 kV/50 Hz	
Degree of protection	Front IP 50 for versions with 1 time range or IP 40 for versions with 5 time ranges	
Ambient temperature	-10 °C to +50 °C	
Climatic conditions	FW 24 according to DIN 50016 (23 °C, 83% relative humidity or 40 °C, 92% relative humidity, 10 cycles)	
Resistance to vibration	Reliability of performance 5 g; mechanical resistance 5 g; according to IEC 68-2-6, test FC in 3 planes at 10 ... 150 Hz during 6 hours	
Resistance to shock	50 g; according to IEC 68-2-27, 3 shocks in each plane	
Connections	Screw terminals for 2 × 1.5 mm ² for single wire. Plug-in connectors 6.3 × 0.8 mm on request	
Mounting	Flush mounting, fixing with 2 screws M4 × 15 mm Any mounting position	
Weight	530 g (1 time range), 570 g (5 time ranges)	
Approvals	SEV, VDE, NEMKO, DEMKO, CSA	

Dimensional drawings



a) KOA 217/KOA 218: 83 mm
KOA 417/KOA 418: 95 mm
5 time ranges + 15 mm
Versions for direct current:
+ 18 mm

Summary list



Manual start timer with manual reset	Manual start timer with automatical reset on t																																				
KOA 217/KOA 417	KOA 218/KOA 418																																				
<p>Function diagram</p> <p>KOA 217 KOA 417</p> <table border="1"> <tr> <td>A1/A2</td> <td>A1/A2</td> </tr> <tr> <td>25 28</td> <td>48</td> </tr> <tr> <td>26 26</td> <td>45 48</td> </tr> <tr> <td>15 18</td> <td>38</td> </tr> <tr> <td>16 16</td> <td>35 36</td> </tr> <tr> <td></td> <td>28</td> </tr> <tr> <td></td> <td>25 26</td> </tr> <tr> <td></td> <td>18</td> </tr> <tr> <td></td> <td>15 16</td> </tr> </table>	A1/A2	A1/A2	25 28	48	26 26	45 48	15 18	38	16 16	35 36		28		25 26		18		15 16	<p>Function diagram</p> <p>KOA 218 KOA 418</p> <table border="1"> <tr> <td>A1/A2</td> <td>A1/A2</td> </tr> <tr> <td>25 28</td> <td>48</td> </tr> <tr> <td>26 26</td> <td>45 48</td> </tr> <tr> <td>15 18</td> <td>38</td> </tr> <tr> <td>16 16</td> <td>35 36</td> </tr> <tr> <td></td> <td>28</td> </tr> <tr> <td></td> <td>25 26</td> </tr> <tr> <td></td> <td>18</td> </tr> <tr> <td></td> <td>15 16</td> </tr> </table>	A1/A2	A1/A2	25 28	48	26 26	45 48	15 18	38	16 16	35 36		28		25 26		18		15 16
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<p>Function description</p> <p>On operating the push-button the snap-action switches operate for the previously selected time t (running time t indicated by the rotating pointer). For a new run the time has to be set again and started by actuating the push-button.</p> <p>On interruption of the supply, standstill occurs without reset, i.e. the timing run continues when the supply is restored (permits time addition).</p>	<p>On actuating the push-button the snap-action switches operate for the time t (without timing run indication). Automatic reset to t takes place after the run. Restart by actuating push-button. On interruption of the supply standstill takes place without reset, i.e. the timing run continues when the supply is restored (permits time addition).</p> <p>The variant with separate motor control both eliminates the motor start delay and provides 2 or 4 potential-free outputs.</p>																																				
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<p>Supply voltage u_n</p> <p>12 VAC, 24 VAC, 36 VAC, 48 VAC, 110 VAC, 220 ... 240 VAC, 380 VAC; 50 Hz or 60 Hz</p> <p>12 VDC, 24 VDC, 48 VDC, 110 VDC</p>																																					

¹⁾ The motor power consumption of 3W should be taken into account if motor contact 28 or 48 are used.

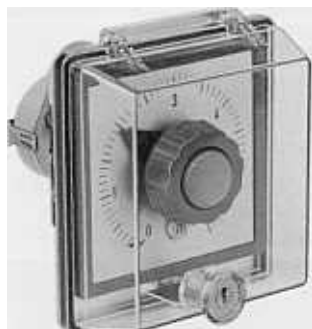
Ordering details

KOA



Time range selection on the versions with 5 time ranges is from the front with the aid of a screwdriver. (Changeover with knob available on request). The full time range value is displayed under the setting knob.

Accessories



Protective transparent cover as protection against unauthorized setting. Order number: CJ385

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII
Output	K	O	A		1			E	0				N
2 2 timed contacts													
4 4 timed contacts													
Function													
7 with progress indication; without reset (repeated adjustment necessary)													
8 without progress indication; automatic reset													
Time range													
EA 0.2 ... 12 s	JA 0.1 ... 6 min	QA 0.1 ... 6 h											
FA 0.5 ... 30 s	KA 0.2 ... 12 min	RA 0.2 ... 12 h											
GA 1 ... 60 s	LA 0.5 ... 30 min	SA 0.5 ... 30 h											
HA 2 ... 120 s	NA 1 ... 60 min	TA 1 ... 48 h											
	PA 2 ... 120 min	UA 2 ... 96 h											
5 time ranges (full time range-values)													
MQ 6 s, 60 s, 6 min, 60 min, 6 h													
MR 12 s, 120 s, 12 min, 120 min, 12 h													
MS 30 s, 300 s, 30 min, 300 min, 30 h													
Supply voltage													
50 Hz	60 Hz	DC											
B1 12V	G1 12V	M1 12V											
B4 24V	G4 24V	M4 24V											
B6 36V	G6 36V	N1 48V											
C1 48V	H1 48V	N8 110V											
C8 110 V	H8 110V												
E1 220 - 240 V	K1 220 - 240 V												
E4 380V	K4 380V												
Accessories (to order separately)	CJ385	Transparent cover											
Note:	The bold typeface denotes the standard versions. Ordering can be by means of the above ASN-code or in plain language.												
Example:	Manual start timer KOA 220 VAC/50 Hz, 6 s to 6 h, with progress indication, 2 timed contacts. or KOA217E0MQE1N												