



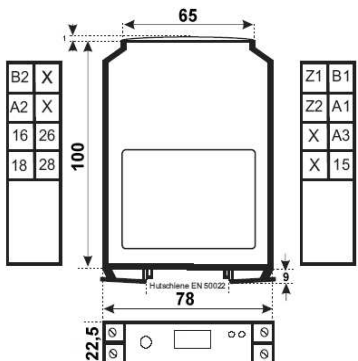
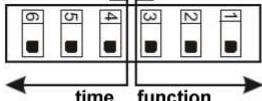
Timer

Content



Type	Function	Width	Contacts	Page
GZU1-ZR	Multifunction, 8 time ranges, 5 Functions, x1	22,5 mm	2	1
GZU3-ZR	Multifunction, 8 time ranges, 5 Functions, x3	22,5 mm	2	1
GZU1-Z-ZR	Multifunction with safety contacts, x1	22,5 mm	2	2
GZU3-Z-ZR	Multifunction with safety contacts, x3	22,5 mm	2	2
GZU0.5-Z-ZR	Fixed 0.5sec delay on release, safety contacts	22,5 mm	2	4
GZF	Off delay without auxiliary voltage supply	22,5 mm	2	5
SMR	Multifunction, 8 time ranges, 6 Functions	11.3 mm	1	6
SA	Delay-on operate, 16 time ranges	11.3 mm	1	7
SAB	Delay-on release, 16 time ranges	11.3 mm	1	8
ZA2	Delay-on operate, 16 time ranges	17.5 mm	2	9
ZA1/1	Delay-on operate, 1 immediate / 1 delayed cont.	17.5 mm	2	10
ZAB2	Delay-on release, 16 time ranges	17.5 mm	2	11
ZEW2	Pulse-on operate, 16 time ranges	17.5 mm	2	12
ZAW2	Pulse-on release, 16 time ranges	17.5 mm	2	13
ZBR2	Flasher beginning with on, 16 time ranges	17.5 mm	2	14
ZBR2	Flasher beginning with off, 16 time ranges	17.5 mm	2	15
ZTG	Pulse generator pulse beginning, 16 time ranges	17.5 mm	2	16
ZTG	Pulse generator pause beginning, 16 time ranges	17.5 mm	2	17
GTG	Pulse generator with remote potentiometer	22.5 mm	2	18
ZSD	Star-delta relay, 8 time ranges	17.5 mm	2	19
ZKS	Contact protection relay	17.5 mm	2	20

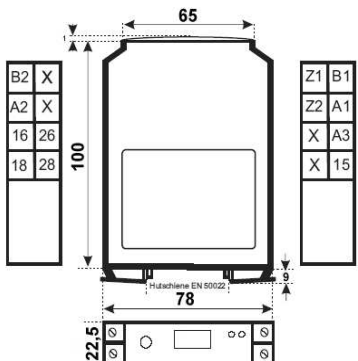
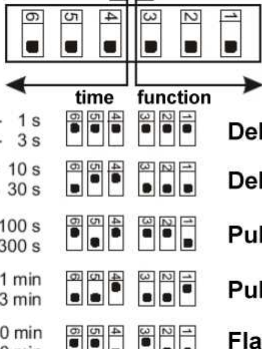
Multi-function timer GZU-ZR, 22.5 mm wide, 8 time intervals, 5 functions

Picture	Function	Range	Voltage	Contacts	List price €
 GZU1-ZR	Delay - on	0,01 .. 1 s	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	2 Changeover 4 A	
	Delay - Off	0,1 .. 10 s 1 ..100 s			
	Pulse - On	0,01 .. 1 min 0,1 .. 10 min			
	Pulse - Off	1 ..100 min 0,01 .. 1 h			
	Flasher beginning On	0,01 .. 10 h			
 GZU3-ZR	Delay - on	0,03 .. 3 s	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	2 Changeover 4 A	
	Delay - Off	0,3 .. 30 s 3 ..300 s			
	Pulse - On	0,03 .. 3 min 0,3 .. 30 min			
	Pulse - Off	3 ..300 min 0,03 .. 3 h			
	Flasher beginning On	0,03 .. 30 h			
Function	The GZU-ZR Multi-function timer offers 5 selectable timing functions and 8 different timing intervals in one unit. The function and timing intervals can be adjusted with DIP switches on the front panel of the relay. The multi-function timer can operate on either AC or DC voltage using two separate connections.				
Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz				
Contacts	2 changeover 4 A, 250 V AC, max. 10 switching cycles/ minute				
Influence	< 0.1 % voltage, < 0.1%/ °C temperature				
LED	Green power supply, yellow relay operation				
Remote potentiometer	10 K Ohm linear, max. wire length 20 m, resolution 128 steps (option)				
Repeatability	+/- 2%				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	78 x 22,5 x 110 mm (L x W x H), 109 g				
Type	GZU1-ZR 1 sec x absolute scaling GZU3-ZR 3 sec x absolute scaling				

Dimension	Ranges																																																		
	 <table border="0"> <tr> <td>0,01 - 1 s</td> <td></td> <td>Delay-on</td> <td>1 - 100 min</td> <td></td> </tr> <tr> <td>0,03 - 3 s</td> <td></td> <td></td> <td>3 - 300 min</td> <td></td> </tr> <tr> <td>0,1 - 10 s</td> <td></td> <td>Delay-off *</td> <td>0,01 - 1 h</td> <td></td> </tr> <tr> <td>0,3 - 30 s</td> <td></td> <td></td> <td>0,03 - 3 h</td> <td></td> </tr> <tr> <td>1 - 100 s</td> <td></td> <td>Pulse-on</td> <td>0,1 - 10 h</td> <td></td> </tr> <tr> <td>3 - 300 s</td> <td></td> <td></td> <td>0,3 - 30 h</td> <td></td> </tr> <tr> <td>0,01 - 1 min</td> <td></td> <td>Pulse-off *</td> <td></td> <td></td> </tr> <tr> <td>0,03 - 3 min</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>0,1 - 10 min</td> <td></td> <td>Flasher</td> <td></td> <td></td> </tr> <tr> <td>0,3 - 30 min</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>* with potential-free control contacts</p>	0,01 - 1 s		Delay-on	1 - 100 min		0,03 - 3 s			3 - 300 min		0,1 - 10 s		Delay-off *	0,01 - 1 h		0,3 - 30 s			0,03 - 3 h		1 - 100 s		Pulse-on	0,1 - 10 h		3 - 300 s			0,3 - 30 h		0,01 - 1 min		Pulse-off *			0,03 - 3 min					0,1 - 10 min		Flasher			0,3 - 30 min				
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Multi-function safety timer GZU-Z-ZR, 22.5 mm wide, 8 time intervals, 5 functions

Picture	Function	Range	Voltage	Contacts	List price €
 GZU1-Z-ZR	Delay - on	0,01 .. 1 s	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	2 Changeover 4 A Safety relay	
	Delay - Off	0,1 .. 10 s 1 ..100 s			
	Pulse - On	0,01 .. 1 min 0,1 .. 10 min			
	Pulse - Off	1 ..100 min 0,01 .. 1 h			
	Flasher beginning On	0,01 .. 10 h			
 GZU3-Z-ZR	Delay - on	0,03 .. 3 s	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	2 Changeover 4 A Safety relay	
	Delay - Off	0,3 .. 30 s 3 ..300 s			
	Pulse - On	0,03 .. 3 min 0,3 .. 30 min			
	Pulse - Off	3 ..300 min 0,03 .. 3 h			
	Flasher beginning On	0,03 .. 30 h			
Function	The GZU-Z-ZR Multi-function timer offers 5 selectable timing functions and 8 different timing intervals in one unit. The function and timing intervals can be adjusted with DIP switches on the front panel of the relay. The multi-function timer can operate on either AC or DC voltage using two separate connections. The timer contains safety relay contacts.				
Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz				
Contacts	2 changeover 4 A, 250 V AC, max. 10 switching cycles/ minute				
Influence	< 0.1 % voltage, < 0.1%/ °C temperature				
LED	Green power supply, yellow relay operation				
Remote potentiometer	10 K Ohm linear, max. wire length 20 m, resolution 128 steps (option)				
Repeatability	+/- 2%				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	78 x 22,5 x 110 mm (L x W x H), 109 g				
Type	GZU1-Z-ZR		1 sec x absolute scaling		
	GZU3-Z-ZR		3 sec x absolute scaling		

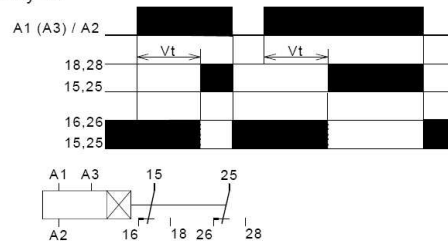
Dimension	Ranges																																																		
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Function

Delay-on operate: Timing begins with the connection of the power supply. After the set time has elapsed, the output relay is energized. The yellow LED indicates the working position of the output contact. If the supply voltage is disconnected, the output relay resets and the elapsed time is cancelled. If the supply voltage is disconnected during the reset time, the timer returns to its original state.

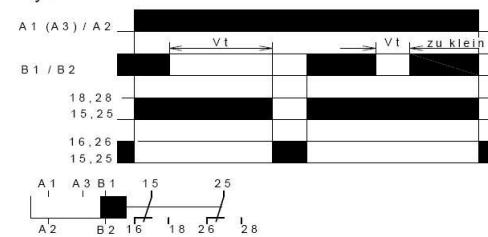
Function diagram

Delay on



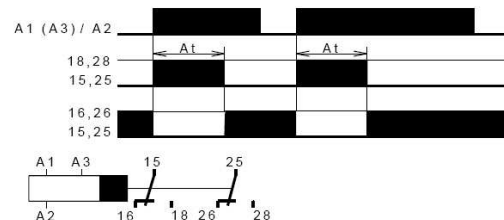
Delay-on release: Continuous presence of the power supply connected to the terminals A1 and A2 or A3 and A2 is required for timing. The activation of the timing function is accomplished with an external potential-free control contact, which is connected to the terminals B1 and B2. If this control contact is closed then the output relay is energized. With the opening of the control contact, the timer is started, and the set time begins to count down. After the delay time has elapsed, the output relay is de-energized. If during or upon completion of the timing function the control contact is closed and reopened, the timing period begins again. This also applies if the supply is disconnected during the timing period.

Delay off



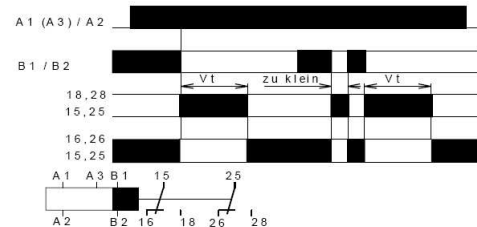
Pulse-on operate: The timing begins with the connection of the power supply to the terminals A1 and A2 or A3 and A2. After applying the power supply the output relay is energized without delay and is de-energized after the pulse set time has elapsed. The yellow LED indicates the working position of the output relay. If the power supply is disconnected before the set pulse time has elapsed, the output relay is de-energized with no delay. This also applies if the supply is disconnected during the timing period.

Pulse on



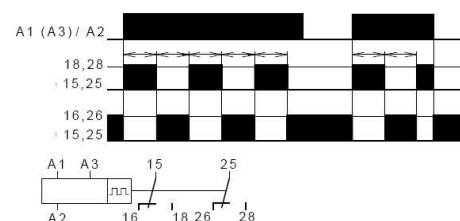
Pulse-on release: Continuous presence of the power supply connected to the terminals A1 and A2 or A3 and A2 is required for timing. The activation of the timing function is accomplished with an external potential-free control contact, which is connected to the terminals B1 and B2. When the power supply is applied, the control contact is opened, the output relay is energized and the timing is started. The output relay stays active for the set pulse time and is de-energized after this time has elapsed. The yellow LED indicates the working position of the control contact. If during or upon completion of the timing function the control contact is closed and reopened, the timing period begins again. This also applies if the supply is disconnected during the timing period.

Pulse off

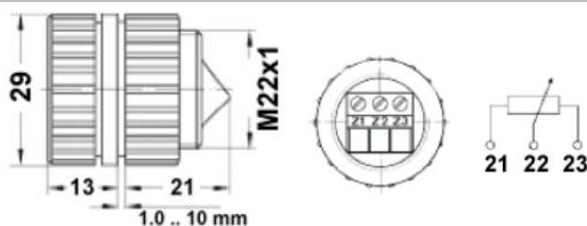


Flasher beginning with on: The timing begins with the connection of the power supply to the terminals A1 and A2 or A3 and A2. The timing cycle begins with a pulse. After completion of the selected delay time the output relay switches to its rest position. After renewed completion of the selected timing cycle the relay energizes to its working position. The yellow LED indicates the selected interval time of the output relay. This cycle repeats as long as the power supply is connected. Should the power supply be disconnected during the reset time, the timer returns to its original state. This also applies if the supply is disconnected during the timing period.

Flasher on




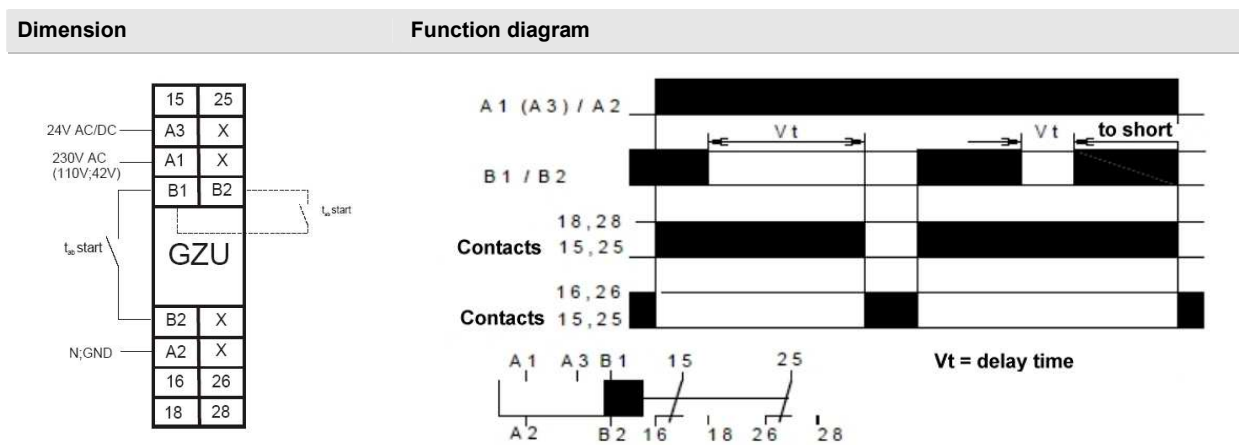
Remote control




- 326101 F11/ 10kOhm/ 1 sec
- 326201 F11/ 10kOhm/ 3 sec
- 326903 F11/ 10kOhm/ 10 neutral

Timer GZU 0.5-Z-ZR, 22.5 mm wide, fixed 0.5sec delay on release, with safety contacts

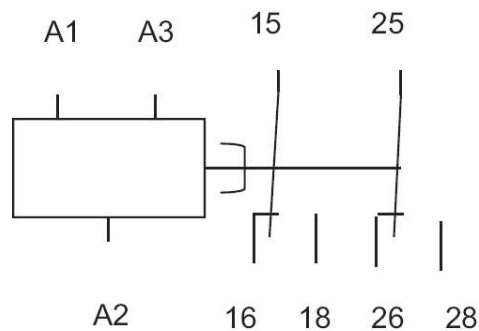
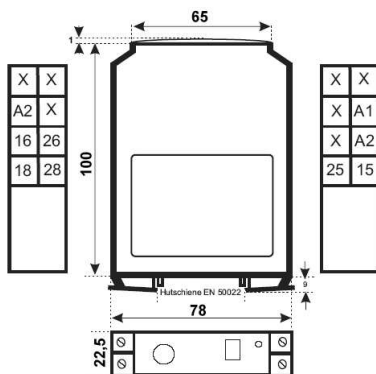
Picture	Function	Range	Voltage	Contacts	List price €
 <p>GZU 0.5-Z-ZR</p>	Delay on release	0.5 s fixed	24 V AC/DC + 230 V AC 24 V AC/DC + 110 V AC 24 V AC/DC + 42 V AC/DC	2 Changeover 4 A Safety relay	
Function	The GZU-Z 0,5s timer offers a fixed 0.5sec delay-on release with safety contacts. The power supply 230V AC (42V;110V) may be connected to terminal A1 / A2 or 24 V AC/DC to terminal A3 / A4 and will be indicated with a green LED.				
Supply Voltage	24 V AC/DC +230 V AC / 24 V AC/DC + 110 V AC / 24 V AC/DC + 42 V AC (-15/+10%)				
Contacts	2 changeover 4 A, 250 V AC, max. 10 switching cycles/ minute				
Influence	< 0.01 % voltage, < 0.05%/ °C temperature				
Repeatability	+/- 0.02%				
LED	Green power supply, yellow relay operation				
Remote potentiometer	10 K Ohm linear, max. wire length 20 m, resolution 128 steps (option)				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	78 x 22,5 x 110 mm (L x W x H), 102 g				
Type	GZU 0.5-Z-ZR GZU 0.5-Z-ZR GZU 0.5-Z-ZR	022002 022003 022004	24 V AC/DC + 230 V AC 24 V AC/DC + 110 V AC 24 V AC/DC + 42 V AC/DC		



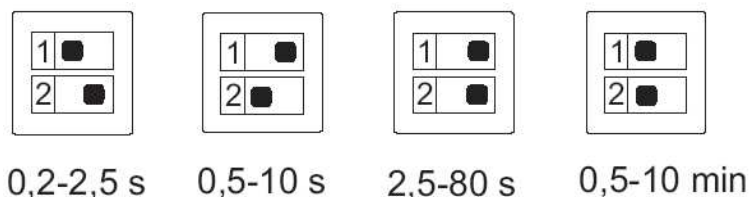
Timer GZF, off delay without auxiliary voltage supply, 22.5 mm wide

Picture	Function	Range	Voltage	Contacts	List price €
	Off delay without auxiliary voltage supply	0,2 .. 2,5 s 2,5 .. 80 s 0,5 .. 10 s 0,5 .. 10 min	Multi voltage supply 20 .. 26 V AC/DC + 230 V AC	2 Changeover 4 A	
Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz				
Contacts	2 changeover 4 A, 250 V AC, max. 10 switching cycles/ minute				
Influence	< 0.1 % voltage, < 0.1%/ °C temperature				
Repeatability	+/- 2%				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	78 x 22,5 x 110 mm (L x W x H), 109 g				
Type	GZF				


Dimension	Connection Diagram
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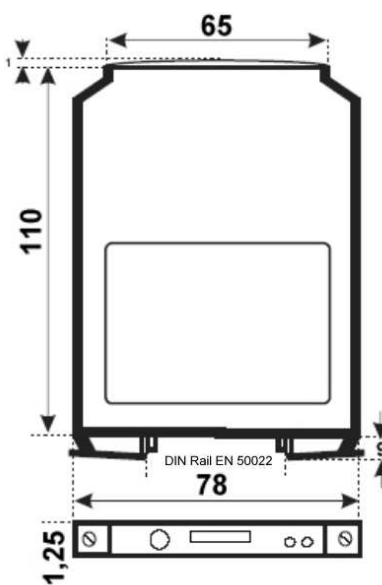



Range




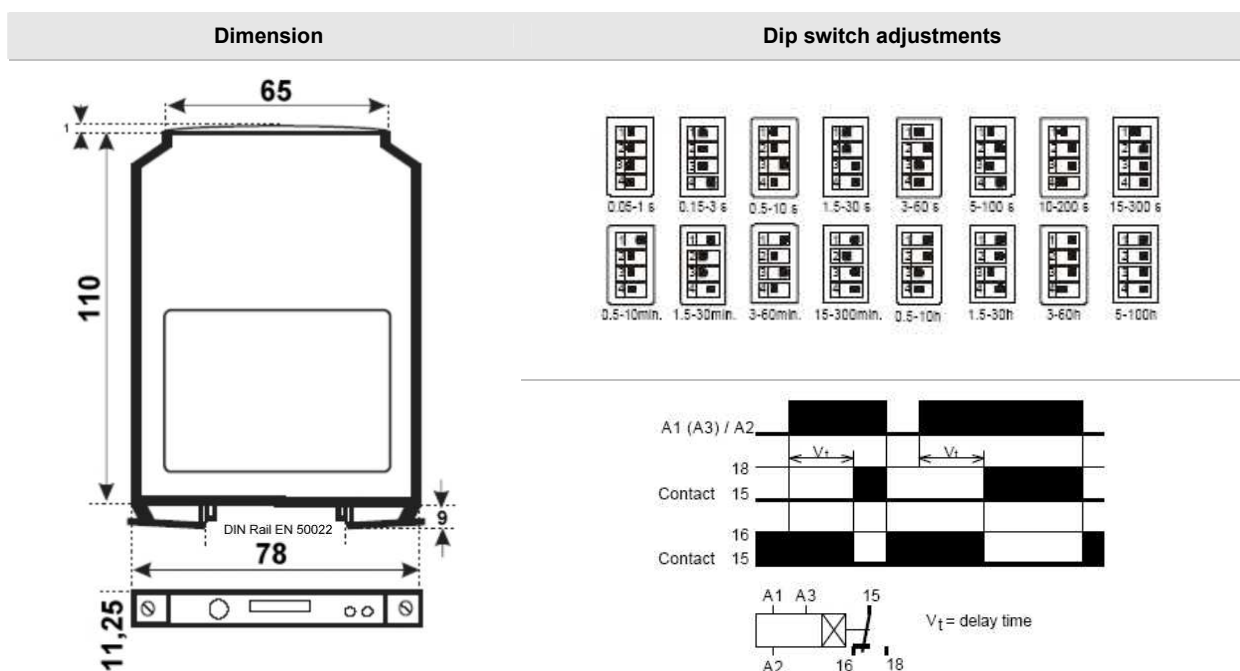
Multi-function timer SMR, 11.25 mm wide, 1 changeover, 5 functions

Picture	Function	Range	Voltage	Contacts	List price €
	Delay - on	0,05 .. 1 s	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	1 Changeover 4 A	
	Delay - Off	0,5 .. 10 s			
	Pulse - On	3 .. 60 s			
	Pulse - Off	5 ..100 s			
	Flasher beginning On	0,5 .. 10 min			
	Flasher beginning On	3 .. 60 min			
		5 ..100 min			
<p>The SMR Multi-function timer offers 6 selectable timing functions and 8 different timing intervals in one unit. The function and timing intervals can be adjusted with DIP switches on the front panel of the relay. The multi-function timer can operate on either AC or DC voltage using two separate connections. To connect to 230V AC the terminals A1 and A2 are used. For a connection with 24V DC use the terminals A3 and A2. The green LED indicates the connection to the power supply. Timing commences with the connection of the power supply or with a potential-free control contact connected to the terminals B1 and B2.</p>					
Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz				
Contacts	1 changeover 4 A, 250 V AC, max. 6 switching cycles/ minute				
Influence	< 0.01 % voltage, < 0.01%/ °C temperature				
Repeatability	+/- 0.2%				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	78 x 11,25 x 110 mm (L x W x H), 66 g				
Type	SMR				


Dimension	Ranges																																				
	 <table border="0"> <thead> <tr> <th></th> <th>Time</th> <th>Function</th> <th></th> </tr> </thead> <tbody> <tr> <td>0.05 - 1s</td> <td></td> <td>Delay-on</td> <td></td> </tr> <tr> <td>0.5 - 10s</td> <td></td> <td>Delay-off*</td> <td></td> </tr> <tr> <td>3 - 60s</td> <td></td> <td>Pulse-on</td> <td></td> </tr> <tr> <td>5 - 100s</td> <td></td> <td>Pulse off *</td> <td></td> </tr> <tr> <td>0.5 - 10 min.</td> <td></td> <td>Flasher-off</td> <td></td> </tr> <tr> <td>3 - 60 min.</td> <td></td> <td>Flasher-on</td> <td></td> </tr> <tr> <td>5 - 100 min.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>0.5 - 10 h</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>*with potential-free control contact</p>		Time	Function		0.05 - 1s		Delay-on		0.5 - 10s		Delay-off*		3 - 60s		Pulse-on		5 - 100s		Pulse off *		0.5 - 10 min.		Flasher-off		3 - 60 min.		Flasher-on		5 - 100 min.				0.5 - 10 h			
	Time	Function																																			
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0.5 - 10s		Delay-off*																																			
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3 - 60 min.		Flasher-on																																			
5 - 100 min.																																					
0.5 - 10 h																																					

Timer SA, 11.25 mm wide, delay-on operate, 1 changeover, 16 time ranges

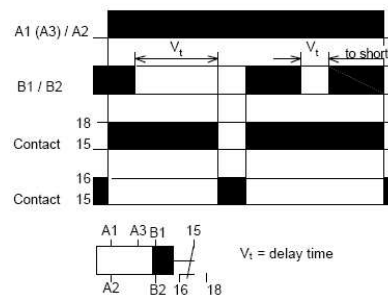
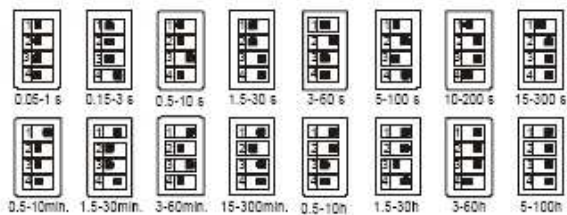
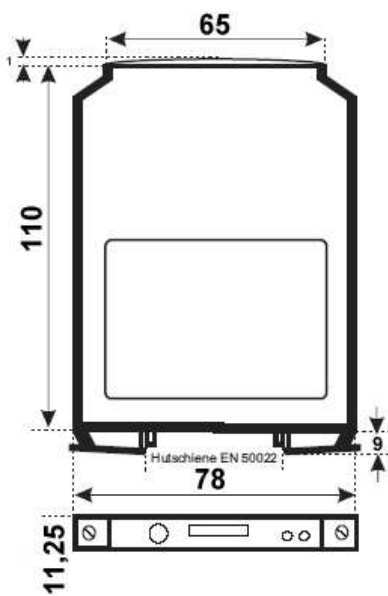
Picture	Function	Range	Voltage	Contacts	List price €
	Delay-on operate	0,05 .. 1 s	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	1 Changeover 4 A	
		0,15 .. 3 s			
0,5 .. 10 s					
1,5 .. 30 s					
3 .. 60 s					
5 .. 100 s					
10 .. 200 s					
15 .. 300 s					
0,5 .. 10 min					
1,5 .. 30 min					
3 .. 60 min					
15 .. 300 min					
0,5 .. 10 h					
1,5 .. 30 h					
3 .. 60 h					
5 .. 100 h					
<p>The SA Delay-on operate timer offers 16 different timing intervals in one unit. The timing intervals can be adjusted with DIP switches on the front panel of the relay. The timer can operate on either 230V AC using terminals A1 and A2 or 24V DC using terminals A3 and A2. The green LED indicates the connection to the power supply.</p>					
Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz				
Contacts	1 changeover 4 A, 250 V AC, max. 6 switching cycles/ minute				
Influence	< 0.01 % voltage, < 0.01% / °C temperature				
Repeatability	+/- 0.2%				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	78 x 11,25 x 110 mm (L x W x H), 66 g				
Type	SA				




Timer SAB, 11.25 mm wide, delay-on release, 1 changeover, 16 time ranges

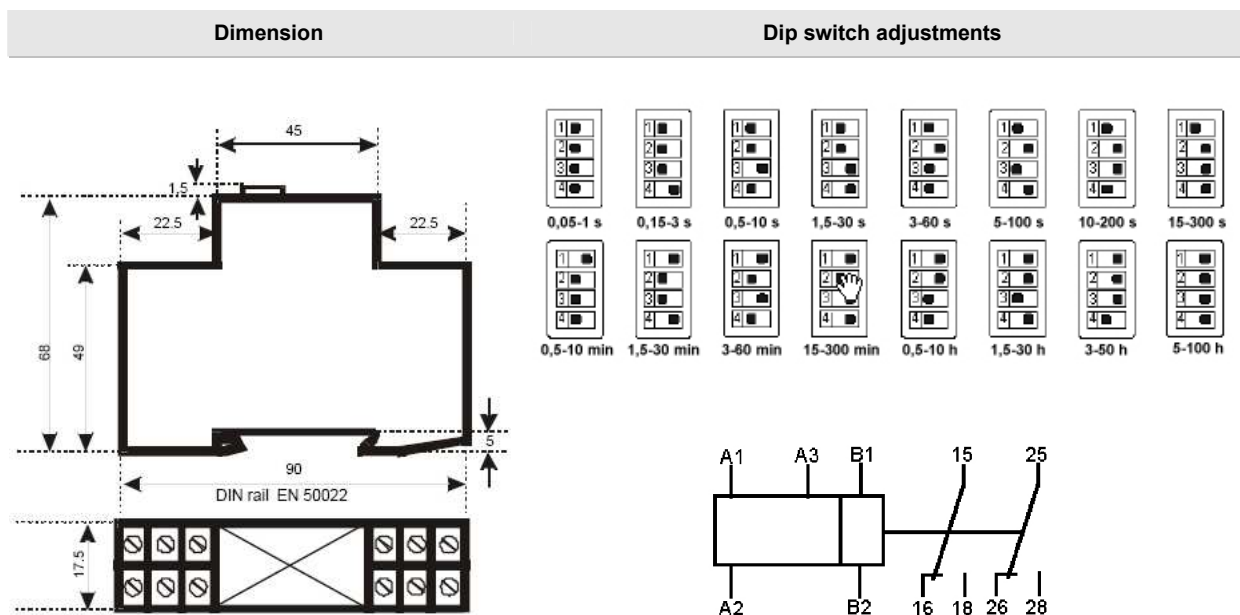
Picture	Function	Range	Voltage	Contacts	List price €
	Delay-on release	0,05 .. 1 s 0,15 .. 3 s 0,5 .. 10 s 1,5 .. 30 s 3 .. 60 s 5 ..100 s 10 ..200 s 15 ..300 s	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	1 changeover 4 A	
		0,5 .. 10 min 1,5 .. 30 min 3 .. 60 min 15 ..300 min 0,5 .. 10 h 1,5 .. 30 h 3 .. 60 h 5 ..100 h			
<p>The SAB Delay-on release timer offers 16 different timing intervals in one unit. The timing intervals can be adjusted with DIP switches on the front panel of the relay. The timer can operate on either 230V AC using terminals A1 and A2 or 24V DC using terminals A3 and A2. The green LED indicates the connection to the power supply.</p>					
Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz				
Contacts	1 changeover 4 A, 250 V AC, max. 6 switching cycles/ minute				
Influence	< 0.01 % voltage, < 0.01%/ °C temperature				
Repeatability	+/- 0.2%				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	78 x 11,25 x 110 mm (L x W x H), 66 g				
Type	SAB				

Dimension Dip switch adjustments




Timer ZA2, 17,5 mm wide, delay-on operate, 2 changeover, 16 time ranges

Picture	Function	Range	Voltage	Contacts	List price €
	Delay-on operate	0,05 .. 1 s	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	2 changeover 4 A	
		0,15 .. 3 s			
0,5 .. 10 s					
1,5 .. 30 s					
3 .. 60 s					
5 ..100 s					
10 ..200 s					
15 ..300 s					
0,5 .. 10 min					
1,5 .. 30 min					
3 .. 60 min					
15 ..300 min					
0,5 .. 10 h					
1,5 .. 30 h					
3 .. 60 h					
5 ..100 h					
<p>The ZA2 Delay-on operate timer offers 16 different timing intervals in one unit. The timing intervals can be adjusted with DIP switches on the front panel of the relay. The timer can operate on either 230V AC using terminals A1 and A2 or 24V DC using terminals A3 and A2. The green LED indicates the connection to the power supply.</p>					
Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz				
Contacts	2 changeover 4 A, 250 V AC, max. 6 switching cycles/ minute				
Influence	< 0.01 % voltage, < 0.01%/ °C temperature				
Repeatability	+/- 0.2%				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	90 x 17,5 x 70 mm (L x W x H), 104 g				
Type	ZA2				

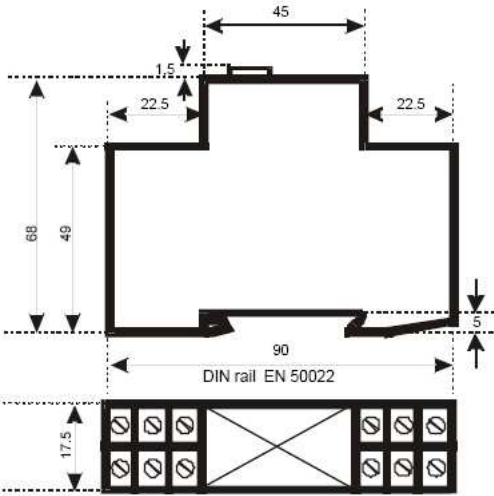
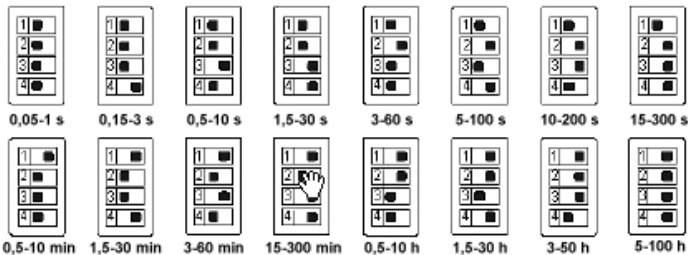
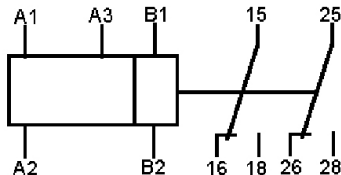


Timer ZA1/1, 17,5 mm wide, delay-on operate, 1 immediate / 1 delayed changeover
Timer ZA1/1, 17,5 mm wide, delay-on operate, 1 immediate / 1 delayed changeover


Picture	Function	Range	Voltage	Contacts	List price €
	Delay-on operate	0,05 .. 1 s	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	1 immediate + 1 delayed changeover 4 A	
		0,15 .. 3 s			
0,5 .. 10 s					
1,5 .. 30 s					
3 .. 60 s					
5 ..100 s					
10 ..200 s					
15 ..300 s					
0,5 .. 10 min					
1,5 .. 30 min					
3 .. 60 min					
15 ..300 min					
0,5 .. 10 h					
1,5 .. 30 h					
3 .. 60 h					
5 ..100 h					

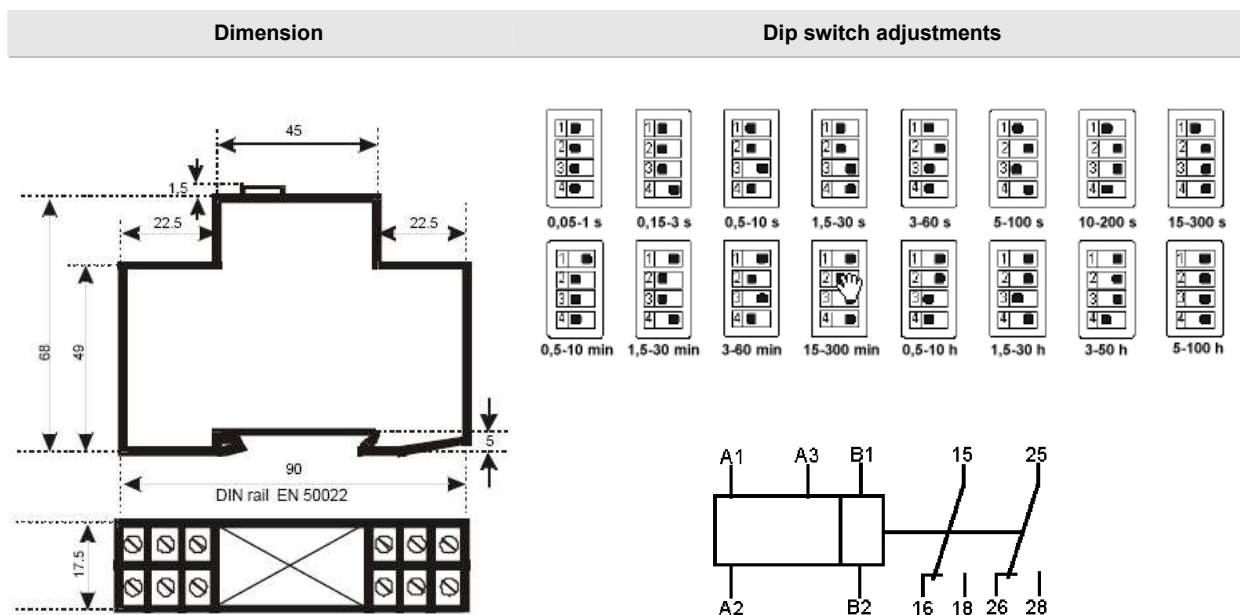
The ZA1/1 timer – delay-on operate offers 16 different timing intervals in one unit. The timing intervals can be adjusted with DIP switches on the front panel of the relay. The timer can operate on either 230V AC using terminals A1 and A2 or 24V DC using terminals A3 and A2. The green LED indicates the connection to the power supply.

Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz
Contacts	2 changeover 4 A, 250 V AC, max. 6 switching cycles/ minute
Influence	< 0.01 % voltage, < 0.01%/ °C temperature
Repeatability	+/- 0.2%
Working temperature	-25 ... + 60° C
Test voltage	2.5 KV / VDE 0110 Group C 250
Terminals	Crosshead – screws, M3,5
Connection cross section	2 x 2,5 mm ²
Dimension	90 x 17,5 x 70 mm (L x W x H), 104 g
Type	ZA1/1


Dimension	Dip switch adjustments
	
	

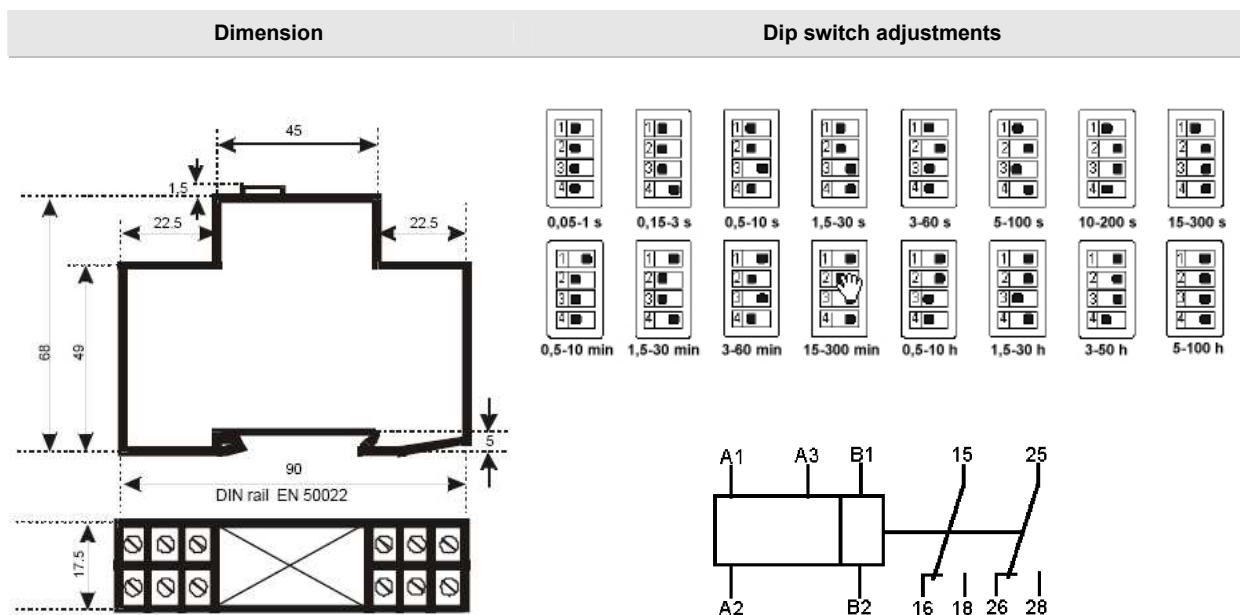
Timer ZAB2, 17,5 mm wide, delay-on release, 2 changeover, 16 time ranges

Picture	Function	Range	Voltage	Contacts	List price €
	Delay-on release	0,05 .. 1 s 0,15 .. 3 s 0,5 .. 10 s 1,5 .. 30 s 3 .. 60 s 5 .. 100 s 10 .. 200 s 15 .. 300 s	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	2 changeover 4 A	
		0,5 .. 10 min 1,5 .. 30 min 3 .. 60 min 15 .. 300 min 0,5 .. 10 h 1,5 .. 30 h 3 .. 60 h 5 .. 100 h			
<p>The ZAB2 Delay-on release timer offers 16 different timing intervals in one unit. The timing intervals can be adjusted with DIP switches on the front panel of the relay. The timer can operate on either 230V AC using terminals A1 and A2 or 24V DC using terminals A3 and A2. The green LED indicates the connection to the power supply.</p>					
Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz				
Contacts	2 changeover 4 A, 250 V AC, max. 6 switching cycles/ minute				
Influence	< 0.01 % voltage, < 0.01%/ °C temperature				
Repeatability	+/- 0.2%				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	90 x 17,5 x 70 mm (L x W x H), 104 g				
Type	ZAB2				




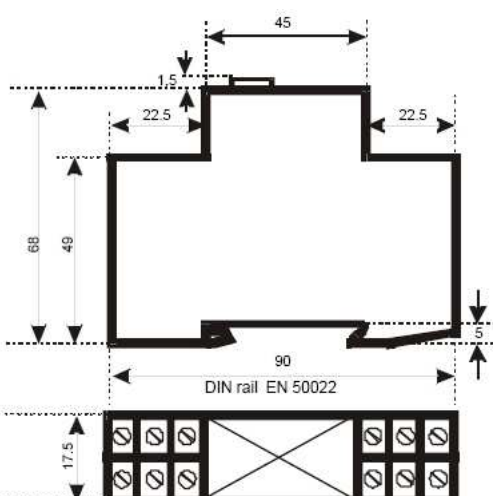
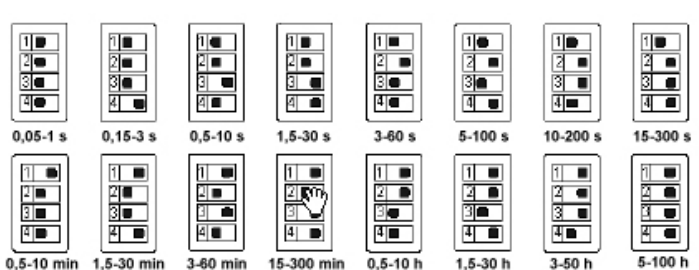
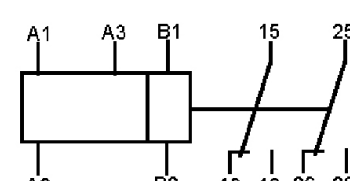
Timer ZEW2, 17,5 mm wide, pulse-on operate, 2 changeover, 16 time ranges

Picture	Function	Range	Voltage	Contacts	List price €
	Pulse-on operate	0,05 .. 1 s	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	2 changeover 4 A	
		0,15 .. 3 s			
0,5 .. 10 s					
1,5 .. 30 s					
3 .. 60 s					
5 ..100 s					
10 ..200 s					
15 ..300 s					
0,5 .. 10 min					
1,5 .. 30 min					
3 .. 60 min					
15 ..300 min					
0,5 .. 10 h					
1,5 .. 30 h					
3 .. 60 h					
5 ..100 h					
<p>The ZEW2 Pulse-on operate timer offers 16 different timing intervals in one unit. The timing intervals can be adjusted with DIP switches on the front panel of the relay. The timer can operate on either 230V AC using terminals A1 and A2 or 24V DC using terminals A3 and A2. The green LED indicates the connection to the power supply.</p>					
Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz				
Contacts	2 changeover 4 A, 250 V AC, max. 6 switching cycles/ minute				
Influence	< 0.01 % voltage, < 0.01%/ °C temperature				
Repeatability	+/- 0.2%				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	90 x 17,5 x 70 mm (L x W x H), 104 g				
Type	ZEW2				




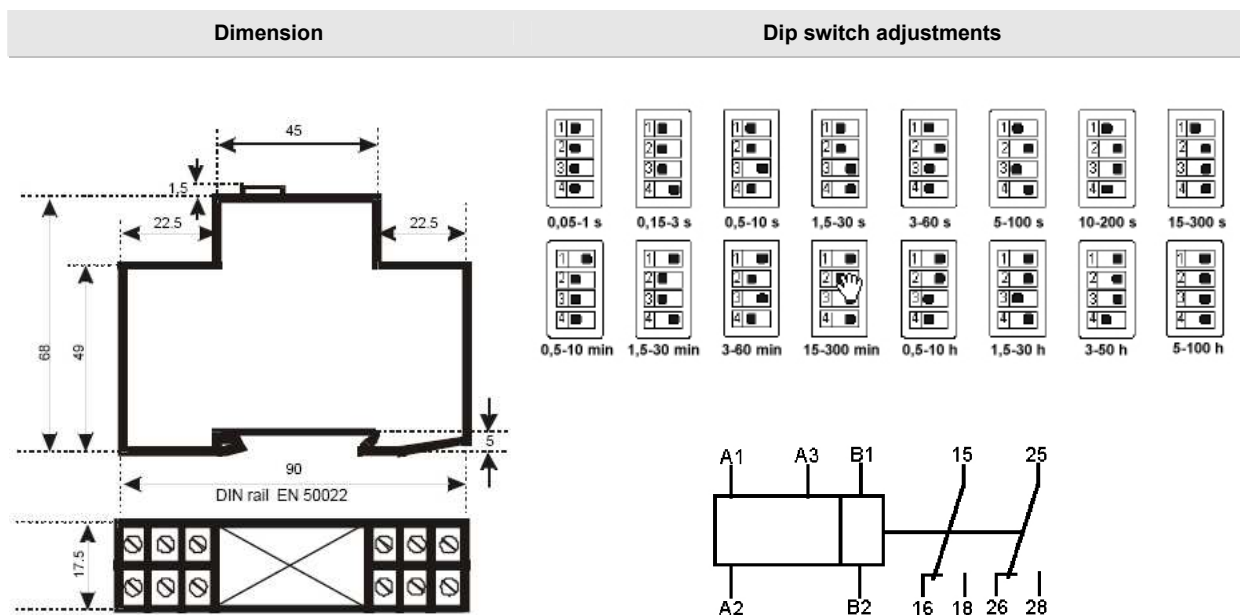
Timer ZAW2, 17,5 mm wide, pulse-on release, 2 changeover, 16 time ranges

Picture	Function	Range	Voltage	Contacts	List price €
	Pulse-on release	0,05 .. 1 s	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	2 changeover 4 A	
		0,15 .. 3 s			
0,5 .. 10 s					
1,5 .. 30 s					
3 .. 60 s					
5 ..100 s					
10 ..200 s					
15 ..300 s					
0,5 .. 10 min					
1,5 .. 30 min					
3 .. 60 min					
15 ..300 min					
0,5 .. 10 h					
1,5 .. 30 h					
3 .. 60 h					
5 ..100 h					
<p>The ZAW2 Pulse-on release timer offers 16 different timing intervals in one unit. The timing intervals can be adjusted with DIP switches on the front panel of the relay. The timer can operate on either 230V AC using terminals A1 and A2 or 24V DC using terminals A3 and A2. The green LED indicates the connection to the power supply.</p>					
Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz				
Contacts	2 changeover 4 A, 250 V AC, max. 6 switching cycles/ minute				
Influence	< 0.01 % voltage, < 0.01%/ °C temperature				
Repeatability	+/- 0.2%				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	90 x 17,5 x 70 mm (L x W x H), 104 g				
Type	ZAW2				


Dimension	Dip switch adjustments
	
	

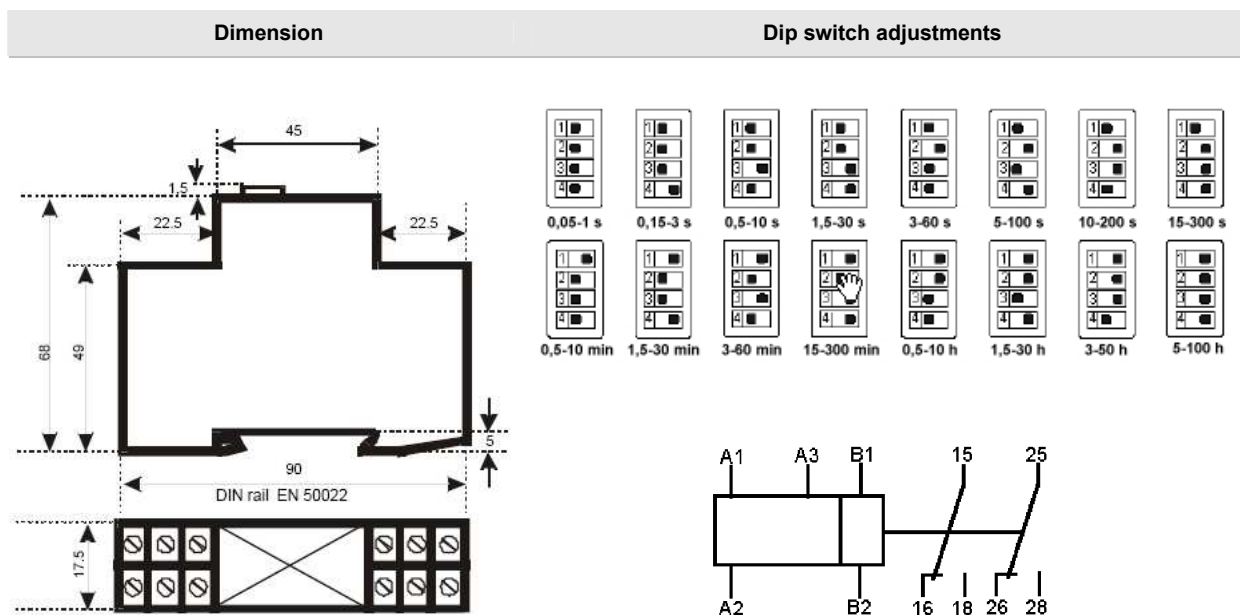
Timer ZBR2, 17,5 mm wide, flasher beginning with on, 2 changeover, 16 time ranges

Picture	Function	Range	Voltage	Contacts	List price €
	Flasher beginning with on	0,05 .. 1 s	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	2 changeover 4 A	
		0,15 .. 3 s			
0,5 .. 10 s					
1,5 .. 30 s					
3 .. 60 s					
5 ..100 s					
10 ..200 s					
15 ..300 s					
0,5 .. 10 min					
1,5 .. 30 min					
3 .. 60 min					
15 ..300 min					
0,5 .. 10 h					
1,5 .. 30 h					
3 .. 60 h					
5 ..100 h					
<p>The ZBR2 Flasher beginning with on timer offers 16 different timing intervals in one unit. The timing intervals can be adjusted with DIP switches on the front panel of the relay. The timer can operate on either 230V AC using terminals A1 and A2 or 24V DC using terminals A3 and A2. The green LED indicates the connection to the power supply.</p>					
Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz				
Contacts	2 changeover 4 A, 250 V AC, max. 6 switching cycles/ minute				
Influence	< 0.01 % voltage, < 0.01%/ °C temperature				
Repeatability	+/- 0.2%				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	90 x 17,5 x 70 mm (L x W x H), 104 g				
Type	ZBR2				




Timer ZBR2, 17,5 mm wide, flasher beginning with off, 2 changeover, 16 time ranges

Picture	Function	Range	Voltage	Contacts	List price €
	Flasher beginning with off	0,05 .. 1 s	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	2 changeover 4 A	
		0,15 .. 3 s			
0,5 .. 10 s					
1,5 .. 30 s					
3 .. 60 s					
5 ..100 s					
10 ..200 s					
15 ..300 s					
0,5 .. 10 min					
1,5 .. 30 min					
3 .. 60 min					
15 ..300 min					
0,5 .. 10 h					
1,5 .. 30 h					
3 .. 60 h					
5 ..100 h					
<p>The ZBR2 Flasher beginning with off timer offers 16 different timing intervals in one unit. The timing intervals can be adjusted with DIP switches on the front panel of the relay. The timer can operate on either 230V AC using terminals A1 and A2 or 24V DC using terminals A3 and A2. The green LED indicates the connection to the power supply.</p>					
Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz				
Contacts	2 changeover 4 A, 250 V AC, max. 6 switching cycles/ minute				
Influence	< 0.01 % voltage, < 0.01%/ °C temperature				
Repeatability	+/- 0.2%				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	90 x 17,5 x 70 mm (L x W x H), 104 g				
Type	ZBR2				

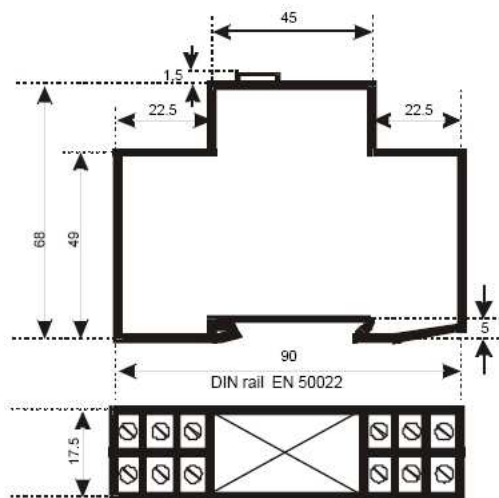


Pulse generator ZTG, 17,5 mm wide, pulse beginning, 2 changeover, 16 time ranges

Picture	Function	Range	Voltage	Contacts	List price €
	Pulse generator pulse beginning	0,05 .. 1 s	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	2 changeover 4 A	
		0,15 .. 3 s			
0,5 .. 10 s					
1,5 .. 30 s					
3 .. 60 s					
5 ..100 s					
10 ..200 s					
15 ..300 s					
0,5 .. 10 min					
1,5 .. 30 min					
3 .. 60 min					
15 ..300 min					
0,5 .. 10 h					
1,5 .. 30 h					
3 .. 60 h					
5 ..100 h					
<p>The ZTG Pulse generator (beginning with pulse) offers an independent regulation of the pulse and pause times, which are each adjusted with two independent potentiometers and DIP switches which are located on the front panel of the unit. The timer can operate on either 230V AC using terminals A1 and A2 or 24V DC using terminals A3 and A2. The green LED indicates the connection of the power supply.</p>					
Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz				
Contacts	2 changeover 4 A, 250 V AC, max. 6 switching cycles/ minute				
Influence	< 0.01 % voltage, < 0.01%/ °C temperature				
Repeatability	+/- 0.2%				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	90 x 17,5 x 70 mm (L x W x H), 104 g				
Type	ZTG				

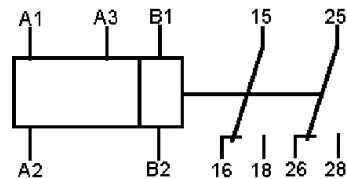
Dimension

Ordering / Contacts




Please specify timing range with order!!

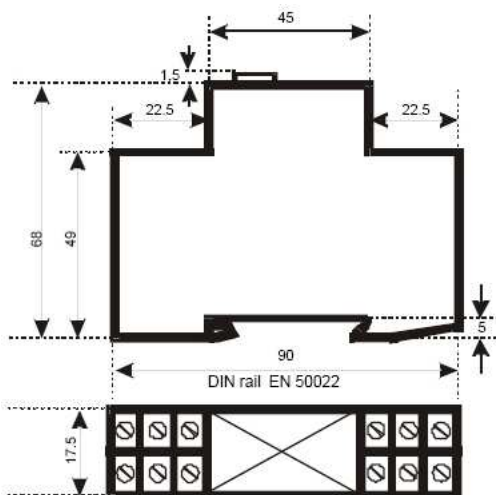
For example: ZTG pulse – 1,5...30s ; 0,5...10h



Pulse generator ZTG, 17,5 mm wide, pause beginning, 2 changeover, 16 time ranges

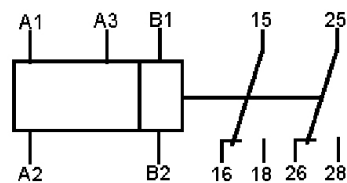
Picture	Function	Range	Voltage	Contacts	List price €
	Pulse generator pause beginning	0,05 .. 1 s	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	2 changeover 4 A	
		0,15 .. 3 s			
0,5 .. 10 s					
1,5 .. 30 s					
3 .. 60 s					
5 ..100 s					
10 ..200 s					
15 ..300 s					
0,5 .. 10 min					
1,5 .. 30 min					
3 .. 60 min					
15 ..300 min					
0,5 .. 10 h					
1,5 .. 30 h					
3 .. 60 h					
5 ..100 h					
<p>The ZTG Pulse generator (beginning with pause) offers an independent regulation of the pulse and pause times, which are each adjusted with two independent potentiometers and DIP switches which are located on the front panel of the unit. The timer can operate on either 230V AC using terminals A1 and A2 or 24V DC using terminals A3 and A2. The green LED indicates the connection of the power supply.</p>					
Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz				
Contacts	2 changeover 4 A, 250 V AC, max. 6 switching cycles/ minute				
Influence	< 0.01 % voltage, < 0.01%/ °C temperature				
Repeatability	+/- 0.2%				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	90 x 17,5 x 70 mm (L x W x H), 104 g				
Type	ZTG				

Dimension	Ordering / Contacts
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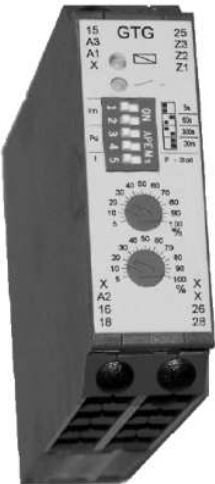


Please specify timing range with order!!

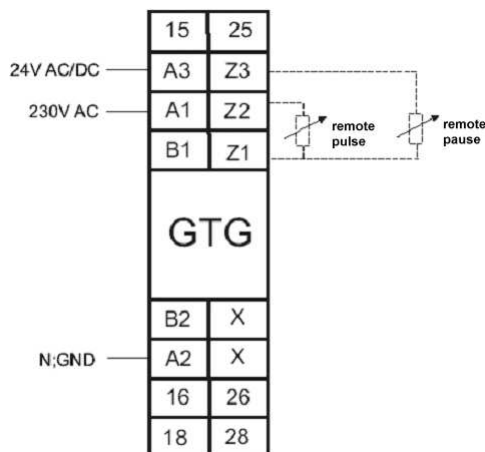
For example: ZTG pulse – 1,5...30s ; 0,5...10h



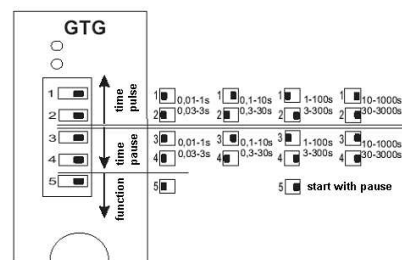
Pulse generator GTG, 22,5 mm wide, 2 changeover, 4 time ranges, remote control

Picture	Function	Range	Voltage	Contacts	List price €
	Pulse generator pause beginning	0,01 .. 1 s 0,1 .. 10 s 1 .. 100 s 10 ..1000 s	Multi voltage supply 24 V AC/DC 230 VAC	2 changeover 4 A	
		or	or		
		0,01 .. 1 s 0,1 .. 10 s 1 .. 100 s 10 ..1000 s	or 24 V AC/DC 42 VAC		
<p>The ZTG Pulse generator (beginning with pause) offers an independent regulation of the pulse and pause times, which are each adjusted with two independent potentiometers and DIP switches which are located on the front panel of the unit. The timer can operate on either 42/110/230V AC using terminals A1 and A2 or 24V AC/DC using terminals A3 and A2. The green LED indicates the connection of the supply voltage. The operation starts with connection of the power supply. The function pause beginning or pulse beginning can be selected by dip switch. With connection of an external potentiometer the internal potentiometer will be locked.</p>					
Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz				
Contacts	2 changeover 4 A, 250 V AC, max. 6 switching cycles/ minute				
Influence	< 0.01 % voltage, < 0.05%/ °C temperature				
Repeatability	+/- 0.2%				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	78 x 22,5 x 110 mm (L x W x H), 106 g				
Type	GTG				

Connection




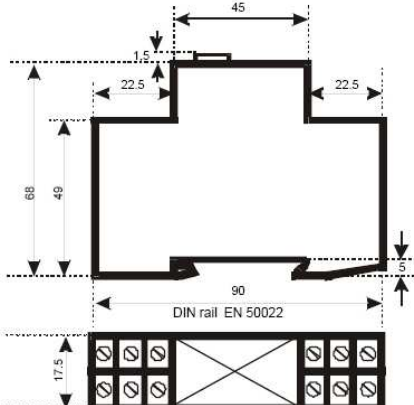
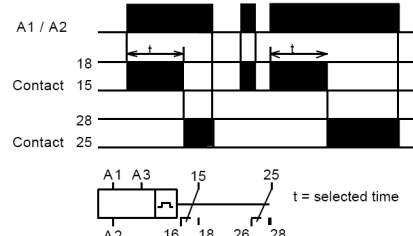
Dip switch adjustments / Ordering




011100	GTG1	24V/230V	1 Sec x Absolute scaling
011300	GTG3	24V/230V	3 Sec x Absolute scaling
021100	GTG1	24V/110V	1 Sec x Absolute scaling
021300	GTG3	24V/110V	3 Sec x Absolute scaling
031100	GTG1	24V/ 42V	1 Sec x Absolute scaling
031300	GTG3	24V/ 42V	1 Sec x Absolute scaling
326101	F11	10 kOhm	Remote control, 1x scaling
326201	F11	10 kOhm	Remote control, 3x scaling
326903	F11	10 kOhm	Remote control, 0-10 neutral

Star-delta relay ZSD, 17,5 mm wide, 2 changeover, 8 time ranges

Picture	Function	Range	Voltage	Contacts	List price €
	Star-delta relay	0,05 .. 1 s 0,15 .. 3 s 0,5 .. 10 s 1,5 .. 30 s 3 .. 60 s 5 .. 100 s 15 .. 300 s 0,5 .. 10 min	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	2 changeover 4 A	
		<p>The ZSD star-delta relay may be used with either 24V DC/AC or 230V AC supply. The green LED indicates connection to the power supply.</p> <p>Timing begins with the connection of the power supply to the terminals A1 and A2. The timing cycle is selected using the potentiometer and the DIP switches on the front panel of the unit. Upon connection of the power supply, the contact 15/18 closes and the red LED turns on. Upon completion of the selected timing, the contact returns to its rest position and the red LED shuts off. After a set switching time of 100ms, the second contact 25/28 closes. If the power supply is interrupted during the reset time, the relay returns to its original state. This also applies if the supply is disconnected during the timing period (see function diagram).</p>			
Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz				
Contacts	2 changeover 4 A, 250 V AC, max. 6 switching cycles/ minute				
Influence	< 0.1 % voltage, < 0.1%/ °C temperature				
Repeatability	+/- 0.2%				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	90 x 17,5 x 70 mm (L x W x H), 104 g				
Type	ZSD				

Dimension	Connection
	<p>The terminal assignment for the connections is located on the front panel of the relay. Reading the front panel from top to bottom, the connections are in the following order:</p> <p>LED side Right: nc – 26 – A3 Left: 28 – 25 – A1</p> <p>Potentiometer side Right: nc – 15 – 18 Left: nc – A2 – 16</p>
	

Contact protection relay ZKS, 17,5 mm wide, 2 changeover

Picture	Function	Range	Voltage	Contacts	List price €
	Contact protection relay	0,05 ... 1 s 0,15 ... 3 s 0,5 ... 10 s Please specify when ordering.	Multi voltage supply 20 .. 26 V AC/DC + 230 VAC	2 changeover 4 A	
<p>The ZKS contact protection relay can operate on either 230V AC using terminals A1 and A2 or 24V DC using terminals A3 and A2. The green LED indicates the connection of the power supply. Continuous presence of the power supply is required for operation. The activation of the timing cycle is accomplished using a potential-free control contact connected to the terminals B1 and B2. If the control contact is closed, the output relay energizes after the selected delayed pull-in time (TAN). This status is indicated by the red LED. If during the lapse time the control contact is opened and then closed, the timing cycle begins again. After the control contact opens, the output relay releases upon completion of the selected dropoff delay time (TAB). The relay remains energized if the control contact closes during the timing cycle. Pull-in and drop-off times are the same and can be adjusted using the DIP switches and the potentiometer located on the relay's front panel.</p>					
Supply voltage	230 V AC -15/ + 10% (A1 / A2) or 24 V AC/DC -15/ +10% (A3 / A2), 50 .. 60 Hz				
Contacts	2 changeover 4 A, 250 V AC, max. 6 switching cycles/ minute				
Influence	< 0.1 % voltage, < 0.1%/ °C temperature				
Repeatability	+/- 0.2%				
Working temperature	-25 ... + 60° C				
Test voltage	2.5 KV / VDE 0110 Group C 250				
Terminals	Crosshead – screws, M3,5				
Connection cross section	2 x 2,5 mm ²				
Dimension	90 x 17,5 x 70 mm (L x W x H), 104 g				
Type	ZKS				

