

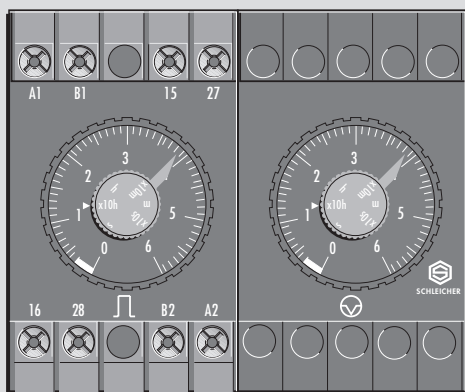


Electromechanical Repeat Cycle Timer

SPZA 52 for single voltage

Function: repeat cycle (TI) starting with ON
ON- and OFF-times independently adjustable
1 setting range divided into 6 time ranges
Contact equipment: 1 normally open, 1 normally closed

SPZA 52



General

TI (see page S 1/3).

The electromechanical repeat cycle timer is equipped with two independent timing mechanisms, whose delay times (ON and OFF) elapse one after the other. This occurs as long as the supply voltage is applied. Upon de-energization, the time relay whose time has just elapsed, goes back into its initial state. Upon restoration of the voltage the timing period starts from the beginning, therefore with the ON time. The setting of the time ranges is done on the timer's front by means of a selector switch. Infinitely variable time setting within a range is carried out with the aid of a transparent rotary knob.

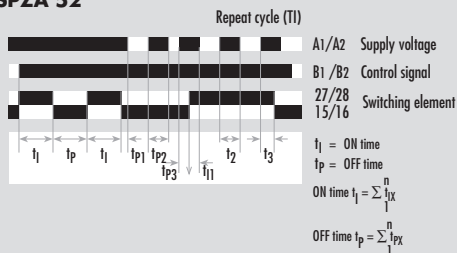
Function

After the supply voltage is applied to terminals A1/A2 and the control signal to terminals B1/B2, the timing cycle of the pulse (ON) time relay starts, and the output contacts (1 NO and 1 NC) are actuated. After the time has elapsed the pause (OFF) time relay is energized, self-locks and let the pulse time relay going back to its initial position. The output contacts go to their off position. After the OFF time has elapsed the pause relay is not self locked anymore. The pause time relay goes back into its initial state and reactivates the pulse time relay.

Function Diagram

FD 0031

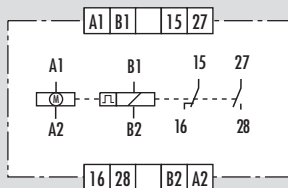
SPZA 52



Connection Diagram

KS 5166/2

SPZA 52



Product Description

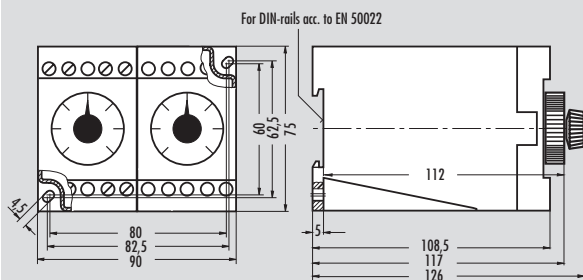
The electromechanical time relay SPZA 52, is available in 1 setting range, divided into 6 time ranges.

Setting Range	Time Range Impulszeit	Time Range Pausenzeit
0,3 s to 60 h divided into :	0,3 to 6 s	0,3 to 6 s
	3 to 60 s	3 to 60 s
	0,3 to 6 min	0,3 to 6 min
	3 to 60 min	3 to 60 min
	0,3 to 6 h	0,3 to 6 h
	3 to 60 h	3 to 60 h

Type	Standard voltage	Special voltage	Price Code
SPZA 52 60 h	24 V AC 110 to 115 V AC 230 V AC 50 and 60 Hz	42 V AC 48 V AC 125 to 127 V AC 240 V AC 50 and 60 Hz	S 1/43.1

Dimensions

S 4-1



Note

- ▶ The relay has a frequency switch on the underside of the cover that can be set to 50 or 60 Hz, depending on the connected external supply. The factory presetting is 50 Hz.
- ▶ Maximum accuracy (repeatability) is achieved with multi-range models by selecting the shortest possible timing range.
- ▶ The time range selection on the items has to be done in the off-position to avoid possible timing errors and wrong contact switching.



TECHNICAL DATA

FUNCTION according to DIN VDE 0435 Part 110:04.89

Point 3.9

Function display
Function diagram

POWER SUPPLY

Rated voltage U_N V AC

Rated consumption: motor at 50 Hz and U_N (AC) VA
 Rated consumption: motor at 50 Hz and U_N (AC) W
 Rated consumption: coil at 50 Hz and U_N (AC) VA
 Rated consumption: coil at 50 Hz and U_N (AC) W
 Rated frequency Hz
 Operating voltage range

TIME CIRCUIT

Time setting/Number of time ranges
Available setting range

Recovery time ms
 Minimum switch-ON time ms
 Release value % U_N ≥ 15
 Permissible parallel load yes
 Internal rectifier yes
 Average of the error related to the full-scale value at standard duty:
 Dispersion setting range 0,3 to 6 s $\pm 0,06$
 Setting range 3 to 60 s $\pm 0,22$
 Maximum operating time ≥ 60 s % $\pm 0,3$ related to the full-scale value

OUTPUT CIRCUIT

Contact equipment 1 NO, 1 NC
 Contact material AgCdO
 Available modifications Ag Pd 70/30* or Au Ni 5*
 Switching voltage U_n V AC/DC 230/230
 Maximum continuous current I_n A 5
 Application category according to EN 60947-5-1:1991 AC-15 U_e 230 V AC, I_e 2 A
 DC-13 U_e 24 V DC, I_e 2 A
 Permissible switching frequency switching cycles/h 3600
 Mechanical service life switching cycles 30×10^6 or 10^4 motor operations
 Response time ms ≤ 30
 Release time ms ≤ 80

GENERAL DATA

Creepage and clearance distances between circuits according to DIN VDE 0110-1:04.97: rated surge voltage kV 4
 Over voltage category III
 Contamination level 3 outside, 2 inside
 Design voltage V AC 250
 Test voltage U_{eff} 50 Hz acc. to DIN VDE 0110-1, Table A.1 kV 2,21
 Protection class housing/terminals acc. to DIN VDE 0470 Sec. 1:11.92 IP 30/IP 20
 Radiated noise EN 50081-1:03.93, -2:03.94
 Noise immunity EN 50082-2:1995

Ambient temperature, working range °C -10 to +55
 Dimensions S 4-1
 Connection diagram KS 5166/2
 Weight kg 0,7
 Approvals page i.4

GENERAL TECHNICAL SPECIFICATIONS

SPZA 52

Electromechanical repeat cycle timer for single voltage
 Repeat cycle
 Pointer for operating time
 FD 0031

24 42 48 110-125-230 240

115 127

ca. 1,0/1,9
 ca. 0,9/0,8
 ca. 1,3/1,2
 ca. 1,1/1,0
 50 and 60 switchable on the device
 0,8 to 1,1 x U_N

analog/6
 0,3 s to 60 h
 divided into:
 0,3 to 6; 3 to 60;
 0,3 to 6; 3 to 60;
 0,3 to 6; 3 to 60
 ≤ 250
 -
 ≥ 15
 yes
 yes
 at standard duty:
 setting range 6 s; $\pm 1,5$ %
 Standard duty Rapid start
 $\pm 0,06$ $\pm 0,03$
 $\pm 0,22$ $\pm 0,19$
 $\pm 0,3$ related to the full-scale value

1 NO, 1 NC
 AgCdO
 Ag Pd 70/30* or Au Ni 5*
 230/230
 5
 AC-15 U_e 230 V AC, I_e 2 A
 DC-13 U_e 24 V DC, I_e 2 A
 3600
 30×10^6 or 10^4 motor operations
 ≤ 30
 ≤ 80

4
 III
 3 outside, 2 inside
 250
 2,21
 IP 30/IP 20
 EN 50081-1:03.93, -2:03.94
 EN 50082-2:1995

-10 to +55
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 KS 5166/2
 0,7
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*) Price: upon request