Electronic Multi-Range Time Relays

SZT 72 - SM, SZT 72 M for multi-voltage 24 to 240 V AC/DC

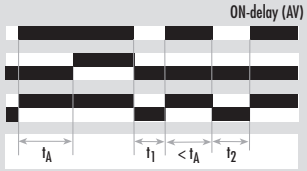
Function: ON-delay (AV)
1 setting range, divided into 4 time ranges with remote potentiometer connection
Contact equipment: SZT 72 - SM = 1 timed and 1 instantaneous changeover
SZT 72 M = 2 timed changeover

SZT 72 - SM, ...

Function Diagram

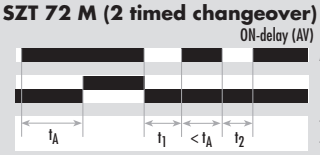
FD 0041

SZT 72-SM



t_A = Operating time
t_1 = Break time must be > than recovery time 1
t_2 = Break time must be > than recovery time 2

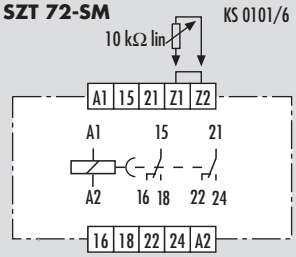
SZT 72 M (2 timed changeover) FD 0026



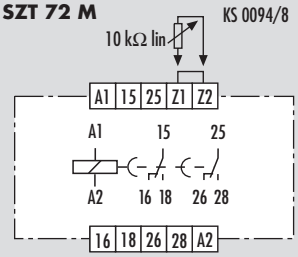
t_A = Operating time
t_1 = Break time must be > than recovery time 1
t_2 = Break time must be > than recovery time 2

Connection Diagram

SZT 72-SM KS 0101/6

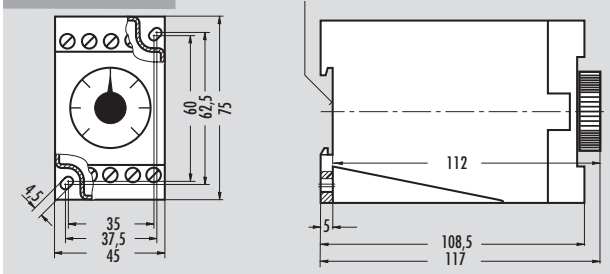


SZT 72 M KS 0094/8



Dimensions

for DIN-rail acc. to EN 50022 S 3-9



Function

AV (see page S 1/3).

The setting of the time ranges is done on the timer's front by means of selector switches. Infinitely variable time setting within a range is carried out with the aid of a transparent rotary knob.

The time can be set remotely by means of a remote potentiometer P 10 k or FP 10 k (not supplied with the item).

Product Description

The electronic multi-range time relays SZT 72... are available in 1 setting range, divided into 4 time ranges.

Setting Range	Time Range
0,15 s to 400 s	
divided into:	0,15 to 1,5 s
	0,6 to 6 s
	5 to 50 s
	40 to 400 s
or	
1,5 s to 60 min	
divided into:	1,5 to 15 s
	0,1 to 1 min
	0,8 to 8 min
	6 to 60 min

Type	Standard voltage	Special voltage	Price Code
SZT 72- SM 400 s SZT 72- SM 60 min	24 to 240 V AC/DC 50 to 60 Hz		**S 1/9.1**
SZT 72 M 400 s SZT 72 M 60 min	24 to 240 V AC/DC 50 to 60 Hz		**S 1/9.2**

Note

Remote time setting

The time setting at the devices SZT 72... can also be carried out with a remote potentiometer. The remote potentiometer must be connected to the terminals with the reference (Z1/Z2). The time setting at the device must be set at the dead stop, under the lowest mark. The connection terminals for the remote potentiometer are factory prejumped. This jumper must be removed before connecting the remote potentiometer.

The remote potentiometer P 10 k and FP 10 k can be used to select all time ranges available on the item. They are designed with their own relative scale unrelated to the item's time range. The setting precision data refer to the item, under consideration of the built-in variable resistors. Possible deviations in the remote potentiometer precision are due to its resistance tolerances.

The current for the time remote setting is constant, so that the time resistance (line length) does not influence the time precision.

The connections of the time remote setting are not electrically isolated from the connections for the supply and control signal.

Accessories

Remote potentiometer	P 10 k	
Remote potentiometer	FP 10 k	
Cover	Z 29	(sealable transparent cover)

Price code for accessories (see page S 1/72).

1

TECHNICAL DATA		SZT 72-SM	SZT 72 M
FUNCTION according to DIN VDE 0435 Part 110:04.89		Electronic multi-range and multi-voltage time relay with immediate contact and remote potentiometer connection	Electronic multi-range and multi-voltage time relay with remote potentiometer connection
	Point 3.12	ON-delay time relay	ON-delay time relay
Function display		1 LED green, 1 LED red	1 LED green, 1 LED red
Function diagram		FD 0041	FD 0026
POWER SUPPLY			
Rated voltage U_N	V AC/DC	**24 to 240**	**24 to 240**
Rated consumption at 50 Hz and U_N (AC)	VA	11	8
Rated consumption at 50 Hz and U_N (AC)	W	3	2
Rated consumption at U_N (DC)	W	3	2
Starting current inrush	A/ms	–	-
Rated frequency	Hz	50 to 60	50 to 60
Operating voltage range		0,8 to 1,1 x U_N	0,8 to 1,1 x U_N
Rated current for the energizing quantity at (B1)	mA	–	–
TIME CIRCUIT			
Time setting/Number of time ranges		analog/4	analog/4
Remote time setting		10 kΩ linear (see accessories)	10 kΩ linear (see accessories)
2 setting ranges available		1. setting range 0,15 to 400 s divided into:	1. setting range 0,15 to 400 s divided into:
	s	0,15 to 1,5; 0,6 to 6; 5 to 50;	0,15 to 1,5; 0,6 to 6; 5 to 50;
	s	40 to 400	40 to 400
		2. setting range 1,5 s to 60 min divided into:	2. setting range 1,5 s to 60 min divided into:
	s/min	1,5 s to 15 s/0,1 min to 1 min;	1,5 s to 15 s/0,1 min to 1 min;
	min	0,8 to 8; 6 to 60	0,8 to 8; 6 to 60
Recovery time 1/2	ms	ca. 50/ca. 50	ca. 50/ca. 50
Minimum switch-ON time	ms	–	–
Release value	% U_N	≥ 10; perm. line inductivity 0,2 µF	≥ 10; perm. line inductivity 0,2 µF
Repeat cycle starting with		–	–
Permissible parallel load		yes	yes
Internal rectifier		no	no
Average of the error		diagram 4, page i.5	diagram 4, page i.5
Dispersion	% + ± 10 ms	≤ ± 0,5	≤ ± 0,5
Influence of the energizing quantity or supply voltage	%/% Δ U_N	≤ 0,02	≤ 0,02
Influence of the ambient temperature	%/K	≤ 0,025	≤ 0,025
OUTPUT CIRCUIT			
Contact equipment		1 timed and 1 instant. changeover	2 timed changeover
Contact material		Ag–alloy; gold-plated	Ag–alloy; gold-plated
Switching voltage U_n	V AC/DC	230/230	230/230
Maximum continuous current I_n	A	5	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	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	6000	6000
Mechanical service life	switching cycles	30 x 10^6	30 x 10^6
Response time	ms	ca. 20	–
Release time for timed changeover/immediate changeover	ms	ca. 25/ca. 20	ca. 25/–
GENERAL DATA			
Creepage and clearance distances between circuits according to DIN VDE 0110-1:04.97: rated surge voltage	kV	4	4
Over voltage category		III	III
Contamination level		3 outside, 2 inside	3 outside, 2 inside
Design voltage	V AC	250	250
Test voltage U_{eff} 50 Hz acc. to DIN VDE 0110-1, Table A.1	kV	2,21	2,21
Protection class housing/terminals acc. to DIN VDE 0470 Sec. 1:11.92		IP 30/IP 20	IP 30/IP 20
Radiated noise		EN 50081–1:03.93, –2:03.94	EN 50081–1:03.93, –2:03.94
Noise immunity		EN 50082–2:1995	EN 50082–2:1995
Ambient temperature, working range	°C	-20 to + 60	-20 to + 60
Dimensions		S 3–9	S 3–9
Connection diagram		KS 0101/6	KS 0094/8
Weight	kg	0,18	0,18
Accessories		cover Z29, remote potentiometer P10k or remote potentiometer FP10k	cover Z29, remote potentiometer P10k or remote potentiometer FP10k
Approvals		page i.4	page i.4
GENERAL TECHNICAL SPECIFICATIONS		page i.5	page i.5