



Electronic Time Relays

SZT 32 - S, SZT 32, SZT 31 for single voltage
SZT 42 - S, SZT 42 for single voltage

Function: ON-delay (AV)

1 time range with remote potentiometer connection

Contact equipment: SZT 32 - S, SZT 42 - S = 1 timed and 1 instantaneous changeover
SZT 32, SZT 42 = 2 timed changeover
SZT 31 = 1 timed changeover

SZT 32 - S, ...



Function

AV (see page S 1/3).

Infinitely variable time setting 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 time relays SZT 3..., SZT 4... are designed for a single range and are available in the following time ranges:

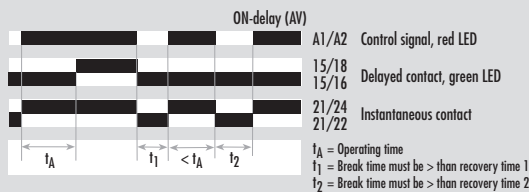
Time Range

0,05	to	1	s
0,15	to	3	s
0,5	to	10	s
1,5	to	30	s
5	to	100	s
15	to	300	s
0,5	to	10	min
1,5	to	30	min

Function Diagram

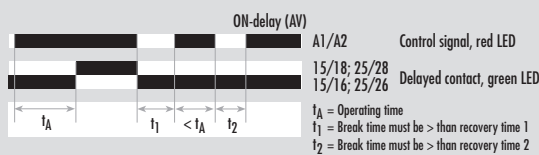
FD 0041

SZT 32-S, SZT 42-S



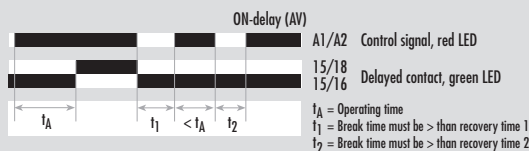
FD 0026

SZT 32, SZT 42 (2 timed changeover)



FD 0026/1

SZT 31 (1 timed changeover)



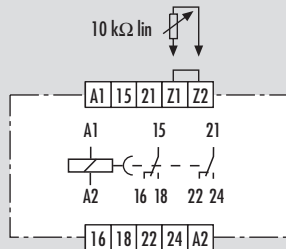
Type	Standard voltage	Special voltage	Price Code
SZT 32-S 1 s	24 V AC/DC	42 V AC/DC	S 1/19.1
SZT 32-S 3 s	110 to 120 V AC	48 V AC/DC	
SZT 32-S 10 s	230 to 240 V AC	60 V AC/DC	
SZT 32-S 30 s	50 to 60 Hz	50 to 60 Hz	
SZT 32-S 100 s			
SZT 32-S 300 s			
SZT 32-S 10 min			
SZT 32-S 30 min			
SZT 32 1 s	24 V AC/DC	42 V AC/DC	S 1/19.2
SZT 32 3 s	110 to 120 V AC	48 V AC/DC	
SZT 32 10 s	230 to 240 V AC	60 V AC/DC	
SZT 32 30 s	50 to 60 Hz	50 to 60 Hz	
SZT 32 100 s			
SZT 32 300 s			
SZT 32 10 min			
SZT 32 30 min			
SZT 31 1 s	24 V AC/DC	42 V AC/DC	S 1/19.3
SZT 31 3 s	110 to 120 V AC	48 V AC/DC	
SZT 31 10 s	230 to 240 V AC	60 V AC/DC	
SZT 31 30 s	50 to 60 Hz	50 to 60 Hz	
SZT 31 100 s			
SZT 31 300 s			
SZT 31 10 min			
SZT 31 30 min			
SZT 42-S 1 s	110 to 127 V DC		S 1/19.4
SZT 42-S 3 s	220 V DC		
SZT 42-S 10 s			
SZT 42-S 30 s			
SZT 42-S 100 s			
SZT 42-S 300 s			
SZT 42-S 10 min			
SZT 42-S 30 min			



Connection Diagram

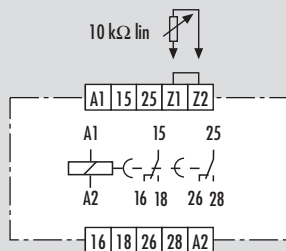
KS 0101/6

SZT 32-S, SZT 42-S



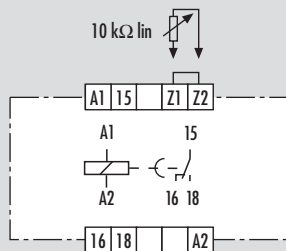
SZT 32, SZT 42

KS 0094/8



SZT 31

KS 0093/9



Type	Standard voltage	Special voltage	Price Code
SZT 42 1 s	110 to 127 V DC		S 1/19.5
SZT 42 3 s	220 V DC		
SZT 42 10 s			
SZT 42 30 s			
SZT 42 100 s			
SZT 42 300 s			
SZT 42 10 min			
SZT 42 30 min			

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).

Note

Remote time setting

The time setting at the devices SZT 3..., SZT 4... 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.

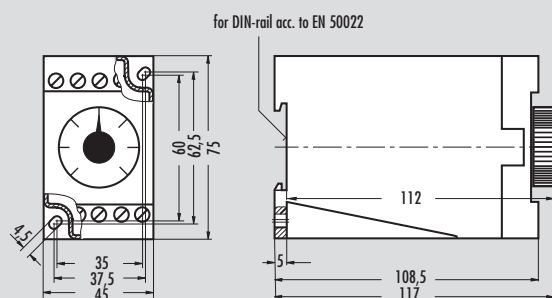
The remote potentiometer P 10 k and FP 10 k can be used to select all time ranges available on the item. They are designed with their own relative scale unrelated to the item's time range. The setting precision data refer to the item, under consideration of the built-in variable resistors. Possible deviations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

Dimensions

S 3-9





TECHNICAL DATA

FUNCTION according to DIN VDE 0435 Part 1 110:04.89

Function display
Function diagram

Point 3.12

POWER SUPPLY

Rated voltage U_N	V AC/DC
Rated voltage U_N	V AC
Rated consumption at 50 Hz and U_N (AC)	VA
Rated consumption at 50 Hz and U_N (AC)	W
Rated consumption at U_N (DC)	W
Starting current inrush	A/ms
Rated frequency	Hz
Operating voltage range	

TIME CIRCUIT

Time setting/Number of time ranges	
Remote time setting	
Available time ranges	s
	s
	s
	min
Recovery time 1/2	ms
Minimum switch-ON time	ms
Release value	% U_N
Repeat cycle starting with	
Permissible parallel load	
Internal rectifier	
Average of the error	
Dispersion	% ± 10 ms
Influence of the energizing quantity or supply voltage	%/% ΔU_N
Influence of the ambient temperature	%/K

OUTPUT CIRCUIT

Contact equipment	
Contact material	
Switching voltage U_n	V AC/DC
Maximum continuous current I_n	A
Application category - according to EN 60947-5-1:1991	
Permissible switching frequency	switching cycles/h
Mechanical service life	switching cycles
Response time	ms
Release time for timed changeover/immediate changeover	ms

GENERAL DATA

Creepage and clearance distances between circuits according to DIN VDE 0110-1:04.97: rated surge voltage	kV
Over voltage category	
Contamination level	
Design voltage	V AC
Test voltage U_{eff} 50 Hz acc. to DIN VDE 0110-1, Table A.1	kV
Protection class housing/terminals acc. to DIN VDE 0470 Sec. 1:11.92	
Radiated noise	
Noise immunity	

Ambient temperature, working range	°C
Dimensions	
Connection diagram	
Weight	kg
Accessories	
Approvals	

GENERAL TECHNICAL SPECIFICATIONS

SZT 32-S

Electronic time relay with instantaneous contact and remote potentiometer connection
ON-delay time relay
1 LED green, 1 LED red
FD 0041

24	42	48	60	110-120	230-240
2,5	1,8	2,6	2,3	3,5	7,9
2,4	2,5	2,6	2,3	2,3	2,9
2,2	2,3	2,4	1,8		
1,5/2	,8/2	,6/2	,6/2	,5/1,5	,5/1,5
50 to 60					
0,8 to 1,1 x U_N					

analog/1	
10 k Ω linear (see accessories)	
0,05 to 1; 0,15 to 3;	s
0,5 to 10; 1,5 to 30;	s
5 to 100; 15 to 300;	s
0,5 to 10; 1,5 to 30	min
ca. 30/ca. 60	ms
-	ms
≥ 15	% U_N
-	
yes	
no	
diagram 1, page i.5	
$\leq \pm 0,5$	
$\leq 0,02$	
$\leq 0,025$	

1 timed and 1 instant. changeover
Ag-alloy; gold-plated
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
6000
30×10^6
ca. 15
ca. 15/ca. 10

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

-20 to + 60
S 3-9
KS 0101/6
0,18
cover Z29, remote potentiometer P10k or remote potentiometer FP10k page i.4

page i.5

SZT 32, SZT 31

Electronic time relay with remote potentiometer connection
ON-delay time relay
1 LED green, 1 LED red
FD 0026, FD 0026/1 for SZT 31

24	42	48	60	110-120	230-240
1,8	1,7	1,9	2,1	2,5	5,7
1,8	1,6	1,8	2,0	1,2	1,6
1,5	1,3	1,5	1,3		
1,5/1	,8/1	,6/1	,6/1	,5/5	,5/5
50 to 60					
0,8 to 1,1 x U_N					

analog/1	
10 k Ω linear (see accessories)	
0,05 to 1; 0,15 to 3;	s
0,5 to 10; 1,5 to 30;	s
5 to 100; 15 to 300;	s
0,5 to 10; 1,5 to 30	min
ca. 30/ca. 60	ms
-	ms
≥ 15	% U_N
-	
yes	
no	
diagram 1, page i.5	
$\leq \pm 0,5$	
$\leq 0,02$	
$\leq 0,025$	

2(SZT32), 1(SZT31)timed changeover
Ag-alloy; gold-plated
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
6000
30×10^6
-
ca. 15/-

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

-20 to + 60
S 3-9
KS 0094/8, KS0093/9 for SZT 31
0,15
cover Z29, remote potentiometer P10k or remote potentiometer FP10k page i.4

page i.5



TECHNICAL DATA

FUNCTION according to DIN VDE 0435 Part 1 110:04.89

Function display Point 3.12
Function diagram

POWER SUPPLY

Rated voltage U_N V DC
Rated consumption at U_n (DC) W
Starting current inrush A/ms
Rated frequency Hz
Operating voltage range

TIME CIRCUIT

Time setting/Number of time ranges
Remote time setting
Available time ranges s
Recovery time 1/2 ms
Minimum switch-ON time ms
Release value % U_N
Repeat cycle starting with
Permissible parallel load yes
Internal rectifier no
Average of the error diagram 1, page i.5
Dispersion % ± 10 ms $\leq \pm 0,5$
Influence of the energizing quantity or supply voltage %/% $\Delta U_N \leq 0,02$
Influence of the ambient temperature %/K $\leq 0,025$

OUTPUT CIRCUIT

Contact equipment
Contact material
Switching voltage U_n V AC/DC
Maximum continuous current I_n A
Application category according to EN 60947-5-1:1991
Permissible switching frequency switching cycles/h
Mechanical service life switching cycles
Response time ms
Release time for timed changeover/immediate changeover ms

GENERAL DATA

Creepage and clearance distances between circuits according to DIN VDE 01 10-1:04.97: rated surge voltage kV
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 01 10-1, Table A.1 kV 2,21
Protection class housing/terminals acc. to DIN VDE 0470 Sec. 1:11.92
Radiated noise
Noise immunity EN 50081-1:03.93, -2:03.94
EN 50082-2:1995

Ambient temperature, working range °C -20 to + 60
Dimensions S 3-9
Connection diagram KS 0101/6
Weight kg 0,18
Accessories cover Z29, remote potentiometer P10k
Approvals or remote potentiometer FP10k
page i.4

GENERAL TECHNICAL SPECIFICATIONS

SZT 42-S

Electronic time relay with instantaneous contact and remote potentiometer connection
ON-delay time relay
1 LED green, 1 LED red
FD 0041

110-127	220
2,5	3,5
,1/6	,5/6
50 to 60	
0,8 to 1,1 x U_N	

analog/1
10 k Ω linear (see accessories)
0,05 to 1; 0,15 to 3;
0,5 to 10; 1,5 to 30;
5 to 100; 15 to 300;
0,5 to 10; 1,5 to 30
ca. 30/ca. 60
-
 ≥ 15
-
yes
no
diagram 1, page i.5
 $\leq \pm 0,5$
 $\leq 0,02$
 $\leq 0,025$

1 timed and 1 instant. changeover
Ag-alloy; gold-plated
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
6000
30 x 10⁶
ca. 15
ca. 15/ca. 10

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

-20 to + 60
S 3-9
KS 0101/6
0,18
cover Z29, remote potentiometer P10k
or remote potentiometer FP10k
page i.4

page i.5

SZT 42

Electronic time relay with remote potentiometer connection
ON-delay time relay
1 LED green, 1 LED red
FD 0026

SZT 42

110-127	220
1,6	2,8
,1/6	,1/8
50 to 60	
0,8 to 1,1 x U_N	

analog/1
10 k Ω linear (see accessories)
0,05 to 1; 0,15 to 3;
0,5 to 10; 1,5 to 30;
5 to 100; 15 to 300;
0,5 to 10; 1,5 to 30
ca. 30/ca. 60
-
 ≥ 15
-
yes
no
diagram 1, page i.5
 $\leq \pm 0,5$
 $\leq 0,02$
 $\leq 0,025$

2 timed changeover
Ag-alloy; gold-plated
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
6000
30 x 10⁶
-
ca. 15/-

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

-20 to + 60
S 3-9
KS 0094/8
0,15
cover Z29, remote potentiometer P10k
or remote potentiometer FP10k
page i.4

page i.5