



Safety switch TZ with guard locking and guard lock monitoring

- Mechanical release on the front
- Two LEDs, red and green
- Plug connector optional
- Actuating head fitted left or right



Approach direction

 Horizontal
Can be adjusted in 90° steps.

Mechanical release

Is used for releasing the guard locking with the aid of a tool. A sealing wire can be fitted to protect against tampering. Lead sealing kit and tool included (already pre-assembled on versions with plug connectors).

Solenoid operating voltage and LED function display

The following voltage ranges are available:

- ▶ 24 V AC/DC -15%, +10%
- ▶ 110 V AC -15%, +10%
- ▶ 230 V AC -15%, +10%

Guard locking types

TZ1 Closed-circuit current principle, guard locking by spring force. Release by applying voltage to the solenoid.

TZ2 Open-circuit current principle, guard locking by applying voltage to the solenoid. Release by spring force.

Switching elements (see also Page 13/14)

SK For monitoring the door/actuator position

ÜK For monitoring the guard locking (built-in solenoid)

For combinations available see ordering table:

- ▶ **528H** Slow-action switching element
1 NC $\ominus$ + 1 NO
- ▶ **2121H** Slow-action switching element
4 NC $\ominus$
- ▶ **2131H** Slow-action switching element
3 NC $\ominus$ + 1 NO
- ▶ **3131H** Slow-action switching element
2 NC $\ominus$ + 2 NO

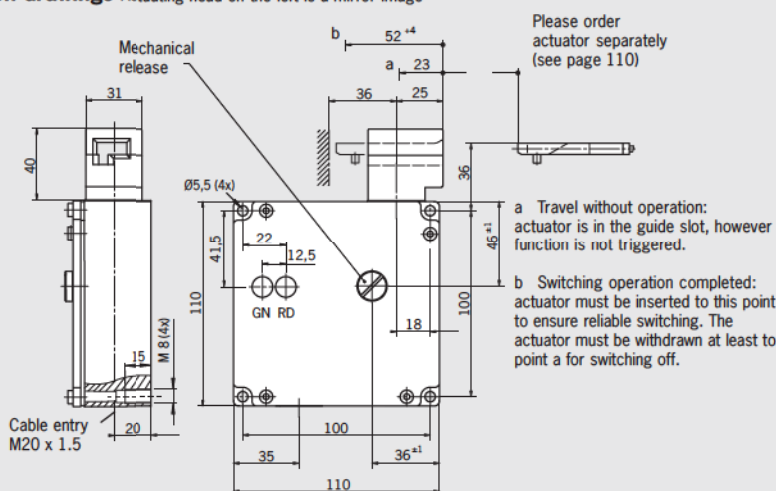
Ordering table

Series	Connection	Guard locking	Switch head	Switching element	Black cover			Red cover	
					24 V	110 V	230 V	24 V	110 V
TZ	M20x1.5	1 Mechanical	LE Left	SK: 528H, 1 NC ⊖ + 1 NO ÜK: 528H, 1 NC ⊖ + 1 NO	082 050 TZ1LE024M	083 160 TZ1LE110M	083 166 TZ1LE220M	083 164 TZ1LE024M-R	083 168 TZ1LE110M-R
				SK: 2121H, 4 NC ⊖ ÜK: 2121H, 4 NC ⊖	On request	On request	On request	089 464 ¹⁾ TZ1LE024MVFG-RC1925	On request
				SK: 2131H, 3 NC ⊖ + 1 NO ÜK: 3131H, 2 NC ⊖ + 2 NO	083 965 TZ1LE024MVAB	088 023 TZ1LE110MVAB	088 029 TZ1LE220MVAB	089 434 TZ1LE024MVAB-R	On request
			RE Right	SK: 528H, 1 NC ⊖ + 1 NO ÜK: 528H, 1 NC ⊖ + 1 NO	082 051 TZ1RE024M	083 161 TZ1RE110M	083 167 TZ1RE220M	083 165 TZ1RE024M-R	089 448 TZ1RE110M-R
				SK: 2121H, 4 NC ⊖ ÜK: 2121H, 4 NC ⊖	On request	On request	On request	089 465 ¹⁾ TZ1RE024MVFG-RC1925	On request
				SK: 2131H, 3 NC ⊖ + 1 NO ÜK: 3131H, 2 NC ⊖ + 2 NO	083 966 TZ1RE024MVAB	088 024 TZ1RE110MVAB	088 030 TZ1RE220MVAB	083 233 TZ1RE024MVAB-R	On request
		2 Electrical	LE Left	SK: 528H, 1 NC ⊖ + 1 NO ÜK: 528H, 1 NC ⊖ + 1 NO	090 559 TZ2LE024M	083 162 TZ2LE110M	088 031 TZ2LE220M	089 445 TZ2LE024M-R	On request
				SK: 2131H, 3 NC ⊖ + 1 NO ÜK: 3131H, 2 NC ⊖ + 2 NO	088 070 TZ2LE024MVAB	088 025 TZ2LE110MVAB	088 027 TZ2LE220MVAB	On request	On request
				SK: 528H, 1 NC ⊖ + 1 NO ÜK: 528H, 1 NC ⊖ + 1 NO	090 560 TZ2RE024M	083 163 TZ2RE110M	088 032 TZ2RE220M	089 446 TZ2RE024M-R	On request
			RE Right	SK: 2131H, 3 NC ⊖ + 1 NO ÜK: 3131H, 2 NC ⊖ + 2 NO	088 071 TZ2RE024MVAB	088 026 TZ2RE110MVAB	088 028 TZ2RE220MVAB	On request	On request

1) No BG approval

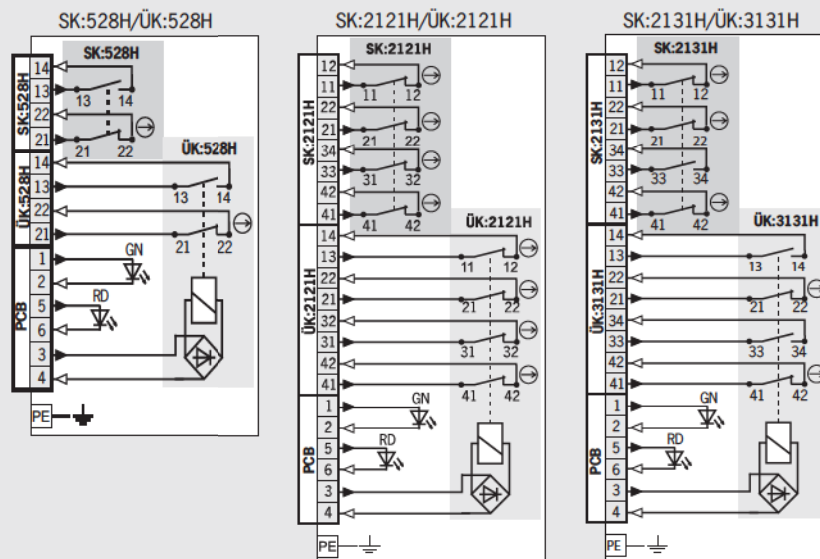
Cable entry M20 x 1.5

Dimension drawings Actuating head on the left is a mirror image



For cable glands
see page 124

Wiring diagrams Actuator inserted and locked



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The technical data on switches, switching elements and guard locking apply to all connections. Further technical data are given for the connection selected.

Switch 		
Parameter	Value	Unit
Housing material	Anodized die-cast alloy	
Mechanical life	2 x 10 ⁶ operating cycles	
Ambient temperature	-25 ... +80	°C
Weight	Approx. 1.2	kg
Max. approach speed	20	m/min
Actuating force	35	N
Extraction force	30	N
Retention force	10	N
Locking force, max.	2000	N
Locking force F _{2h} in accordance with test principles GSET-19	1500	N

Switching element  		
Parameter	Value	Unit
Switching principle	Slow-action switching element	
Switching elements with 2 switching elements	SK: 528H / UK: 528H 1 NC + 1 NO / 1 NC + 1 NO	
Switching elements with 4 switching elements	SK: 2131H / UK: 3131H SK: 2121H / UK: 2121H 3 NC + 1 NO / 2 NC + 2 NO 4 NC / NC	
Switching current, min., at 24 V	1	mA
Rated impulse withstand voltage U _{imp}	2.5	kV
Contact material	Silver alloy, gold flashed	

Guard locking  			
Parameter	Value		
Solenoid operating voltage	AC/DC 24 V +10/-15%	AC 110 V +10/-15%	AC 230 V +10/-15%
Duty cycle ED	100		
Power consumption	10		

Connection, cable entry M20 x 1.5 		
Parameter	Value	Unit
Connection	Screw terminal	
Version	M20 x 1.5	
Conductor cross-section max.	per wire 1.5 mm ²	
Degree of protection acc. to IEC 60529	IP 67 IP 65: With escape release TZ...C1815, TZ...C1828 With emergency release TZ...C1816, TZ...C1823	
Rated insulation voltage U _i	250	V AC/DC
Conventional thermal current I _{th}	4	A
Short circuit protection according to IEC 60269-1 (control circuit fuse)	4	A gG
Utilization category to IEC 60947-5-1	AC15 Ie 4 A Ue 230 V DC13 Ie 4 A Ue 24 V	

Connection, plug connector RC18 		
Parameter	Value	Unit
Connection	Plug connector	
Version	RC18 (18-pin + PE)	
Degree of protection according to IEC 60529	IP 65 ¹⁾	
Rated insulation voltage U _i	110	V AC/DC
Conventional thermal current I _{th}	4	A
Short circuit protection according to IEC 60269-1 (control circuit fuse)	4	A gG
Utilization category to IEC 60947-5-1	AC15 Ie 4 A Ue 110 V DC13 Ie 4 A Ue 24 V	

1) Screwed tight with the related plug connector (see page 121)



Switching functions TZ

Actuator:
Switching
position:

Inserted
locked

Inserted
not locked

Removed
not locked

