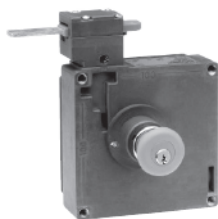


Safety switch TZ with guard locking and guard lock monitoring



- ▶ Mechanical release on the front
- ▶ Escape release on the rear with key button
- ▶ Two LEDs, red and green
- ▶ Plug connector optional
- ▶ Actuating head fitted left or right



Approach direction

Horizontal
Can be adjusted in 90° steps.

Escape release

Is used for the manual release of the guard locking from within the danger area without tools. The disable can only be removed and the switch returned to its operating state using a key included (2 keys included).

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 range is available:

- ▶ 24 V AC/DC -15%, +10%
- ▶ 110 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)

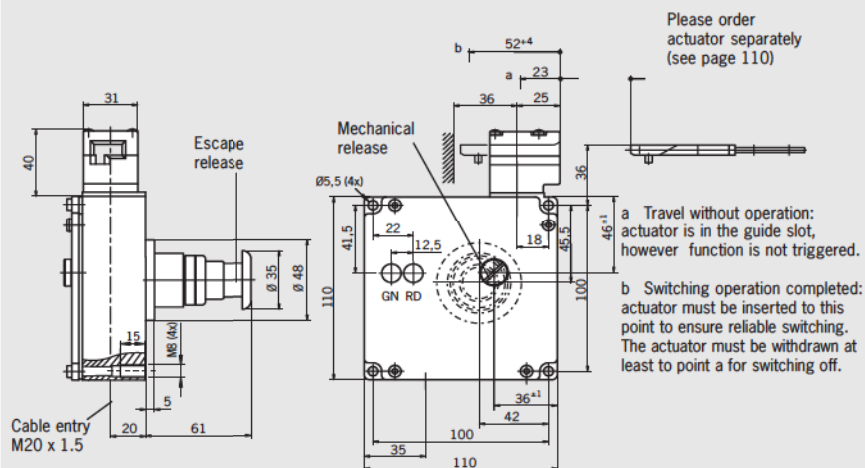
For combinations available see ordering table:

- ▶ **528H** Slow-action switching element
1 NC ⊖ + 1 NO
- ▶ **2131H** Slow-action switching element
3 NC ⊖ + 1 NO
- ▶ **3131H** Slow-action switching element
2 NC ⊖ + 2 NO

Cable entry M20 x 1.5

Dimension drawings

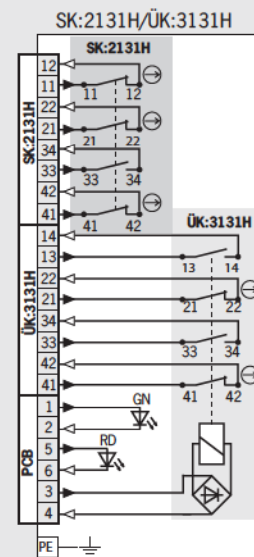
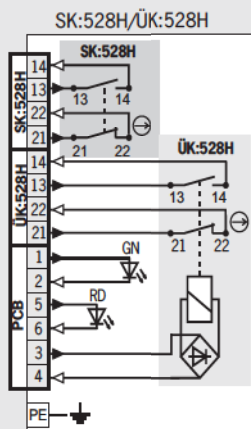
Actuating head on the left is a mirror image



For cable glands
see page 124

Wiring diagrams

Actuator inserted and locked



Ordering table

Series	Connection	Guard locking	Switch head	Switching element	Version	Black cover	
						24 V	110 V
TZ	M20x1.5	1 Mechanical	LE Left	SK: 528H, 1 NC ⊖ + 1 NO ÜK: 528H, 1 NC ⊖ + 1 NO	Escape release (red key button)	087 990 TZ1LE024M-C1815	On request
				SK: 2131H, 3 NC ⊖ + 1 NO ÜK: 3131H, 2 NC ⊖ + 2 NO	Escape release (red key button)	089 468 TZ1LE024MVAB-C1828	094 311 TZ1LE110MVAB-C1828
			RE Right	SK: 528H, 1 NC ⊖ + 1 NO ÜK: 528H, 1 NC ⊖ + 1 NO	Escape release (red key button)	087 991 TZ1RE024M-C1815	On request
				SK: 2131H, 3 NC ⊖ + 1 NO ÜK: 3131H, 2 NC ⊖ + 2 NO	Escape release (red key button)	089 469 TZ1RE024MVAB-C1828	094 312 TZ1RE110MVAB-C1828
		2 Electrical	LE Left	SK: 528H, 1 NC ⊖ + 1 NO ÜK: 528H, 1 NC ⊖ + 1 NO	Escape release (red key button)	089 460 TZ2LE024M-C1815	On request
				SK: 2131H, 3 NC ⊖ + 1 NO ÜK: 3131H, 2 NC ⊖ + 2 NO	Escape release (red key button)	087 290 TZ2LE024MVAB-C1828	On request
			RE Right	SK: 528H, 1 NC ⊖ + 1 NO ÜK: 528H, 1 NC ⊖ + 1 NO	Escape release (red key button)	089 461 TZ2RE024M-C1815	On request
				SK: 2131H, 3 NC ⊖ + 1 NO ÜK: 3131H, 2 NC ⊖ + 2 NO	Escape release (red key button)	087 291 TZ2RE024MVAB-C1828	On request

Safety switch TZ with guard locking and guard lock monitoring



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 / ÜK: 528H 1 NC + 1 NO / 1 NC +1 NO		
Switching elements with 4 switching elements		SK: 2131H / ÜK: 3131H 3 NC + 1 NO / 2 NC +2 NO	SK: 2121H / ÜK: 2121H 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		Unit
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		W

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	I _e 4 A U _e 230 V	
		DC13	I _e 4 A U _e 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	I _e 4 A U _e 110 V	
		DC13	I _e 4 A U _e 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

