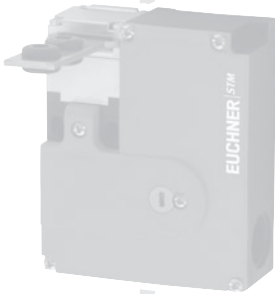


# Safety Switches with Separate Actuator, Plastic Housing **EUCHNER**

## Selection table for safety switches STM with guard locking and guard lock monitoring

Release feature, front			
HE	Mechanical release on the front		
<b>Connection</b>			
M	Thread M20x1.5 for cable glands		
<b>Switching element</b>			
	1 NC ⊖ (ÜK) + 2 NC ⊖ (SK) or 1 NC ⊖ (ÜK) + 1 NC ⊖ (SK) + 1 NO (SK)		
			
Manual release HE	Connection M	Switching element three contacts	Page
●	●	●	82



## Safety switch STM with guard locking and guard lock monitoring

- ▶ Actuating head optionally made of metal or plastic
- ▶ Mechanical release on the front

Cable entry M20 x 1.5



### Approach direction



Horizontal and vertical  
Can be adjusted in 90° steps

### Mechanical release

Is used for releasing the guard locking with the aid of a tool. The mechanical release is sealed with sealing lacquer to prevent tampering.

### Solenoid operating voltage

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

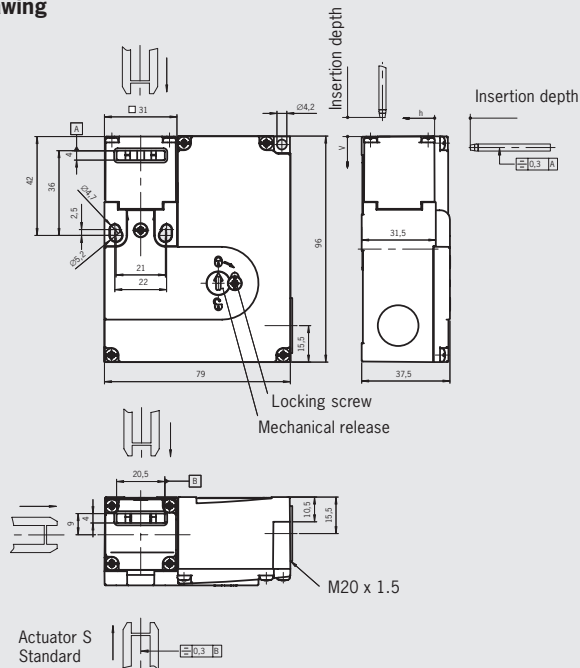
### Guard locking types

- STM1** Closed-circuit current principle, guard locking by spring force. Release by applying voltage to the interlocking solenoid.
- STM2** Open-circuit current principle, guard locking by applying voltage to the interlocking solenoid. Release by spring force.

### Switching elements

- ÜK** For monitoring the guard locking (built-in solenoid)  
Slow-action switching element 1 NC ⊖
- SK** For monitoring the door/actuator position
- 222** Slow-action switching element  
2 NC ⊖
- 242** Slow-action switching element  
1 NC ⊖ +1 NO

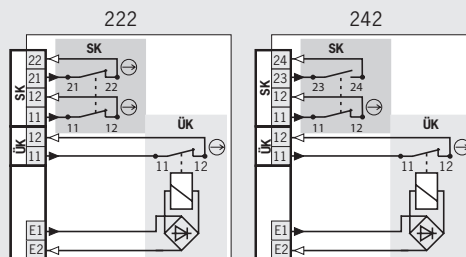
### Dimension drawing



Please order actuator separately (see pages 94-96)

For cable glands see page 104

### Wiring diagrams Actuator inserted and locked



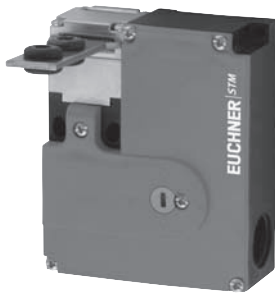
- Solenoid monitoring
- Door monitoring

For switching functions see technical data on page 143

### Ordering table

Series	Connection	Guard locking	Actuating head	Switching element	Solenoid operating voltage		
					AC/DC 24 V	AC 110 V	AC 230 V
STM	Cable entry 1 x M20 x 1.5	1 Mechanical	N Plastic	ÜK: 1 NC ⊖ SK: <b>222</b> 2 NC ⊖	<b>091865</b> STM1N-222B024-M	On request	<b>098714</b> STM1N-222B230-M
				ÜK: 1 NC ⊖ SK: <b>242</b> 1 NC ⊖ + 1 NO	<b>092031</b> STM1N-242B024-M	On request	On request
				ÜK: 1 NC ⊖ SK: <b>222</b> 2 NC ⊖	<b>095396</b> STM1A-222B024-M	On request	<b>098036</b> STM1A-222B230-M
			A Metal	ÜK: 1 NC ⊖ SK: <b>242</b> 1 NC ⊖ + 1 NO	<b>095397</b> STM1A-242B024-M	On request	On request
				ÜK: 1 NC ⊖ SK: <b>222</b> 2 NC ⊖	<b>092048</b> STM2N-222B024-M	On request	On request
				ÜK: 1 NC ⊖ SK: <b>242</b> 1 NC ⊖ + 1 NO	<b>092050</b> STM2N-242B024-M	On request	On request
		2 Electrical	N Plastic	ÜK: 1 NC ⊖ SK: <b>222</b> 2 NC ⊖	<b>092048</b> STM2N-222B024-M	On request	On request
				ÜK: 1 NC ⊖ SK: <b>242</b> 1 NC ⊖ + 1 NO	<b>092050</b> STM2N-242B024-M	On request	On request
				ÜK: 1 NC ⊖ SK: <b>222</b> 2 NC ⊖	<b>095398</b> STM2A-222B024-M	On request	On request
			A Metal	ÜK: 1 NC ⊖ SK: <b>242</b> 1 NC ⊖ + 1 NO	<b>095399</b> STM2A-242B024-M	On request	On request
				ÜK: 1 NC ⊖ SK: <b>222</b> 2 NC ⊖	<b>095398</b> STM2A-222B024-M	On request	On request
				ÜK: 1 NC ⊖ SK: <b>242</b> 1 NC ⊖ + 1 NO	<b>095399</b> STM2A-242B024-M	On request	On request

## Safety switch STM 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.

### Reliability values acc. to EN ISO 13849-1

Parameter	Value	Unit
B <sub>10d</sub>	2 x 10 <sup>6</sup> operating cycles	

### Switch



Parameter	Value	Unit
Housing material	Reinforced thermoplastic	
Mechanical life	2 x 10 <sup>6</sup> operating cycles	
Ambient temperature	- 20 ... + 55	°C
Weight	approx. 0.4	kg
Max. approach speed	20	m/min
Actuating force	35	N
Extraction force (not locked)	30	N
Retention force	20	N
Locking force, max.	Approach direction	
	From top (v)	Side (h)
	STM.A... (metal head)	2000
	STM.N... (plastic head)	1000
Locking force F <sub>Zh</sub> in accordance with test principles GSET-19	Approach direction	
	From top (v)	Side (h)
	STM.A... (metal head)	1500
	STM.N... (plastic head)	700
Insertion depth (minimum required travel + permissible overtravel)	Actuator S standard	
Approach direction side (h)	24.5 + 5	mm
Approach direction from top (v)	24.5 + 5	mm

### Switching element



Parameter	Value	Unit
Switching principle	Slow-action switching element	
Switching elements	ÜK: 1 NC ⊖ SK: 222 2 NC ⊖	ÜK: 1 NC ⊖ SK: 242 1 NC ⊖ + 1 NO
Switching current, min., at 24 V	1	mA
Switching voltage, min., at 10 mA	12	V
Contact material	Silver alloy, gold flashed	

### Guard locking



Parameter	Value	Unit
Solenoid operating voltage	AC/DC 24 V +10/-15%	
Connection	Reverse polarity protected, integrated bridge rectifier	
Duty cycle ED	100	%
Power consumption	6	W

### Connection, cable entry M20 x 1.5



Parameter	Value	Unit
Connection	Screw terminal	
Version	M20 x 1.5	
Conductor cross-section max.	0.34 ... 1.5	mm <sup>2</sup>
Degree of protection acc. to IEC 60529	IP 67	
Rated insulation voltage U <sub>i</sub>	250	V AC/DC
Rated impulse withstand voltage U <sub>imp</sub>	1.5	kV
Conventional thermal current I <sub>th</sub>	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 <sub>e</sub> 4 A U <sub>e</sub> 230 V
	DC13	I <sub>e</sub> 4 A U <sub>e</sub> 24 V

Switching functions STM

