Safety switch STP with guard locking and guard lock monitoring

- **Actuating head made of metal**
- **Mechanical release on the front**

Mechanical release
Is used for releasing the guard locking with the aid of a tool. To protect against tampering, the mechanical release is sealed with sealing lacquer.

Guard locking types
STP3 Closed-circuit current principle, guard locking by spring force. Release by control of AS-i output 0.
STP4 Open-circuit current principle, guard locking by control of AS-i output 0. Release by spring force.

Control of the interlocking solenoid
The interlocking solenoid is controlled by the control system via AS-Interface bus bit D0. Simple connection to the bus is sufficient for process protection. The 24V connection can be switched safely for personal protection.

AS-Interface inputs
- **D0, D1** Door monitoring contact SK
- **D2, D3** Solenoid monitoring contact ÜK

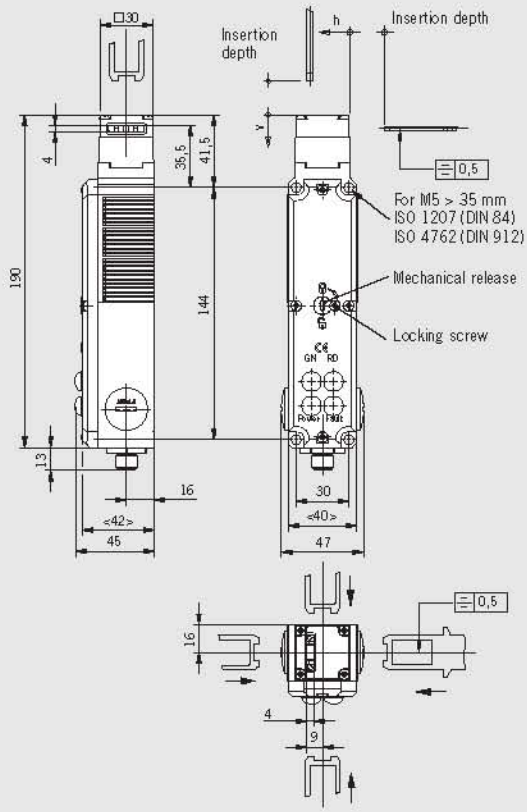
Evaluation is performed via a safety monitor.

AS-Interface outputs
- **D0** Interlocking solenoid
- **D1** Red LED
- **D2** Green LED

LED function display
- The *Power* LED indicates the operating voltage at the bus.
- The *Fault* LED shows if a fault has been detected on the AS-Interface bus.
- The green and the red LEDs can be optionally controlled with bits D1 and D2 by the control via the bus.

Plug connector M12
4-pin

Dimension drawing



Please order actuator separately (see catalog of Safety Switches with Plastic Housings)

Ordering table

Series	Connection	Guard locking	Switching element	Order No./item
STP	SEM4 Plug connector M12	3 Mechanical	SK: 1 NC ⊖ ÜK: 1 NC ⊖	097 790 STP3-4141A024SEM4AS1
		4 Electrical	SK: 1 NC ⊖ ÜK: 1 NC ⊖	097 789 STP4-4141A024SEM4AS1

For technical data see page 26

Safety switch TP... with guard locking and guard lock monitoring

Switch Parameter	Value		Unit
Housing material	Reinforced thermoplastic		
Mechanical life	1 x 10^6 operating cycles		
Ambient temperature	- 20 ... + 55		°C
Weight	approx. 0.5		kg
Approach speed, max.	20		m/min
Actuating force	10		N
Extraction force (not locked)	20		N
Retention force	10		N
Locking force, max.	1300		N
Locking force F_{zh} in accordance with test principles GS-ET-19	1000		N
Insertion depth (necessary minimum travel + permissible overtravel)	Standard actuator	Overtravel actuator	
Approach direction side (h)	28 + 2	28 + 7	mm
Approach direction from top (v)	29.5 + 1.5	-	mm
Interlocking solenoid			
Solenoid operating voltage (auxiliary power on black AS-Interface cable)	24 +10%/-15% Power supply unit with electrical isolation (IEC 60742, PELV)		V DC
Solenoid operating current	300		mA
Duty cycle	100		%

AS-Interface connection Parameter	Value	Unit
Connection	Plug connector	
Version	M12 (4-pin)	
Degree of protection according to IEC 60529	IP 67 2)	
Rated insulation voltage U_i	50	V AC/DC
Switching principle SK, UK	Slow-action switching element 1 NC ⊖ contact each	
EMC protection requirements	Acc. to EN 50295 (AS-Interface standard) and IEC 62026	
AS-Interface data		
Acc. to AS-Interface Specification 2.1	EA code: 7 ID code: B	
Total current consumption, max.	45	mA
Valid AS-Interface addresses	1 - 31	
AS-Interface inputs	In accordance with AS-Interface Safety at Work	
Version AS1	D0, D1 ▸ Door monitoring contact SK	
	D2, D3 ▸ Solenoid monitoring contact	
Version AS2	D0, D1 ▸ Positively driven contact SK 1	
	D2, D3 ▸ Positively driven contact SK 2	
AS-Interface outputs		
D0	Interlocking solenoid, 1 = solenoid energized	
D1	Red LED, 1 = LED on	
D2	Green LED, 1 = LED on	
AS-Interface LED Power	Green, AS-Interface Power on	
AS-Interface LED Fault	Red, offline phase or address 0	

2) Screwed tight with the related plug connector