

Example: SX-3GATE-SET

STS-System Benefits

- TÜV certificate according to the legal and standard requirements
- For safety applications up to PLe/Category 4 according to EN/ISO 13849-1
- Modular and expandable system
- Rugged stainless steel design
- Wireless mechanical safeguarding
- Combines the benefits of safety switch, solenoid locking and key transfer in a single system
- Easy installation through comprehensive accessories
- Protection against lock-in

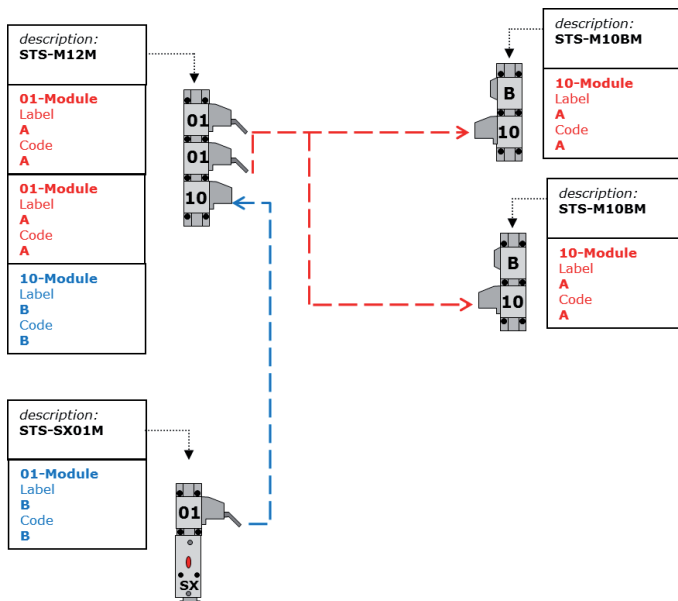
Features SX-3GATE-SET

The unit is particularly suitable for applications with:

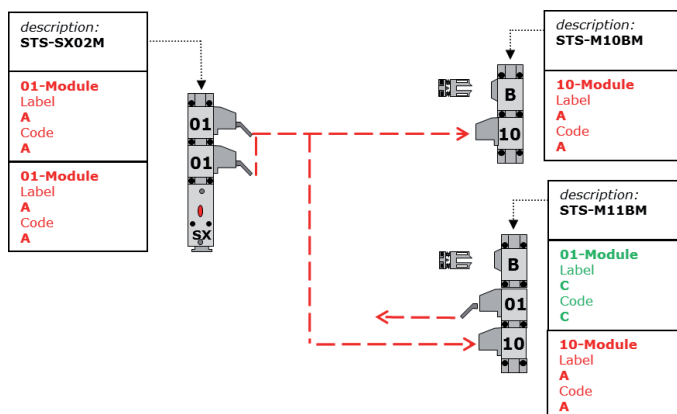
- Several mechanically secured entries
- ATEX areas (whereby the STS-SX03M is installed outside the ATEX area and the downstream mechanical units M10BM inside the ATEX area)
- Single-channel/ redundant/ diverse safety circuits
- Rugged ambient conditions

Options

If a key exchange box should be used this can be achieved by upgrading the system with a 1001-KEYMODULE-SET. See separate datasheet.



If a safety key for personal protection against being locked in is required a 01-SAFETY-KEY-SET can be added to the mechanical gatelock M10BM. See separate data sheet



Approvals and marking



Application

Preferred use in machinery and plant engineering to secure separating guards such as safety gates and hoods in connection with additional STS units and SAFEMASTER products in the system.

Design and Operation

Attention!



Hazards must be ruled out before a key can be removed at any time and the movable part of the guard can then be opened!

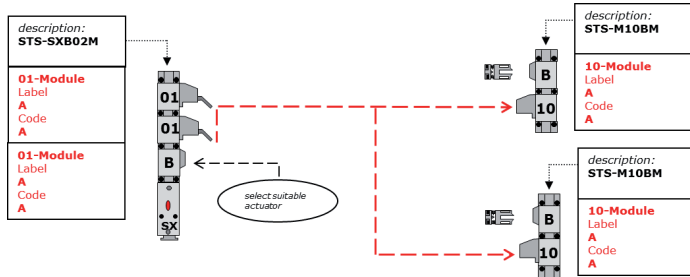
The STS switch unit must be integrated into a system and connected with a control unit so that the hazardous machine can only run when the guard is locked and closed.

The machine can only be restarted after the key was returned to its original position. Key removal is queried by the contacts of key monitoring.

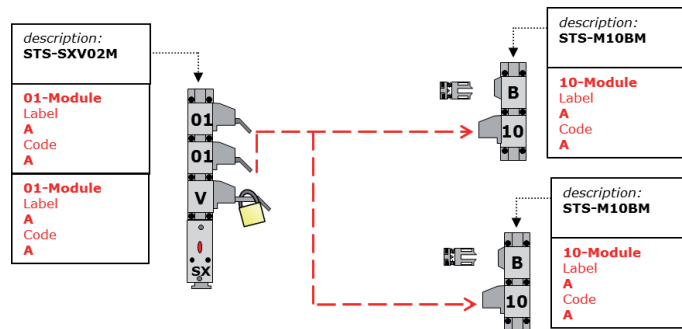
This gate securing system is available for 3 doors. It consists of 1 SX03M module and of 3 M10BM units. The SX03M module is monitoring that all keys are in place in order to operate the machine. Extracting one key will immediately switch the contacts of the SX03M unit, stopping any dangerous movement. With the extracted key, the operator moves to one of the 3 gates. Inserting the key into the mechanical gatelock M10BM will open the gate. As long as the gate is open, the key cannot be extracted. After closing the gate the key can be returned to the SX03M unit and by inserting the last one of the 3 keys the machine can be restarted.

Options

If the SX...M Switch should be mounted directly on the gate already securing the main entrance gate, a B-ACTUATOR-SET can be added allowing to secure 3 gates with an SX-2GATE-SET. see separate datasheet.



If the more people need to enter the dangerous zone they can secure themselves using personal padlocks, when a PADLOCKMODULE-SET is added to the SX...M Switch.. see separate datasheet.



Circuit Diagrams

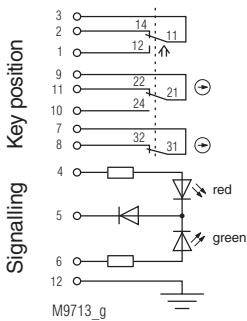


Fig. 1:
Locked while activated:
Key inserted

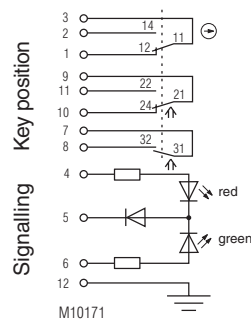


Fig. 2:
Lock deactivated:
Key removed

Switching logic

		Fig. 1	Fig. 2
Door contacts	3	2	
	3	1	
	9	11	
	9	10	
	7	8	

■ closed
□ open

Technical Data

Enclosure:	Stainless steel V4A / AISI 316L
Degree of protection:	IP 65
Temperature range:	- 25 °C to + 65 °C
Storage temperature:	- 40 °C to + 80 °C
Mechanical principle:	Rotating axis with redundant operation
Connection method:	Cage tension spring clamps
min. connection cross-section:	0.25 mm ²
max. connection cross-section:	1.5 mm ²
Cable entry:	1 x M20 x 1.5
B10 _d :	2 x 10 ⁶ switching cycles
Electrical service life:	5 x 10 ⁶ switching cycles
min. operating speed:	100 mm/s
max. operating speed:	500 mm/s (by exception, 1500 mm/s is permitted)
max. switching frequency:	360/h
Nominal voltage U _N :	AC/DC 24 V
Nominal voltage range:	0.85 ... 1.1 U _N
Power consumption:	0.3 W
Rated impulse voltage:	0.8 kV
Rated insulation voltage:	< 60 V
Contacts:	1 NC contact, 2 diverse changeovers contacts
Switching principle:	Changeover contact with forced-opening snap-action switch
max. operating current:	2 A
Short circuit strength, max. fusing:	4A gG
Contact material:	Ag / AgSnO ₂
Indicator:	LED red/green, separate selection possible
Test principles:	EN ISO 13849-1:2008 EN 1088+A2:2008 EN 60947-5-1:2005 GS-ET 19:04.2004
Intended use:	up to max. cat. 4, PL e according to EN ISO 13849-1 according to DIN EN 50041 IEC EN 60947-5-1 Appendix K
Mounting:	
Contact elements:	
Diagnostic coverage (DC), (mechanical):	
Logic and output	cat. 2 cat. 3 cat. 4
STS-SX01M	97 % 99 % 99 %
Fault exclusions:	none
Protection against faults of common cause:	see table in STS design guide
Repair and replacement:	by manufacturer only
Test intervals:	semi-annually recommended min. once a year

Available sets:
SX-1GATE-SET
SX-2GATE-SET
SX-3GATE-SET
SX-4GATE-SET
SX-5GATE-SET

Actuators to be ordered separately 1 for each B-module:
S-ACTUATOR
C-ACTUATOR
CS-ACTUATOR

Accessories:
1001-KEYMODULE-SET
01-SAFETY-KEY-SET
B-ACTUATOR-SET
PADLOCKMODULE-SET