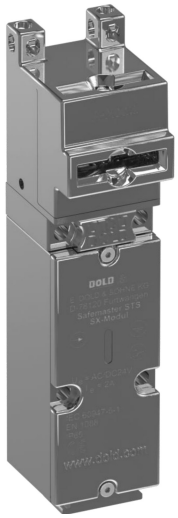
SAFEMASTER STS
Safety Switch- And Key Interlock System
Basic Unit STS-SXA

0258041



Presentation
in the deactivated condition:
Actuator removed

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 STS-SXA
The unit is particularly suitable for applications with:
- Partial body access (no lock-in danger)
- Single-channel/ redundant/ diverse safety circuits
- Rugged ambient conditions

Approvals and marking

CE TÜVRheinland® Functional Safety Type Approved FS

Function

Safety switch (type 2) for separating guards.

Application

To secure separating guards such as safety gates and hoods in machine and plant engineering.

Design and Operation

Attention!

Hazards must be ruled out before the movable part of the guard can 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 key can be removed at any time, whereby hazards must be ruled out immediately. Opening of the access is queried by the contacts of actuator monitoring.
Only after the actuator has been returned to its starting position (to actuator module A) and the door was thus closed can the machine be restarted.

STS-SXA is usually used in the system in connection with other STS units and SAFEMASTER products (e.g. Emergency stop module LG 5925, Softstarter with DC-Brake BL 9228).

Circuit Diagrams

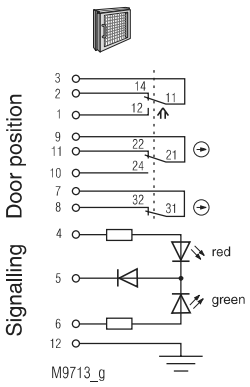


Fig. 1:
Locked while activated:
Actuator inserted,
Door closed

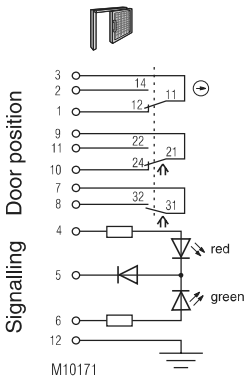


Fig. 2:
Lock deactivated:
Actuator removed,
Door open

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 actuator
Connection method:	cage tension spring clamps
min. connection cross-section:	0.25 mm²
max. connection cross-section:	1.5 mm²
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
Mounting:	according to DIN EN 50041
Contact elements:	IEC EN 60947-5-1 Appendix K
Additional requirement for cat. 4 structure (as single unit):	Add 2nd actuator module, Type STS-SXBA

Diagnostic coverage (DC), (mechanical):

Logic and output	**cat. 2**	**cat. 3**	**cat. 4**
STS-SXA	72 %	74 %	74 %
STS-SXBA	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

Variants and Combination Options

Because of their modular design the basic units of the Safemaster STS System can be combined and expanded according to customer requests. This allows for a variety of possible units and functions.

Overview of the basic units

	Application			
Group of the basic unit	**Basic function with separate actuator**	**Forced key removal as protection against lock-in or to operate additional units**	**Optional key removal as protection against lock-in or to operate additional units**	**Units without actuator**
Mechanical	STS-M10A	STS-M11A	STS-M10B01M	STS-M12M
Locking	STS-ZRHA	STS-ZRH01A	STS-ZRHB01M	STS-ZRH01M
Switch	STS-SXA	STS-SX01A	STS-SXB01M	STS-SX01M
For additional information refer to the data sheets of the individual modules and other basic units.				

Data sheets

STS Solenoid locking modules SX/SV
STS Actuator module A

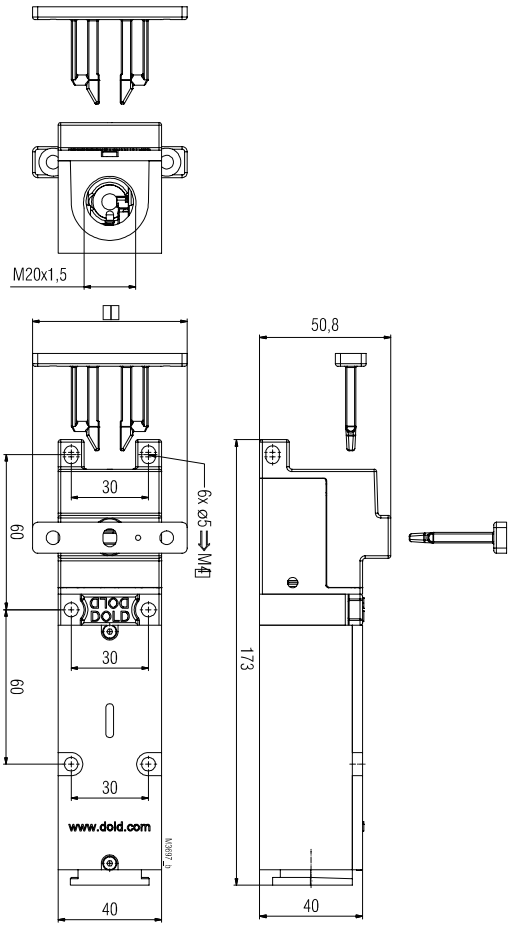
Take advantage of the advice of the **E. DOLD & SÖHNE KG** specialists regarding the choice of units and combination of a system.

Ordering Example

STS- SX A

- A — Actuator module A
- SX — Switch module SX

Dimensional Drawing [mm]



Clearance tolerances ± 2%