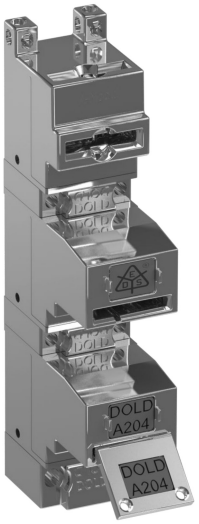
SAFEMASTER STS
Safety Switch- And Key Interlock System
Basic Unit STS-M11A

0258039



Presentation
in the deactivated condition:
1. Key inserted;
2. Key and 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-M10A
The unit is particularly suitable for applications with:
- Full body access (lock-in danger)
- Forced key removal
- Several secured entries
- ATEX areas
- Extremely rugged ambient conditions

Approvals and marking

CE TÜVRheinland® Functional Safety Type Approved FS

Function

Mechanical solenoid locking for separating guards with forced key entry and forced key removal.

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 a key can be entered and the movable part of the guard can then be opened!

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

After entering a first key in key module 10 the second key can be removed from key module 01. The first key is blocked and the actuator released after removing the second key. The second key is blocked when the access is opened and the actuator is thus removed from actuator module A. This ensures an escape route. Only after the access is locked, the actuator and then the second key were returned to their starting position can the first key be removed again and the solenoid locking is activated.

STS-M11A is used in the system in connection with additional STS units and SAFEMASTER products. The first key to be entered may originate from these units (e.g. release through upstream solenoid locking STS-ZRH01A in connection with a speed monitor UH 5947 or standstill monitor LH 5946). The second key to be removed can serve as protection against lock-in or for the operating release of additional units (e.g. STS-M10A, STS-M11A, STS-M12M, STS-M10B01M).

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 actuation
$B10_d$:	2 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
Locking force:	min. 1000 N Depending on actuator and actuator module
Shearing force:	min. 1000 N; depending on actuator
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
Additional requirement for cat. 4 structure (as single unit):	Add 2nd actuator module, Type STS-M11BA
Diagnostic coverage (DC), (mechanical):	
Logic and output	
STS-M11A:	79 %
STS-M11BA:	99 %
Fault exclusions:	none
Protection against faults of common cause:	see table in STS design guide
Repair and replacement:	only by manufacturer
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 End module M
STS Key module 01/10
STS Actuator module A

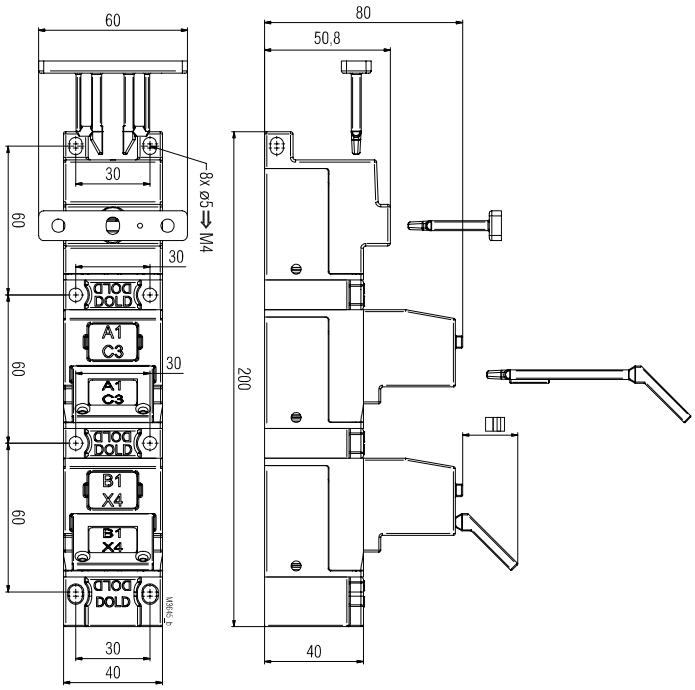
Take advantage of the advice of the **E. DOLD & SÖHNE KG** specialists regarding the choice of units and combination of a system.

Ordering Example

STS- M 1 1 A

- A: Actuator module A
- 1: Key module 01
- 1: Key module 10
- M: End module M

Dimensional Drawing [mm]



Clearance tolerances ± 2%