

**Presentation in the deactivated condition:**  
1st key inserted; 2nd key removed

### STS-System Benefits

- EU-Test certificate according to the directive 2006/42/EG, annex IX
- 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
- Coding level low, medium, high according to DIN EN ISO 14119:2014-03

### Features

The unit is particularly suitable for applications with:

- Several mechanically secured entries
- Extremely rugged ambient conditions
- Required feed back signal of the key
- Required access rights

### Approvals and marking



### Function

Mechanical key changer with forced key entry and optional key removal as well as electrical monitoring function.

### Application

For the key exchange and duplication with mechanical securing of separating guards such as safety gates and hoods in machine and plant engineering.

### Design and Operation

#### Attention!

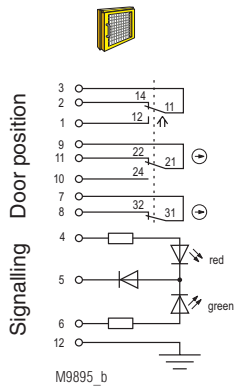


Hazards must be ruled out before the movable part of the guard can then be opened! and the dangerous location can be reached!

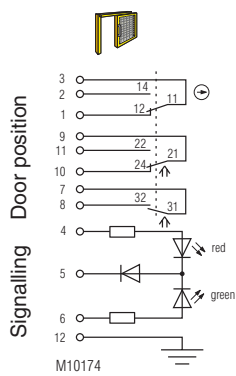
The solenoid locking unit is to be integrated into a system and connected with a control unit so that the hazardous machine can run only when the guard is locked and closed.

The second key can be removed after entering a first key. The first key is blocked and the third key released after removing the second key. The first key can only be removed again after the third and then the second key were returned to their starting position.

RX11M 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 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. M10A, M11A, M12M, M10B01M). The first key can be assigned to a person with access rights.



**Fig. 1:**  
Locked while activated:  
1st key removed,  
2nd key inserted,  
Door closed



**Fig. 2:**  
Lock deactivated:  
1st key inserted,  
2nd key removed,  
Door open

Switching logic

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

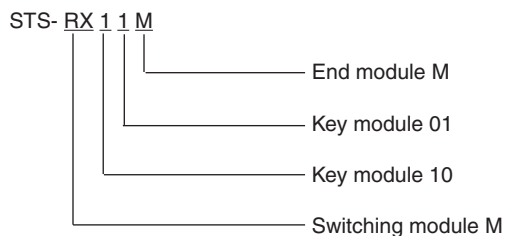
closed  
 open

Enclosure: Stainless steel V4A / AISI 316L / AISI 630  
 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 mm<sup>2</sup>  
 max. connection cross-section: 0.75 mm<sup>2</sup>  
 Cable entry: 1 x M20 x 1.5  
 B10<sub>d</sub>: 2 x 10<sup>6</sup> switching cycles  
 Electrical service life: 5 x 10<sup>6</sup> switching cycles  
 min. operating speed: 100 mm/s  
 max. operating speed: 500 mm/s  
 max. switching frequency: 360/h  
 Power supply „class 2“ in accordance to UL508 table 32  
 Nominal voltage U<sub>N</sub>: AC/DC 24 V  
 Nominal voltage range: 0.85 ... 1.1 U<sub>N</sub>  
 (at 23 °C ambient temperature)  
 Power consumption: 0.3 W  
 Rated impulse voltage: 0.8 kV  
 Rated insulation voltage: ≤ 50 V  
 Contacts: 1 NC contact, 2 antivalent changeovers  
 contacts  
 Switching principle: Changeover contact with forced-opening  
 snap-action switch  
 max. operating current: 2 A  
 Short circuit strength, max. fusing: 2 A gG  
 Utilization category of switching elements to AC 15: 1 A  
 to DC 13: 0.5 A  
 Rated conditional short circuit current: 1000 A  
 Contact material: Ag / AgSnO<sub>2</sub>  
 Indicator: LED red/green, separate selection possible  
 Test principles: EN ISO 13849-1:2008  
 DIN EN ISO 14119:2014-03  
 EN 60947-5-1:2005  
 GS-ET-15:02.2011  
 GS-ET-19:02-2011  
 GS-ET-31:02-2010  
 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 SXBA  
 Diagnostic coverage (DC), (mechanical):  
**Logic and output**  
 RX11M:  

cat. 2	cat. 3	cat. 4
90 %	90 %	99 %

 Protection against faults of common cause:  
 Repair and replacement: see table in STS design guide by manufacturer only  
 Test intervals:  
 for PL a to d: min. once a year  
 for PL e: min. once a month

## Ordering Example



## 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

Functions	Safety switches design type 2	Safety switches design type 2 with solenoid lock	Mechanical units design type 2	Mechanical units with electrical monitoring	Mechanical units with electrical release
Units with standard function	SXA	ZRHA	M10A	RX10A RXK01M	YRXKM YRXK01M
Units with mechanical lock and forced key extraction	SX01A	ZRH01A	M11A	RX11A RXK11M	YRX10A YRX11A
Units with optional key extraction	SXB01M	ZRHB01M	M10B01M	RX10B01M RX10K01M	YRX10B01M
Units without actuator	SX01M	ZRH01M	M12M	RX11M	YRX11M

For additional information refer to the data sheets of the individual modules and other basic units.

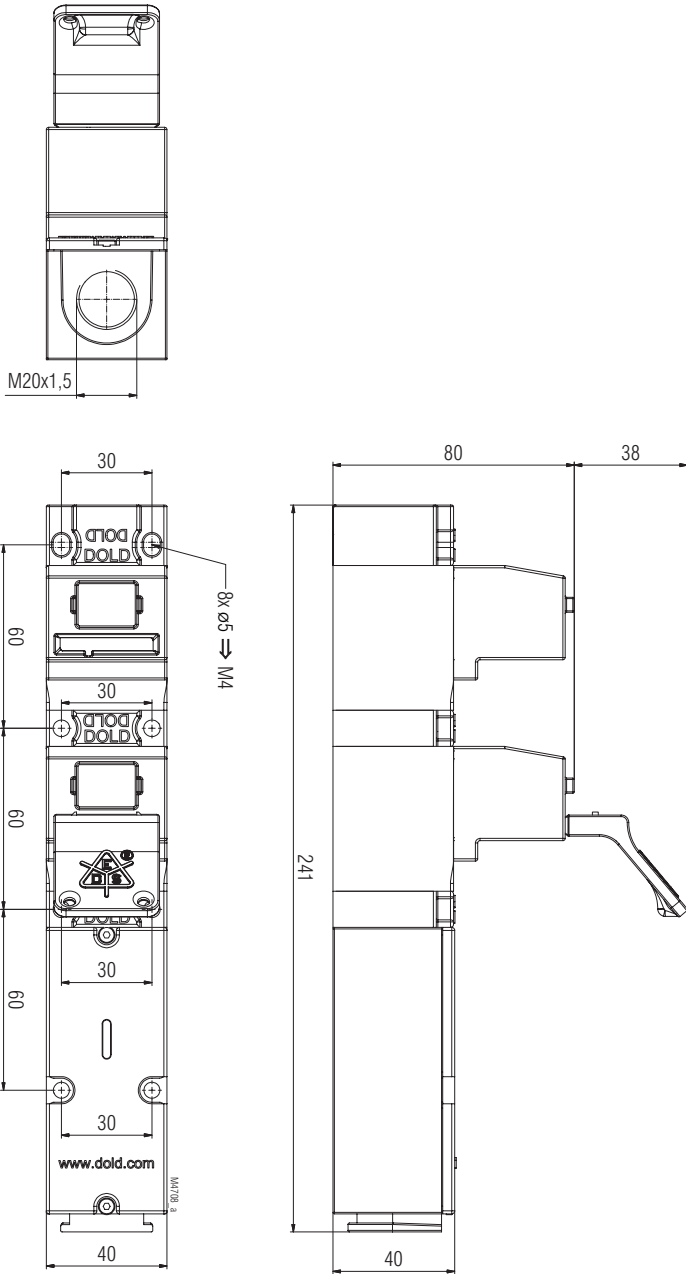
### Data sheets

Switching module RX  
Key module 01/10  
End module M

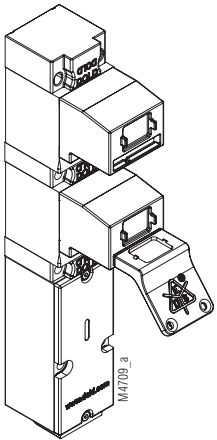


Take advantage of the advice of the **E. DOLD & SÖHNE KG** specialists regarding the choice of units and combination of a system.

Dimensional Drawing [mm]



RX11M  
Clearance tolerances  $\pm 2\%$



RX11M