

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

### STS/K-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 composite version of stainless steel and plastic 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:
- Full body access (lock-in danger)
- Optional key removal
- Several secured entries
- Rugged ambient conditions
- This unit is also available in stainless steel

### Approvals and Markings



### 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!

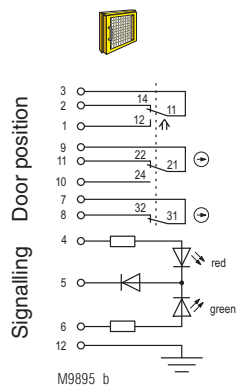


Hazards must be ruled out before the movable part of the guard can then be opened! and the dangerous location can be reached!

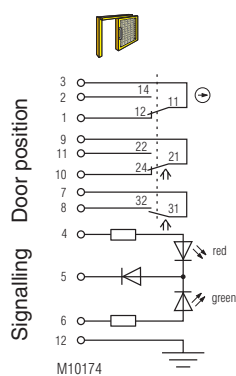
The STS/K solenoid locking unit is to be integrated into a system and connected with a control unit so that the hazardous machine can run only when the guard is locked and closed.

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/K is used in the system in connection with additional STS/K units and SAFEMASTER products. The first key to be entered may originate from these units (e.g. release through upstream solenoid locking ZRH01BM/K 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. M10BM/K, M11BM/K, M12M/K, M10B01M/K). 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: PA + GF  
Internal parts and inserting slots: Stainless steel V4A / AISI 316 / AISI 630  
Degree of protection: IP 65  
Temperature range: - 25 °C to + 40 °C  
Storage temperature: - 25 °C to + 60 °C  
Mechanical principle: Rotating axis with redundant actuator  
Connection method: Cage clamp terminals  
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  
Locking force: min. 2000 N  
min. operating speed: 100 mm/s  
max. operating speed: 250 mm/s  
max. switching frequency: 360/h  
Nominal voltage U<sub>N</sub>: AC/DC 24 V  
Nominal voltage range: 0.85 ... 1.1 U<sub>N</sub>  
Power consumption: 0.3 W  
Rated impulse voltage: 0.8 kV  
Rated insulation voltage: ≤ 50 V  
Overvoltage category: III  
Pollution degree: 2  
max. operating current: 2 A  
Contacts: 1 NC contact, 2 antivalent changeover contacts

Switching principle: Changeover contact with forced-opening snap-action switch

Utilization category of switching elements

to AC 15: 1 A  
to DC 13: 0.5 A

Short circuit strength, max. fusing: 2 A gG

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):  
Diagnostic coverage (DC), (mechanical):

**Logic and output**

RX11M/K:

Protection against faults of common cause:

Repair and replacement:

Test intervals:

for PL a to d:

for PL e:

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

see table in STS design guide by manufacturer only

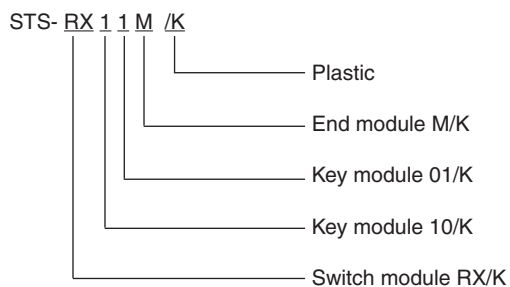
min. once a year

min. once a month

**ATTENTION !**

To avoid wrong usage (e.g. by overload, mounting position or usage in acid, alkaline or other hostile ambient conditions) the limitations of the product have to be observed. Please check in advance if your application requires the usage of the more robust stainless steel model of SAFEMASTER STS. The requirements of the mounting and operating instruction must be fulfilled.

## Ordering Example



## Variants and Combination Options

Because of their modular design the basic units of the SAFEMASTER STS/K 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	SXBM/K	ZRHBM/K	M10BM/K	RXK01M/K RX10BM/K	YRXKM/K YRXK01M/K
Units with mechanical lock and forced key extraction	SX01BM/K	ZRH01BM/K	M11BM/K	RXK11M/K RX11BM/K	YRX10BM/K YRX11BM/K
Units with optional key extraction	SXB01M/K	ZRHB01M/K	M10B01M/K	RX10B01M/K RX10K01M/K	YRX10B01M/K
Units without actuator	SX01M/K	ZRH01M/K	M12M/K	RX11M/K	YRX11M/K

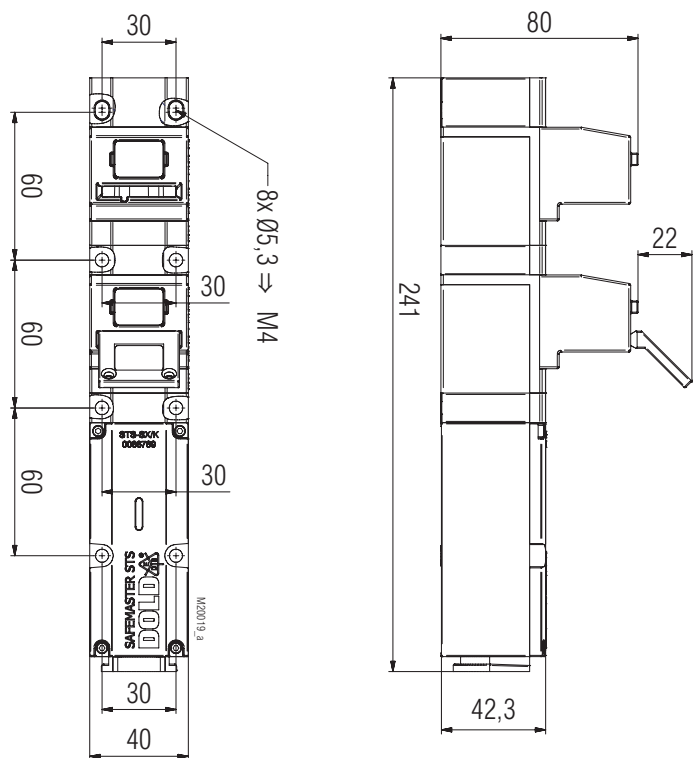
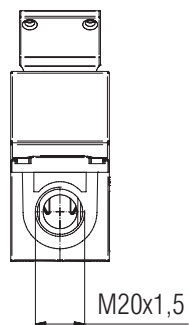
For additional information refer to the data sheets of the individual modules and other basic units.

### Data sheets

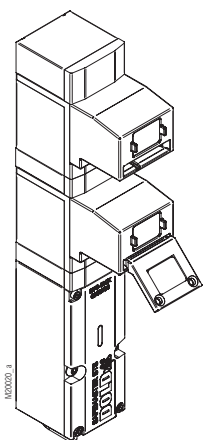
Switching module RX/K  
Key module 01/K / 10/K  
End module M/K



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



RX11M/K  
Clearance tolerances  $\pm 2\%$



RX11M/K