SAFEMASTER STS
Safety Switch- And Key Interlock System
Switch Module RX and RV

Translation of the german original

0266386

Switch modul RX

Switch modul RV

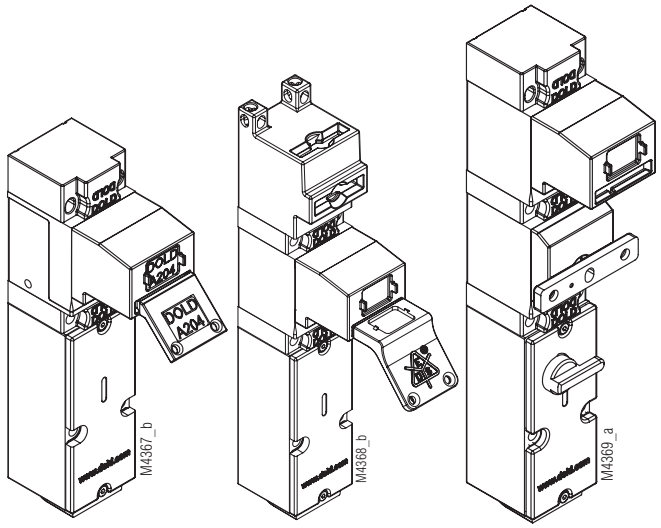
STS-System Benefits

- 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, locking module 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 STS-RX and STS-RV

- Switch module for access authorization applications or additional direct key/actuator monitoring of mechanical units
- Module expansions possible only above the module
- With integrated LEDs for status indication
- Optional / redundant / diverse switch-off possible

Installation Examples



RX10M RX10A RVK01M

Approval marking

Application

Switch modules STS-RX and STS-RV are assembled together with other modules into a STS unit. They are used for access control or additional direct key / actuator monitoring of mechanical units with separating guard.
In case of authorization applications it must be ensured that the hazard is stopped and/or entries are cleared when inserting the key/actuator.

Design and Operation

Switch modules RX and RV are extremely rugged and flexible switch modules monitoring the safe position of one or several entries, e.g. protective hood or door, in the system. For this purpose the modules are used in connection with other mechanical STS modules, e. g. actuator modules K and E, key modules 10 and 10S and/or padlock module W. The key and padlock modules can only be installed above the switch module used.

Switch modules RX and RV are typically used in systems where access rights are distributed via SAFEMASTER STS keys. For access authorizations users and service employees receive an STS key allowing entry to predefined plant areas. Examples for such units are RX10A or RX11A. With unit RX10A a key must first be inserted before an access can be opened. With unit RX11A a second key can be removed in addition. Also, these modules without actuator module can only be used to release keys in a key interlock system if access authorizations are used here. This function is applied in key interlock systems with central shut-off or where the shut-off must take place outside the system, for instance in Ex zones, with strong vibration or dirt build-up, etc.

Switch module RX is used to monitor an actuator (of a mechanical unit). These are examples of such SAFEMASTER STS units:
RXK01M and RXE11M.
For additional information refer to the data sheet of actuator modules K and E.

Circuit Diagrams (example RX01M)

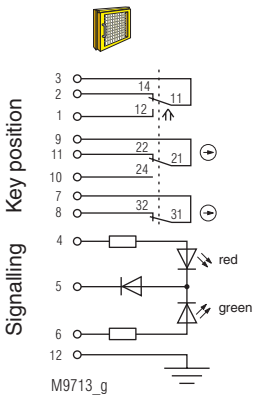


Fig. 1:
Locked while activated:
Key removed,
Actuator inserted,
Door closed

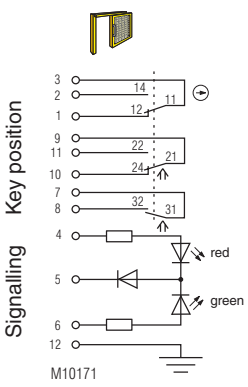


Fig. 2:
Lock deactivated:
Key inserted,
Door unlocked and open

Switching logic

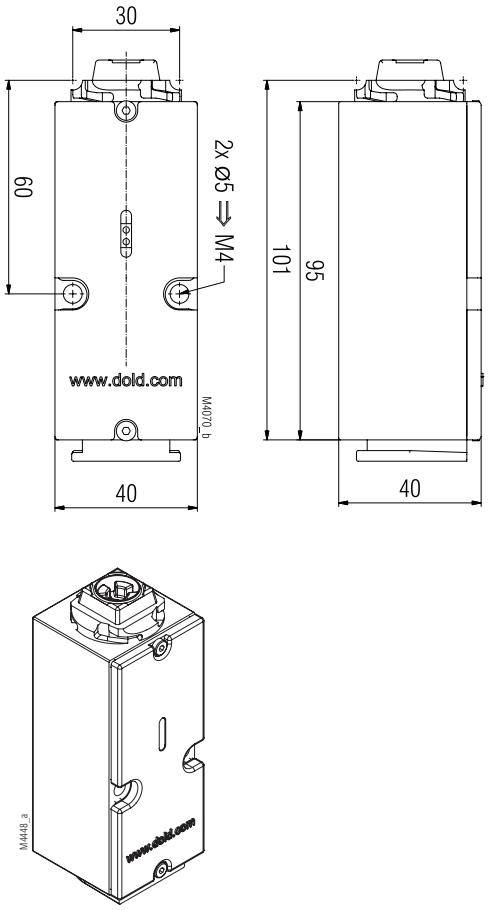
			Fig. 1	Fig. 2
Door contacts	3	2	■	
	3	1		■
	9	11	■	
	9	10		■
	7	8	■	

■ closed
□ open

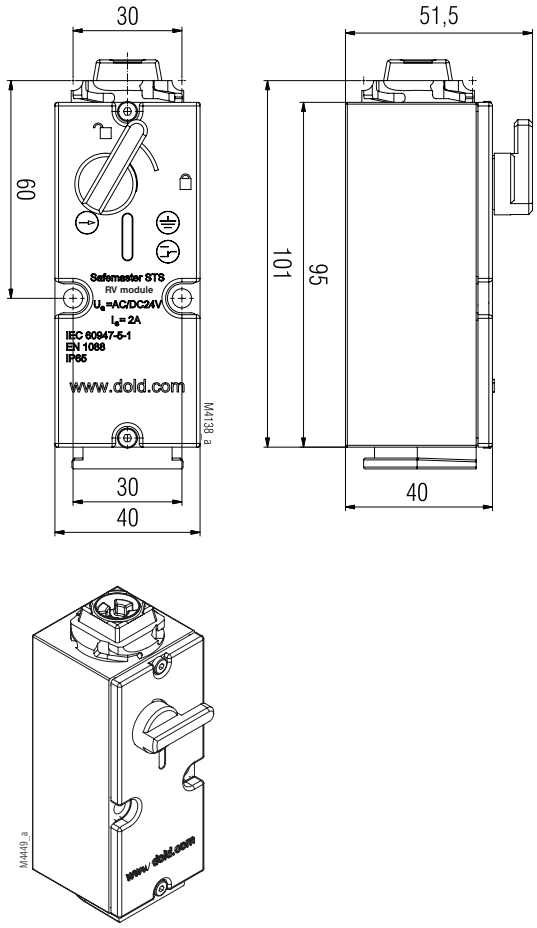
Technical Data

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 actuation
Connection method:	Cage tension spring clamping
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
max. switching frequency:	360/h
Power supply	„class 2“ in accordance to UL508 table 32
Nominal voltage U_N:	AC/DC 24V
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 switches
max. operating current:	2 A
Utilization category of switching elements	
to AC 15:	1 A
to DC 13:	0.5 A
Short circuit strength, max. fusing:	2 A gG
Contact material:	Ag / $AgSnO_2$
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
Installation:	according to DIN EN 50041
Contact elements:	IEC EN 60947-5-1 Appendix K
Diagnostic Coverage (DC):	see data sheets STS basic units and STS design guide
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

Dimensional Drawings [mm]



Switch modul RX



Switch modul RV

Variants and Accessories

Switch module with RV lock
The switch module RV with 3-level locking module function has the same design as the RX, but is equipped with additional manual lock. It is particular suitable for application where an actuator or key must be inserted deliberately. Manual locking of the switch module RV does not prevent, as the switch module SV, the unintended ejection of actuator or key.

Switch modules SX and SV
For applications where the key modules 01, 01S or actuator module B, D, or padlock module V shall be installed above the switch module, versions SX and SV are available.
For more information, refer to the data sheet for switch modules SX and SV.

Ordering Designation

Switch module RX
Article number: 0063598

Switch module RV
Article number: 0064968