

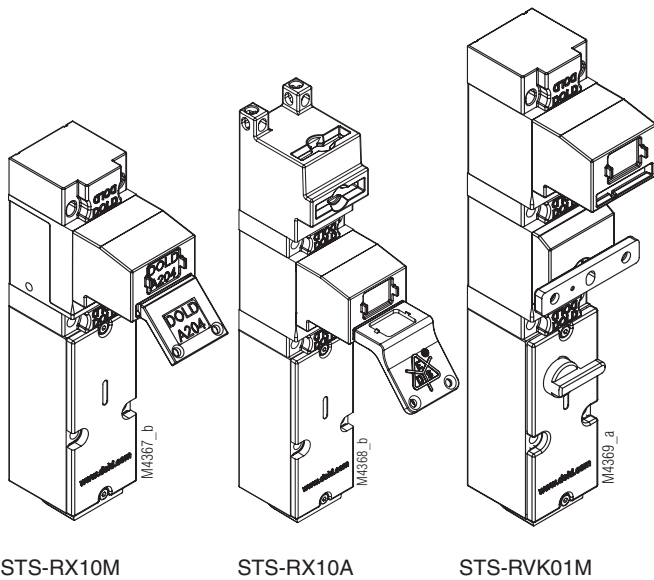
STS-System Benefits

- 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



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 STS-RX and STS-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 STS-K and STS-E, key modules STS-10 and STS-10S and/or padlock module STS-W. The key and padlock modules can only be installed above the switch module used.

Switch modules STS-RX and STS-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 STS-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 STS-RX is used to monitor an actuator (of a mechanical unit).

These are examples of such SAFEMASTER STS units:
STS-RXK01M and STS-RXE11M.

For additional information refer to the data sheet of actuator modules STS-K and E.

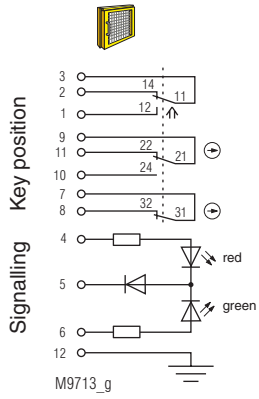


Fig. 1:
Locked while activated:
Key removed,
Actuator inserted,
Door closed

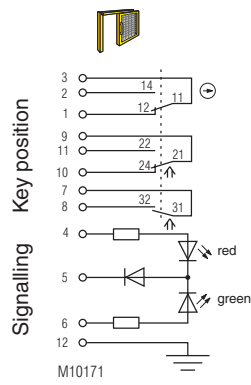


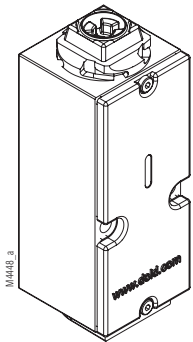
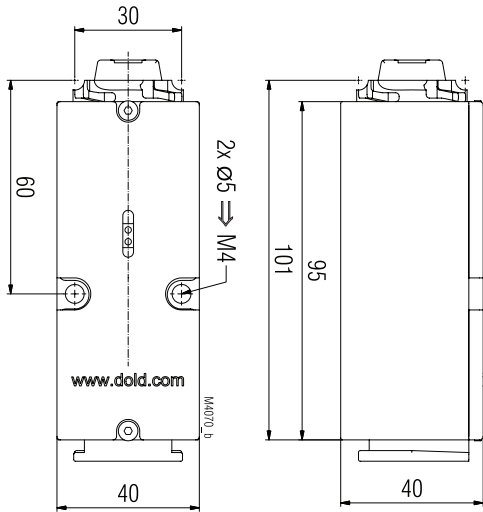
Fig. 2:
Lock deactivated:
Key inserted,
Door unlocked and open

Switching logic

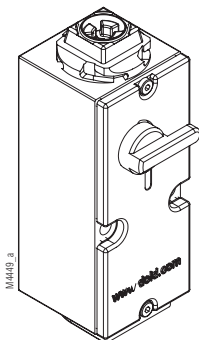
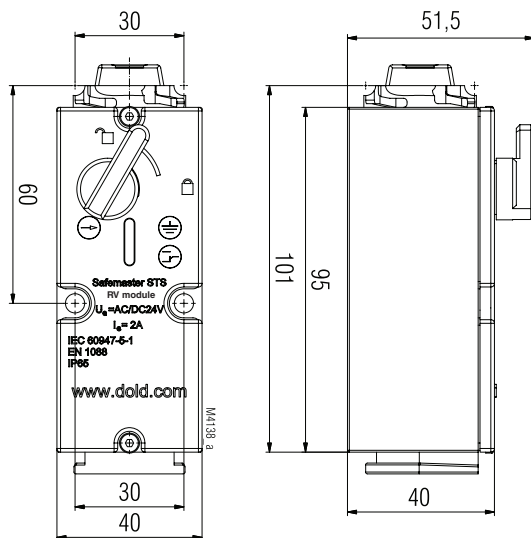
		Fig. 1	Fig. 2
Door contacts	3	2	■
	3	1	□
	9	11	■
	9	10	□
	7	8	■

■ closed
□ open

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 10⁶ switching cycles
 Electrical service life: 5 x 10⁶ 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 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
 Short circuit strength, max. fusing: 2 A gG
 Contact material: Ag / AgSnO₂
 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



STS-RX module



STS-RV-Module

Switch module with STS-RV lock

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

Switch modules STS-SX and STS-SV

For applications where the key modules STS-01, STS-01S or actuator module STS-B, STS-D, or padlock STS-V shall be installed above the switch module, versions STS-SX and STS-SV are available.

For more information, refer to the data sheet for switch modules STS-SX and STS-SV.

Ordering Designation

Switch module STS-RX
Article number: 0063598

Switch module STS-RV
Article number: 0064968

