

SAFEMASTER STS Safety Switch- and Key Interlock System Padlock Modules V and W

Translation
of the original instructions



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Symbol and Notes Statement



DANGER:
Indicates that death or severe personal injury will result if proper precautions are not taken.



WARNING:
Indicates that death or severe personal injury can result if proper precautions are not taken.



CAUTION:
Indicates that a minor personal injury can result if proper precautions are not taken.



INFO:
Referred information to help you make best use of the product.



ATTENTION:
Warns against actions that can cause damage or malfunction of the device, the device environment or the hardware / software result.

General Notes

The product hereby described was developed to perform safety functions as a part of a whole installation or machine. A complete safety system normally includes sensors (SAFEMASTER STS System), evaluation units, signals and logical modules for safe disconnections. The manufacturer of the installation or machine is responsible for ensuring proper functioning of the whole system. DOLD cannot guarantee all the specifications of an installation or machine that was not designed by DOLD. The total concept of the control system into which the device is integrated must be validated by the user. DOLD also takes over no liability for recommendations which are given or implied in the following description. The following description implies no modification of the general DOLD terms of delivery, warranty or liability claims.

Notes



Risk!

Danger to life or risk of serious injuries.

- Hazards must be ruled out before a key can be entered and the movable part of the guard can then be opened!



INFO

- For information regarding use in the system and validation according to EN ISO 13849-2, see SAFEMASTER STS application guide.
- Take advantage of the advice of the **E. Dold & Söhne GmbH & Co. KG** specialists regarding the choice of units and combination of a system.



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.



Before installing, operating or maintaining this device, these instructions must be carefully read and understood.



The installation must only be done by a qualified electrician!



The installation must only be done by a qualified mechanic!



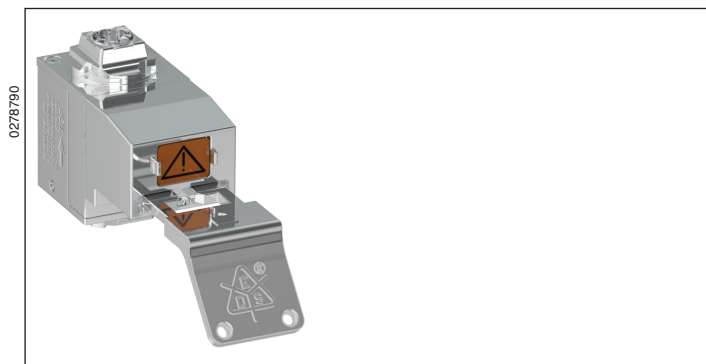
Do not dispose of household garbage!
The device must be disposed of in compliance with nationally applicable rules and requirements.



Storage for future reference.

To help you understand and find specific text passages and notes in the operating instructions, we have important information and information marked with symbols.

SAFEMASTER STS Safety Switch- and Key Interlock System Padlock Modules V and W



Presentation: key extracted

STS-System Benefits

- EU-Test certificate according to the directive 2006/42/EG, annex IX
- For safety applications up to PLe/Category 4 acc. to DIN 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

- Permits personal influence on a safety concept
- For up to 3 padlocks with shackle diameters from min. 6 mm to max. 8 mm
- Module expansions possible below and above the module
- Allows blocking of entries and control elements
- Choice of direction in 4 increments of 90°

Product Description

The padlock module V is assembled together with other modules into an STS unit and can be locked with a padlock. It is hung up on the **non-removable key**. The key is used thereby for unlocking or locking of functions. The module can be installed in 4 positions, each rotated by 9°.

ATTENTION!



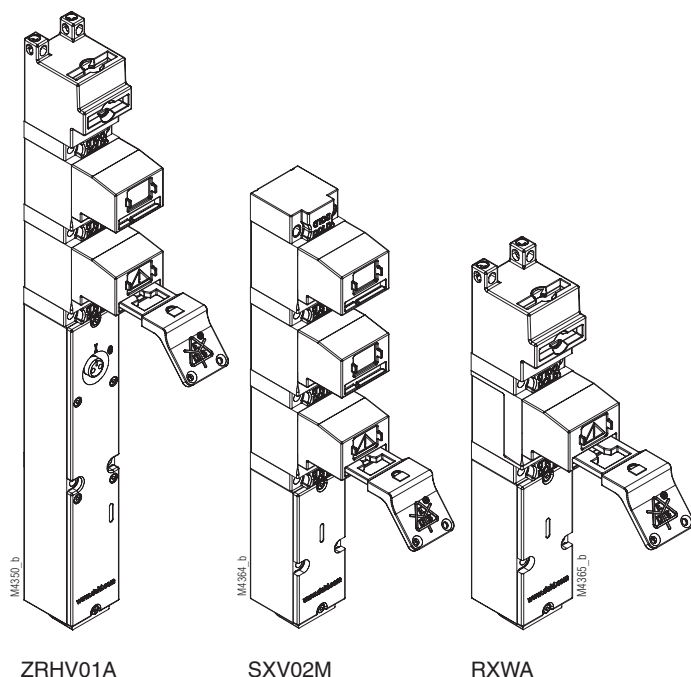
Mechanical function modules can be installed above and/or below the padlock module!

Electrical modules can only be installed below the padlock module!

Approvals and Markings



Installation Examples



Design and Function

An extremely robust and flexible padlock reliably monitoring locking by mechanical means, e.g. of protective hood or door, switch or door lock, thus enabling personal protection measures.

To fulfil its function, the module must be used in connection with other function modules such as switch, solenoid lock, actuator or key modules. These modules are always installed at a strategic location in the system to ensure forced operation.

The padlock module therefore offers the operating personnel the possibility of taking control of their own safety.

Example M10VA

A key must first be inserted here in the key module and the key on the padlock module must be subsequently pulled. Only then can it be secured with a padlock before a door or hood can be opened. The removal of the key on the padlock locks the key module 10 and unlocks the actuator module A. Hooking in the padlock in this case serves as a personal security measure against being locked in.

Technical Data

Mechanical Data

Enclosure: Stainless steel V4A / AISI 316L

General Data

Temperature range: - 40°C to + 100°C

Storage range: - 40°C to + 100°C

Version:

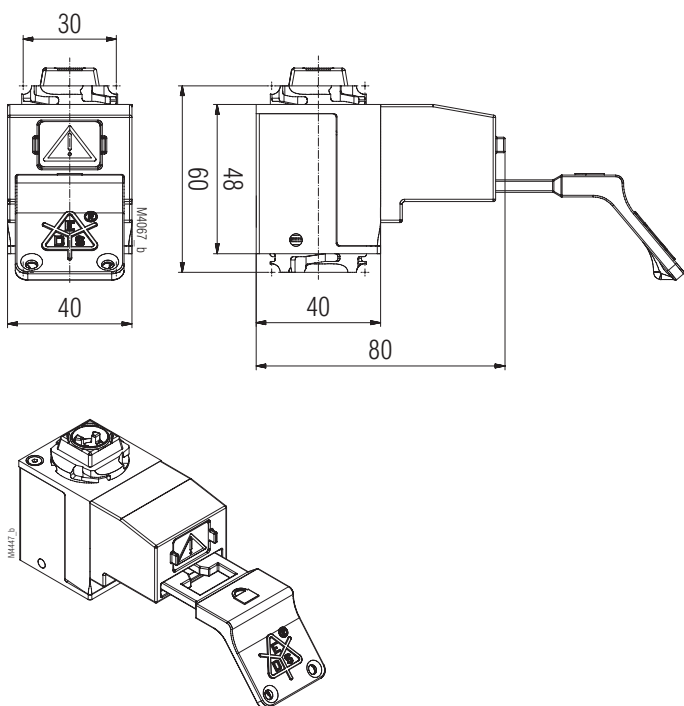
Padlock module V:

For the release of the upper module and locking of the lower module the non-removable key must be pulled out; option of hanging up 1 to 3 padlocks

Padlock module W:

Inverted design of padlock module V; for the release of the lower and locking of the upper module then non-removable key must be pulled out; option of hanging up 1 to 3 padlocks

Dimensional Drawings [mm]



Variants and Accessories

The padlock module W has an inverted working principle compared to padlock module V and is used to lock an access or switch with the help of a padlock. To release a process, the key of the padlock module W must be inserted. Padlock module W are ideally suited for inverted applications with the actuator modules K and E.

Ordering Designation

Padlock module V
Article number: 0061874

Padlock module W
Article number: 0063985

Safety Related Data

Data suitable for the PFH_D summation method according to EN ISO13849-1:2016

Data according to EN ISO13849-1:2016	Padlock modules V and W			
Category	2	3	3	4
PL	d	d	e	e
PFH _D	1,061E-09	6,84592E-10	5,44569E-10	1,00122E-10
T _{10D}	20	20	20	20
CCF required	65-100	85-100	85-100	85-100
B _{10d}	2.000.000	2.000.000	2.000.000	2.000.000
d _{op} (d/a)	365	365	365	365
h _{op} (h/d)	24	24	24	24
t _{cycle} (h)	1	1	1	1
n _{op}	8760	8760	8760	8760
Diagnostic coverage DC	60%	60%	90%	99%
Test interval according to ISO14119	1 / year	1 / year	1 / month	1 / month

Category 2: The prerequisites for installation and integration into a category 2 architecture must be met

Category 3: The prerequisites for installation and integration into a category 3 architecture must be met

Category 4: The prerequisites for installation and integration into a category 4 architecture must be met, in particular 2 actuators must be used

PFH_D: A single module has no function. As a result, an individual module cannot have any safety-related characteristic values. The safety-related characteristic data in the table only serve to determine the values of a unit into which it is integrated.

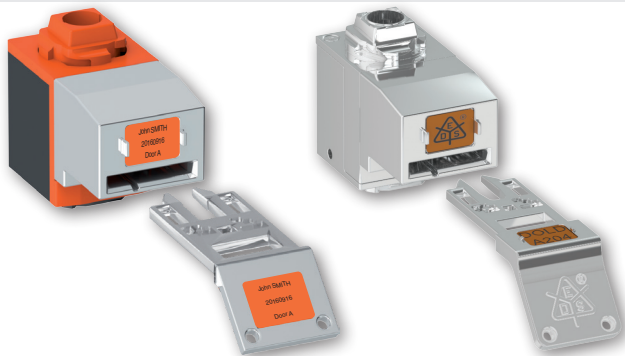
When used as part of a **key transfer system**:

- PFH_D total STS system = SUM PFH_{D1} + ... PFH_{Dn}
- Lowest category of a module = category of whole STS system
- Lowest DC of a module = DC entire STS unit



If the design of a unit is changed, the safety-related data may also change.

Key Labelling and Colours



Labelling

The keys and keys modules of the safety switch and key transfer system SAFEMASTER STS can be labeled individually.

SAFEMASTER STS is supplied with orange-coloured and black lettered standard labels.

There are max. 3 lines with 13 letters each (upper and lower case) at your disposal.

The maximum font height is 4 mm.

Usually the manufacturer name of the machine, machine number and the door identification is indicated (see example).

The labelling can be made to customer specifications within the above-mentioned possibilities.

Labelling Example:

Line 1: Manufacturer name
Line 2: Machine number
Line 3: Door identification

John SMITH
20160916
Door A

Choice of Colors ¹⁾

Type plate	Font color	Code / Article number
Orange	Black	FC 01 0063001
Yellow	Black	FC 02 0063004
Red	White	FC 03 0063003
White	Black	FC 04 0063002
Black	White	FC 05 067022
Light blue	White	FC 06 068233
Blue	White	FC 07 063005
Dark Blue	White	FC 08 067025
Apple green	White	FC 09 067024
Green	White	FC 10 0063006
Almond	Black	FC 11 067019
Brown	White	FC 12 067023
Dark brown	White	FC 13 067021
Light grey	Black	FC 14 067020
Brown-grey	White	FC 15 067018
White	Red	FC 16 068234
White	Light blue	FC 17 068765
Yellow	Red	FC 18 068766
Black	Gold	FC 19 068767

¹⁾ The colours shown are non-binding print reproductions. They can deviate from real serial patterns.

