

## CSMS - Non-Contact RFID Safety System

The CSMS non-contact electrical safety switch systems ensures that safety doors and protective guards remain closed.

In addition to high switching tolerances and fast reaction times, the contactless, coded communication between the sensor and the actuator also offers a high level of safety and protection against tampering.

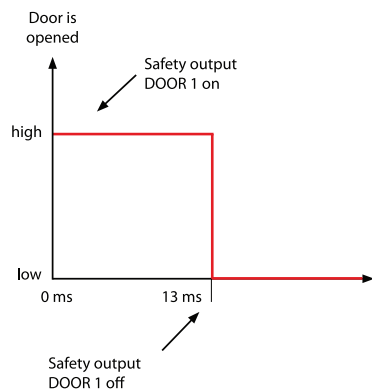
The use of non-contact safety switches for monitoring movable safety doors, guards and gates offers the following advantages:

- **Simple adjustment**
- **No broken actuators**
- **High degree of tolerance to vibrations**
- **No wear**
- **Exceptionally easy cleaning**
- **Unique or Multiple Coding** – with unique coding pairs only one mated actuator with can be used with each switch; multiple coding pairs allow a common actuators to be used for multiple switches
- **Safety series connection** with max. 32 CSMS up to **PL e / SIL 3 (category 4)**
- **Reduction in cost** – no additional external monitoring is needed
- **Flexible application** – a manual and automatic start is possible with the same CSMS
- **Meets the latest requirements** – the CSMS fulfils the requirements of **ISO 14119** (the successor to EN 1088) regarding individual coding (**high-level coding**)
- **Economic system installation** due to the **simple** and **fast installation** with M12 plug technology
- **Time saving** – laborious troubleshooting as a result of wiring errors is now a thing of the past
- **Time saving** – the system status is displayed on the **diagnosis interface**



### Advantages of fast shutdown:

Thanks to the fast shutdown, it is possible to significantly reduce the area of the dangerous movement which is to be protected. This results in savings in both protective guards and hoods, as well as in space.

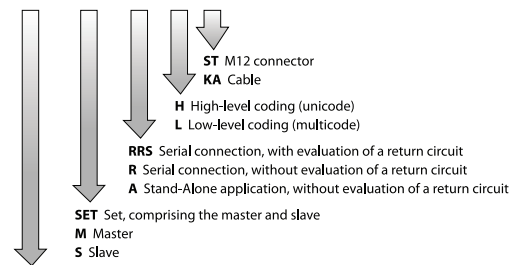


Rated sensing distance $S_n$	13 mm
Assured sensing distance – (On) $S_{so}$	min. 10 mm
Assured sensing distance – (Off) $S_{sr}$	19 mm
Hysteresis H	0,5 mm

**Please note:** Metal may also affect the sensing distance.

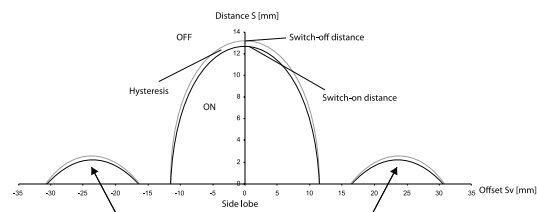
### Description Breakdown:

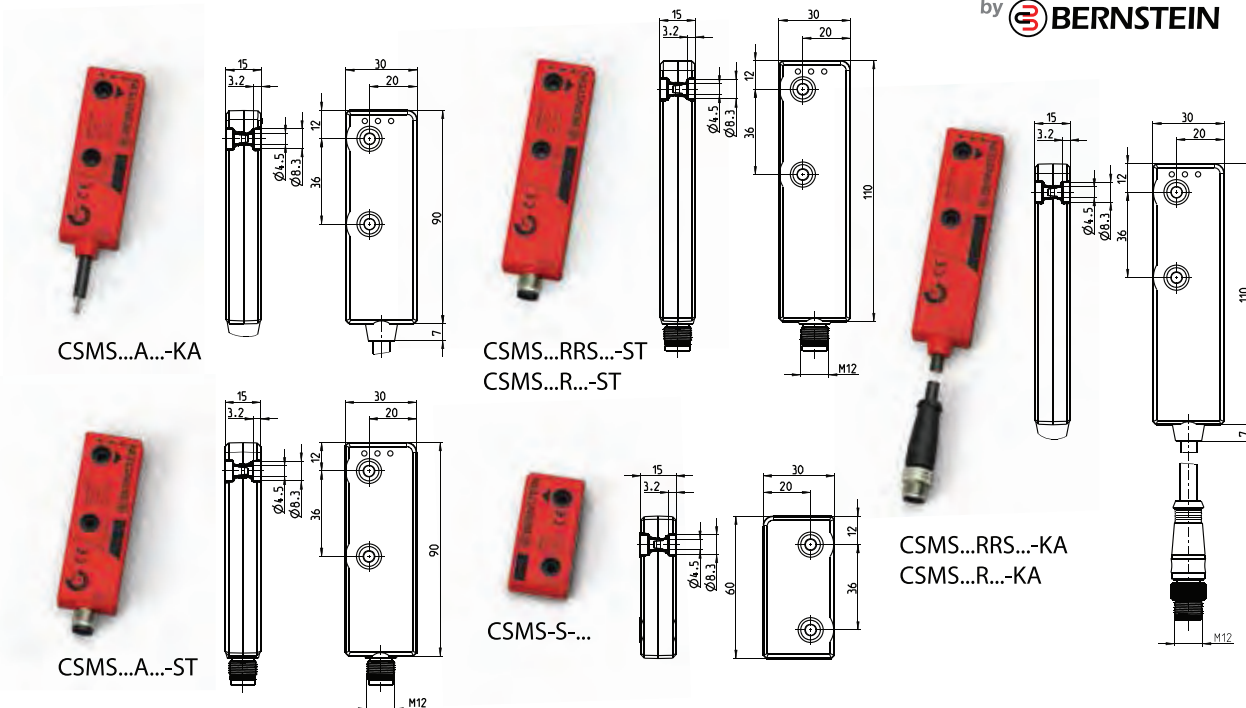
#### CSMS-SET-RRS-H-ST



CSMS Contactless Safety Monitoring Sensor

### Sensing distance





## Technical data

- Rated operating voltage 24 V, polarity reversal protection
- Open-circuit current ≤ 55 mA
- Repeatability 0,1 x S (within the limits Smin and Smax)
- Switching frequencies ≤ 1Hz
- Switch-off delay time 13 ms + 200 μs x down stream CSMS unit in serial connection
- Output current Safety contacts = 2x 250mA
- Enclosure Macromelt, red / PA 6, black
- Mounting through 2 holes Ø 4,5 (for M4 screws)
- Ambient temperature -25 °C to +70 °C
- Protection class IP 67
- Sensing distance S n 13 mm
- Readiness delay t<sub>v</sub>
- **CSMS...RRS with automatic start**  
1,8 s + 33 ms x following CSMS unit
- **CSMS...RRS with Start button**  
50 ms + 50 ms x following CSMS unit
- **CSMS...R**  
320 ms + 50 ms x following CSMS unit

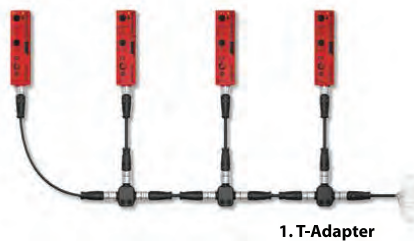
## Accessories CSMS

### T-Adapters

Versions	Start function	1. T-Adapter	Following T-Adapter
Version RRS	Manual start	Grey	Black
	Automatic start	Black	Black
Version R		Grey	Black

### Cables

Article number	Designation	Description	
607.5989.038	CON-CAB.CSMS 0,5M G/G	Length: 0,5 m	Connection cable M12 / 8-pin male / female
607.5989.039	CON-CAB.CSMS 1M G/G	Length: 1 m	
607.5989.040	CON-CAB.CSMS 2M G/G	Length: 2 m	
607.5989.041	CON-CAB.CSMS 5M G/G	Length: 5 m	
607.5989.042	CON-CAB.CSMS 10M G/G	Length: 10 m	
607.5989.043	CON-CAB.CSMS 20M G/G	Length: 20 m	
607.5989.053	CON-CAB.CSMS 0,3 M G	Length: 0,3 m	Connection cable M12 / 8-pin female / open
607.5989.054	CON-CAB.CSMS 2 M G	Length: 2 m	
607.5989.036	T-Adapter AS	T-Adapter (black) for series circuits (see the table above)	
607.5989.037	T-Adapter MS	T-Adapter (grey) for series circuits (see the table above)	
607.3900.070	SPACER short		
607.5989.044	SPACER long		
607.5989.031	CSMS DIAGNOSE STANDARD 8	Diagnosis for 8 CSMS, 8 PNP outputs	
607.5989.032	CSMS DIAGNOSE STANDARD 16	Diagnosis for 16 CSMS, 16 PNP outputs	
607.5989.033	CSMS DIAGNOSE PROFIBUS	Diagnosis for up to 32 CSMS with Profibus Gateway	
607.5989.055	CSMS BASIS CONNECT. DEVICE	Connection device for easy and fast installation of the CSMS system	
607.5989.056	CSMS SLAVE TEACHADAPTER	Tool for teaching in a replacement actuator	



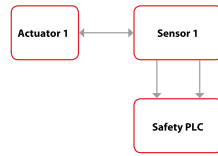
1. T-Adapter

## CSMS - A for direct connection to a control unit

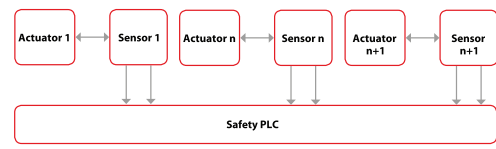
### Advantages

- Up to **PL e / SIL 3**
- Multi-coding
- Compact construction
- Connection to an external safety evaluation unit like the SCR-ON

#### Individual application



#### Series application



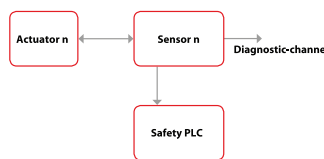
Unique Code	Multicode	M12 connector	2 m cable	Article number	Designation	Description
	x	x		<b>607.5988.072</b>	CSMS-SET-A-L-ST	Switch & Actuator with 2M Cable
	x		x	<b>607.5988.073</b>	CSMS-SET-A-L-KA	Switch & Actuator with M12 Connector
	x		x	<b>607.5985.070</b>	CSMS-M-A-L-KA	Switch Only with 2M Cable
	x	x		<b>607.5986.071</b>	CSMS-M-A-L-ST	Switch Only with M12 Connector
Replacement actuator Multicode				<b>607.5980.065</b>	CSMS-S-L	Multicode Actuator Only

## CSMS - R for direct connection to a control unit, with diagnostic channel

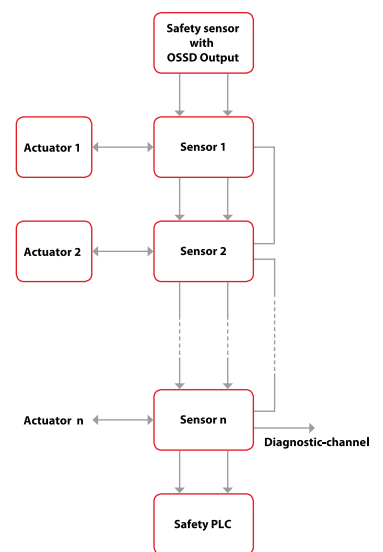
### Advantages

- Safe serial connection with max. 32 CSMS up to **PL e**
- Connection to an external safety evaluation unit like the SCR-ON
- Single or multiple coding
- Optional: Connection of a safety sensor (for ex. safety light curtain) with OSSD output to the first CSMS

#### Individual application



#### Series application



Unique Code	Multi Code	M12 connector	2 m cable with M12 connector	Article number	Designation	Description
x			x	<b>607.5988.059</b>	CSMS-SET-R-H-KA	Switch & Actuator+2M Cable/Connector
x		x		<b>607.5988.060</b>	CSMS-SET-R-H-ST	Switch & Actuator with M12 Connector
	x	x		<b>607.5988.067</b>	CSMS-SET-R-L-ST	Switch & Actuator+2M Cable/Connector
	x		x	<b>607.5988.069</b>	CSMS-SET-R-L-KA	Switch & Actuator with M12 Connector
x			x	<b>607.5985.049</b>	CSMS-M-R-H-KA	Switch Only + 2M Cable / Connector
x		x		<b>607.5986.051</b>	CSMS-M-R-H-ST	Switch Only with M12 Connector
	x		x	<b>607.5985.063</b>	CSMS-M-R-L-KA	Switch Only + 2M Cable / Connector
	x	x		<b>607.5986.064</b>	CSMS-M-R-L-ST	Switch Only with M12 Connector
Replacement actuator Multicode				<b>607.5980.065</b>	CSMS-S-L	Multi code Actuator Only
Replacement actuator Unicode				<b>607.5980.052</b>	CSMS-S-H*	Single code Actuator Only

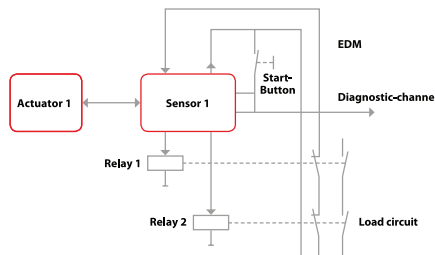
\*Must be taught in with 6075989056 (CSMS SLAVE TEACHADAPTER) for the master.

## CSMS - RRS with external monitoring circuit

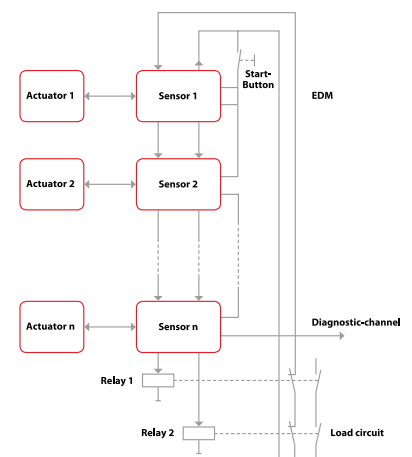
### Advantages

- Individual CSMS or safe serial connection with max. 32 CSMS up to **PL e**
- Manual or automatic start
- No external safety evaluation unit required
- Unique or multi-coding
- Integrated evaluation of a return circuit and start button with direct connection to contactors

#### Individual application



#### Series application



Unique Code	Multi Code	M12 connector	2 m cable with M12 connector	Article number	Designation	Description
x			x	<b>607.5988.057</b>	CSMS-SET-RRS-H-KA	Switch & Actuator+2M Cable/Connector
x		x		<b>607.5988.058</b>	CSMS-SET-RRS-H-ST	Switch & Actuator with M12 Connector
	x	x		<b>607.5988.066</b>	CSMS-SET-RRS-L-ST	Switch & Actuator+2M Cable/Connector
	x		x	<b>607.5988.068</b>	CSMS-SET-RRS-L-KA	Switch & Actuator with M12 Connector
x			x	<b>607.5985.048</b>	CSMS-M-RRS-H-KA	Switch Only + 2M Cable / Connector
x		x		<b>607.5986.050</b>	CSMS-M-RRS-H-ST	Switch Only with M12 Connector
	x		x	<b>607.5985.061</b>	CSMS-M-RRS-L-KA	Switch Only + 2M Cable / Connector
	x	x		<b>607.5986.062</b>	CSMS-M-RRS-L-ST	Switch Only with M12 Connector
Replacement actuator Multicode				<b>607.5980.065</b>	CSMS-S-L	Multi code Actuator Only
Replacement actuator Unicode				<b>607.5980.052</b>	CSMS-S-H*	Single code Actuator Only

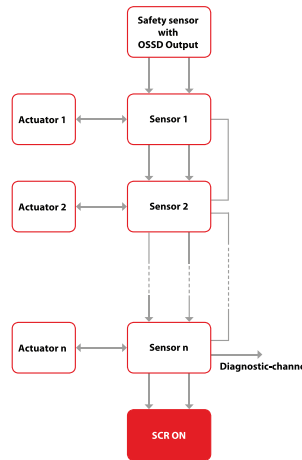
\*Must be taught in with 6075989056 (CSMS SLAVE TEACHADAPTER) for the master.

## SCR ON

For processing signals from the BERNSTEIN CSMS-R and CSMS-A, the safety relay series SCR ON can be used.

### Features

- Monitoring of sensors with PNP output
- **PL e** according to **ISO 13849**
- Monitored start / automatic start
- Three enabling current paths (NO)
- Evaluation of a return circuit



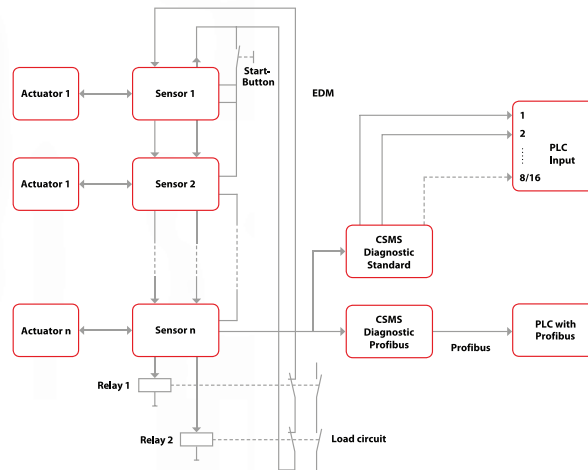
Article number	Designation
6075111020	SCR ON4-W22-3.6-5

## CSMS diagnosis

The CSMS product family offers one of the **largest diagnostic options** on the market. Opened protective gates and guards as well as failures can be rapidly and precisely identified. With the optional diagnostic devices monitor, the status of each CSMS switch can be read from the security network.

### Features

- Status display of each CSMS in the security chain
- Electronical outputs or bus interface



Article number	Designation	Description
6075989031	CSMS DIAGNOSE STANDARD 8	Diagnosis for 8 CSMS
6075989032	CSMS DIAGNOSE STANDARD 16	Diagnosis for 16 CSMS
6075989033	CSMS DIAGNOSE PROFIBUS	Profibus Gateway

## Safety basis monitor

The Safety Basis Monitor is a graphically programmable safe "miniature control unit", which supports up to 35 inputs.

### Features

- Evaluation of a return circuit
- Manual / automatic start
- Up to **PL e / SIL 3**
- Two safe electronic outputs
- Time delay for safe outputs
- Graphically programmable

Article number	Designation
6073100084	ASI BASISMONITOR EXP. FUNCTION
6073800079	ASI PROG. SOFTWARE
6073100078	USB-CA. F. ASI BASISMONITOR

