

## Safety switch

### Series CSMS

Type designation **CSMS-SET-R-H-ST**

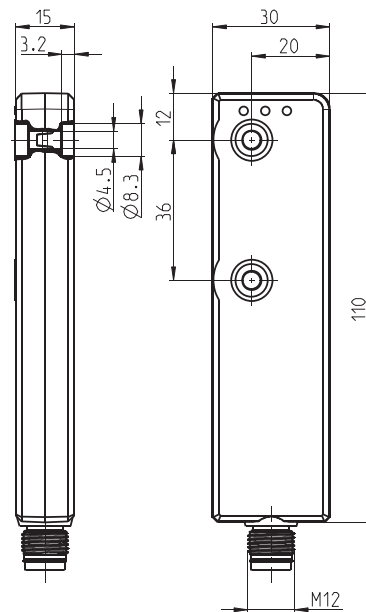
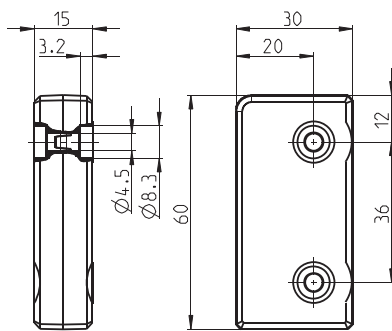
Article number **6075988060**

#### Set bestehend aus

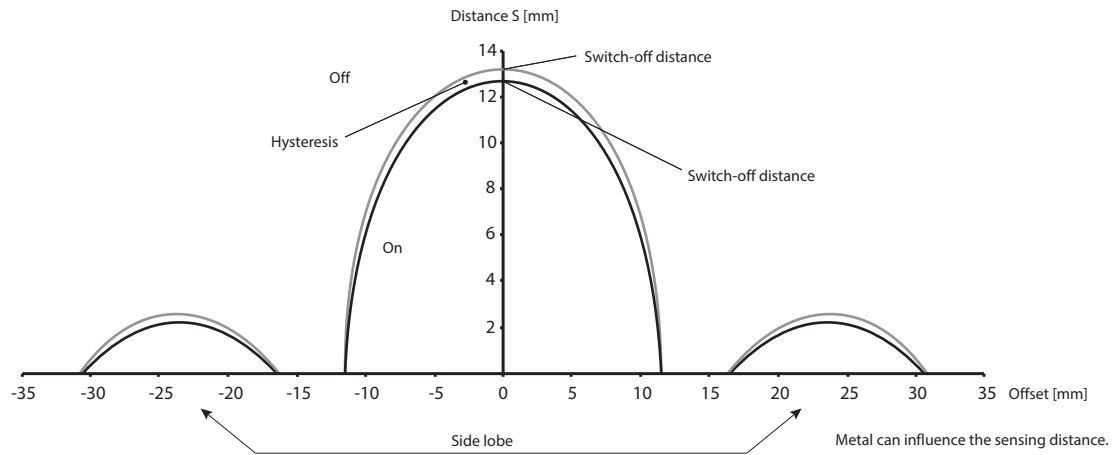
Article number	Type designation	Designation
<b>6075986051</b>	<b>CSMS-M-R-H-ST</b>	<b>CSMS, plug connector version</b>
<b>6075980052</b>	<b>CSMS-S-H</b>	<b>Actuator</b>

**6075980052**

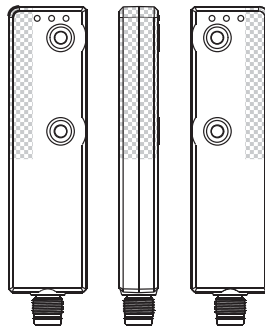
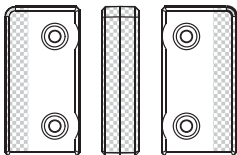
**6075986051**



Sensing distance				
		min.	typ.	max.
Rated sensing distance	$S_n$		13 mm	
Assured sensing distance – On	$S_{ao}$	10 mm		
Hysteresis	H		0,5 mm	
Assured sensing distance – Off	$S_{ar}$			19 mm

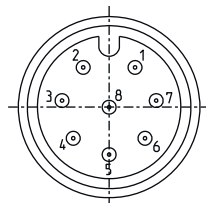


### Active surfaces



### Connection

- Pin 1 – DI
- Pin 2 – I1
- Pin 3 – I2 / Q3
- Pin 4 – DO
- Pin 5 – Q1
- Pin 6 – Q2
- Pin 7 – -
- Pin 8 – +



<b>Electrical Data</b>		
Rated operating voltage	$U_e$	24 V, Reverse polarity protection, +10 %, -15 %
Voltage level		according to Typ 3 EN 61131-2
Rated insulation voltage	$U_i$	75 V DC
Rated impulse withstand voltage	$U_{imp}$	500 V
Rated conditional short circuit current		100 A
No-load current	$I_0$	≤ 55 mA
Transponder frequency		6,78 MHz
Repeatability		0,1 x S (within the limits Smin and Smax)
Operating frequency		≤ 1Hz
Switch-off	$t_a$	13 ms + 200 μs x following CSMS
Time delay	$t_v$	320 ms + 50 ms x following CSMS
Electromagnetic interference		according to EN IEC 60947-5-2 and EN 61326-3-1
<b>Inputs I1,I2, Di</b> (digital inputs according to EN61131-2)		
Voltage	$U_{Hmax}$	30 V
	$U_{Hmin}$	11 V
	$U_{Lmin}$	-3 V
	$U_{Lmax}$	5 V
<b>Outputs Q1,Q2</b>		
Switching element function		pnp NO
Rated operating current	$I_e$	250 mA
Minimum operating current	$I_m$	1 mA DC
Leakage current	$I_r$	0,5 mA DC
Switching elements		Sustained short-circuit and overload protection
Voltage drop	$U_d$	≤ 1 V
Type of short circuit protection		Clocking
Utilization category		DC-13
<b>Output Do</b>		
Rated operating current	$I_e$	Source: 2 mA, sink: 1 mA
Data rate		2400 Bit/s
Switching elements		Sustained short-circuit and overload protection
Voltage at Do	$V_{High}$	≥ $U_e - 3V$
Voltage at Do	$V_{Low}$	≤ 3V
Utilization category		thermal, current limited

<b>Mechanical Data</b>	
Enclosure	Macromelt, red / PA 6, black
Mounting	2 holes Ø 4,5 (for M4 screws)
Tightening torque (max.)	1Nm
Indication	3 LEDs (for diagnosis)
Shock and Swing	acc. to EN IEC 60947-5-2
Ambient temperature	-25°C ... +70°C
Storage temperature	-25°C ... +70°C
Maximum relative humidity	90 % @ 40 °C without condensation
Altitude	≤ 2000 m NHN
Connection	Plug connector M12 male
Mass	6075986051: 60 g, 6075980052: 27 g
Type of protection	IP67
Protection class acc. to EN IEC 61558	III
Pollution degree	3 (metallic pollution can cause impairments of the operating distances.)

Safety data (according to EN ISO 13849-1)	
Up to PL	e
Category	4
Service life	20 years
PFH module 1	$2.05 \cdot 10^{-9}$ 1/h
PFH cascaded modules 2 ... n	$1.70 \cdot 10^{-9}$ 1/h per module
MTTFd	High
SIL	3 (according to EN 62061:2005)

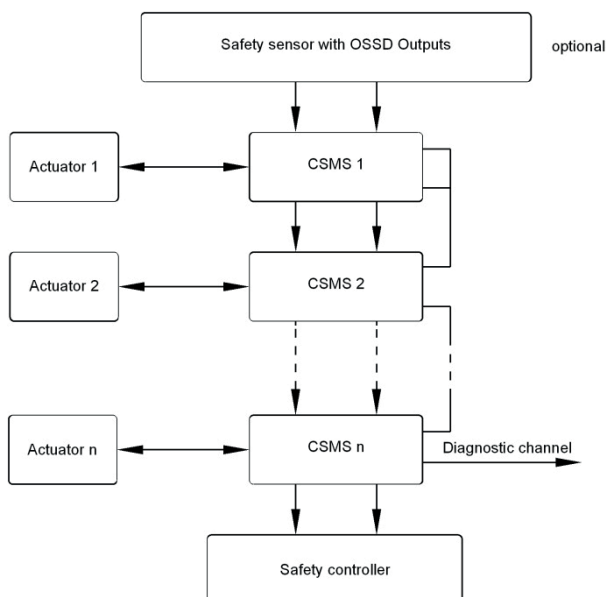
Standards	
	EN 60947-1, EN 60947-5-2, EN 61326-3-1
	EN ISO 13849-1, EN ISO 13849-2, EN 61508
	EN 60947-5-3, EN 60204-1, EN 61131-2, EN 62061
	ETSI EN 300330-1, ETSI EN 300330-2

EU-Conformity	
	according to Directive 2006/42/EG
	according to Directive 1999/5/EG

Approvals	
	TÜV Nord, cCSAus

Notes	
The specified protection classification (IP code) applies only when an appropriate plug connector is used.	

Intended use	
Application with feedback loop with or without start button (for Stand Alone Applications)	



Application without return circuit