

## Sipha Sensors

The Sipha™ sensors have the following features:


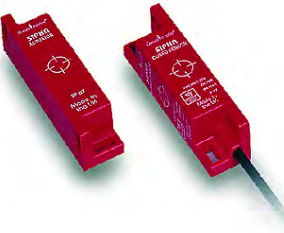


- Non-contact actuation
- Magnetic coded sensing
- Four housing styles
- Must be operated with its own safety control unit



## Specifications

Attribute	Value
<b>Safety Ratings</b>	
Standards	ISO13849-1, IEC/EN 60204-1, NFPA79, EN 1088, ISO14119, IEC60947-5-1, IEC/EN 60947-5-3, ANSI B11.19, AS4024.1
Safety classification	Rating dependent on control unit and application
Functional safety data	B10d: > 2 x 10 <sup>6</sup> operations at min. PFH <sub>D</sub> : > 3 x 10 <sup>-7</sup> MTTFd: > 385 years Dual channel interlock may be suitable for performance levels PL <sub>e</sub> or PL <sub>d</sub> (according to ISO 13849-1:2006) and for use in SIL2 or SIL3 systems (according to IEC 62061) depending on application characteristics
For up-to-date information, visit <a href="https://ab.rockwellautomation.com/safety">https://ab.rockwellautomation.com/safety</a>	
Certifications	CE Marked for all applicable directives, c-UL-us, and TÜV <a href="http://www.rockwellautomation.com/certification/overview.page">www.rockwellautomation.com/certification/overview.page</a>
<b>Outputs (Guard Door Closed, Actuator in Place)</b>	
Auxiliary output switching	300V DC, 250V AC, 0.5 A including inrush. 15V A/10 W suitable for AC/DC circuits.
<b>Operating Characteristics</b>	
Sensing distance, make [mm (in.)]	
S1 and S3	5 (0.20)
S2	9 (0.35)
S4	10 (0.39)
Sensing distance, break [mm (in.)]	
S1	11 (0.43)
S2 and S3	12 (0.47)
S4	13 (0.51)
<b>Environmental</b>	
Enclosure type rating	IP67 (NEMA 6P)
Operating temperature [C (F)]	
S1, S2, and S3	-10...+55 ° (+14...+131 °)
S4 (GD2)	-25...+125 ° (-13...+257 °)
Shock	30 g, 11 ms half-sine
Vibration	1 mm, 10...55 Hz
<b>Physical Characteristics</b>	
Cable size	0.54 mm <sup>2</sup> (20 AWG) 4-wire PVC Jacket OD: 4 mm (0.16 in.)
Material	
S1 and S2	Molded ABS
S30 (Actuator)	Polyester
S31 (Sensor)	Nylon (Trogamid)
S4 (GD2)	Stainless Steel
Mounting	Any position
Weight [g (lb)]	
S1	Sensor: 18 (0.04); Actuator: 15 (0.03)
S2	Sensor: 20 (0.04); Actuator: 30 (0.07)
S3:	Sensor: 18 (0.04) Actuator: 6 (0.01)
S4	Sensor: 150 (0.33); Actuator: 170 (0.37)

## Product Selection

Housing Style	Housing Material	Safety Contacts <sup>(1)</sup>	Auxiliary Contacts <sup>(1)</sup>	Type	Connection	Cat. No.
 S1	ABS plastic	1 N.C. and 1 N.O.	None	S11	3 m Cable	440N-S32014
					10 m Cable	440N-S32016
			1 N.C.	S12	3 m Cable	440N-S32022
					10 m Cable	440N-S32032
			1 N.O.	S13	3 m Cable	440N-S32037
					10 m Cable	440N-S32036
 S2	ABS plastic	1 N.C. and 1 N.O.	None	S21	3 m Cable	440N-S32015
					10 m Cable	440N-S32017
			1 N.C.	S22	3 m Cable	440N-S32023
					10 m Cable	440N-S32033
			1 N.O.	S23	3 m Cable	440N-S32038
					10 m Cable	440N-S32039
 S3	Actuator— Polyester Sensor— Nylon (Trogamid)	None	S31	3 m Cable	440N-S32101	
				4-pin Micro (M12)	440N-S32024	
 S4	Stainless Steel	1 N.C. and 1 N.O.	1 N.C.	S42	8-pin Micro (M12)	440N-S32047
					3 m Cable	440N-S32055
			1 N.O.	S43	10 m Cable	440N-S32056
					8-pin Micro (M12)	440N-S32046
					3 m Cable	440N-S32053
					10 m Cable	440N-S32054

(1) Contacts are described with the guard door closed, that is, actuator in place. Switch is shipped complete with actuator.




**Table 29 - Connection Systems**

Description	4-pin Micro (M12)	8-pin Micro (M12)
Cordset	889D-F4ECA-x <sup>(1)</sup>	889D-F8AB-x <sup>(1)</sup>
Patchcord	889D-F4ECRM-y <sup>(2)</sup>	889D-F8ABDM-y <sup>(2)</sup>

(1) Replace x with 2 (2 m), 5 (5 m), or 10 (10 m) for standard cable lengths.

(2) Replace y with 1 (1 m), 2 (2 m), 3 (3 m), 5 (5 m), or 10 (10 m) for standard cable lengths.

## Recommended Logic Interface

Housing	Supply Voltage	Safety Contacts	Auxiliary Contacts	Housing Width [mm (in.)]	Type	Cat. No.
	24V AC/DC	1 N.O.	1 N.C. Solid State	22.5 (0.89)	Control Unit 1	440N-S32013
	24V AC/DC; 115/230V AC	2 N.O.	1 N.C.	45 (1.77)	Control Unit 2	440N-S32021
	24V AC/DC; 115/230V AC	2 N.O. and 1 N.O. delayed	1 N.C.	90 (3.54)	Sipha 6	440N-S32052

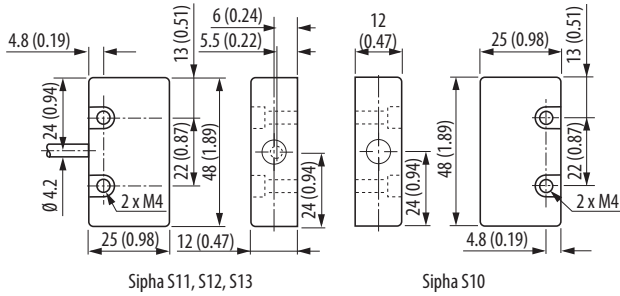
## Accessories

Description	Cat. No.
Actuator S10	440N-A32019
Actuator S20	440N-A32020
Actuator S30	440N-A32025
Actuator S40 (GD2)	440N-A32041
Bag of 40 washers for S2 models	440N-A17127

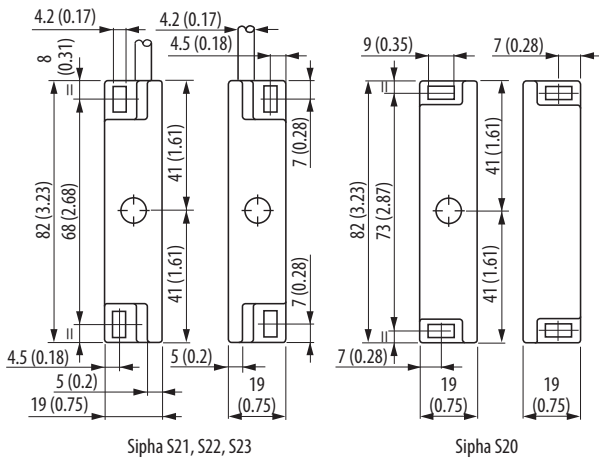
## Approximate Dimensions

Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.

**Figure 18 - Sipha S1**



**Figure 19 - Siphon S2**



**Figure 20 - Siphon S3**

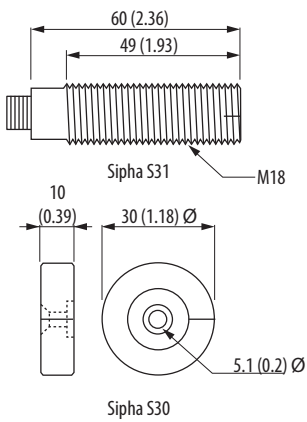
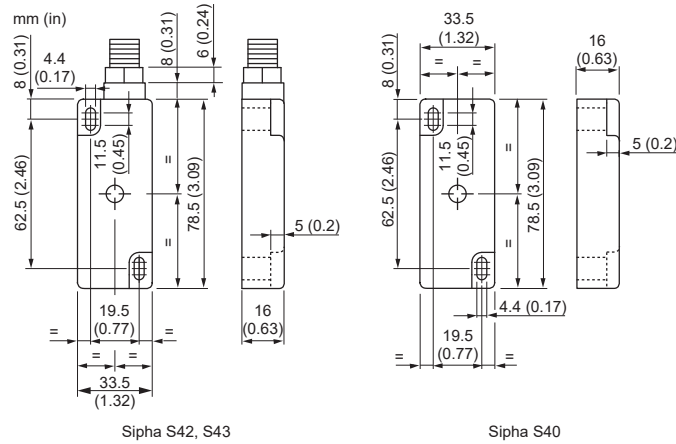


Figure 21 - Sipa S4



Typical Wiring Diagrams

Table 30 - S11, S21, S42, S12, S22, S43, S13, and S23

Description		S11 and S21 1 N.O. and 1 N.C.	S42, S12, and S22 2 N.C. and 1 N.O.	S43, S13, and S23 1 N.C. and 2 N.O.
Cable Versions	Red	Safety A_N.C.	Safety A_N.C.	Safety A_N.C.
	Blue	Safety A_N.C.	Safety A_N.C.	Safety A_N.C.
	Yellow	Safety B_N.O.	Safety B_N.O.	Safety B_N.O.
	Green			
	Black	—	Aux A_N.C.	Aux A_N.O.
	White	—	—	—
	Green/Yellow	—	External Ground	External Ground

Table 31 - S31, S42, and S43

Description		S31	S42	S43
4-pin Micro (M12)			—	—
8-pin Micro (M12)		—		
4-pin Cordset 889D-F4AC-x <sup>(1)</sup>	Brown	Safety A_N.C.	—	—
	Blue			
	White	Safety B_N.O.		
	Black			

**Table 31 - S31, S42, and S43**

Description		S31	S42	S43
8-pin Cordset 889D-F8AB-x <sup>(1)</sup>	White Brown	Safety A	Safety A_N.C.	Safety A_N.C.
	Red Yellow	Safety B	Safety B_N.O.	Safety B_N.O.
	Gray Pink	Aux A	Aux A_N.C.	Aux A_N.O.
	Green Blue	NA	Gnd	Gnd

(1) Replace x with 2 (2 m), 5 (5 m) or 10 (10 m) for standard cable lengths.