Product overview

STR1

Small RFID safety switch for door monitoring with manipulation protection

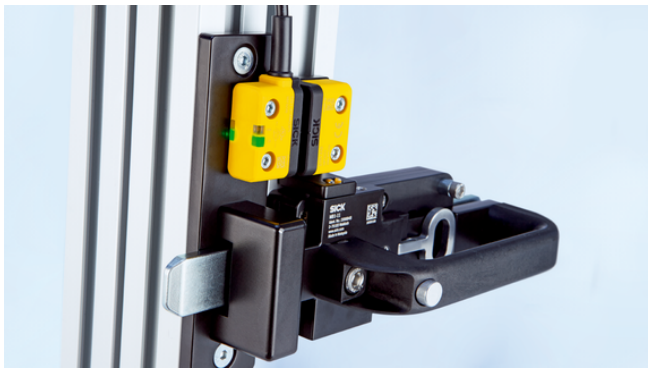
SICK
Sensor Intelligence.

Advantages

The STR1 non-contact safety switch switches with extreme reliability

To keep system productivity as high as possible, safety switches should do one thing above all else: Switch reliably. No matter what is happening around them. That is why safety switches must be rugged so they can work reliably even in very challenging environments. It is also important that the sensor status can always be clearly identified.

Thanks to the IPX9K enclosure rating, a very high electromagnetic compatibility and the VISTAL® housing made of glass fiber-reinforced plastic, dirt, shocks, heat and cold are no problem for the STR1.



The status of the STR1 safety switch can be read off at any time thanks to the highly-visible LEDs — even in bright ambient light.

The STR1 safety switch supports the productivity of your machines with its reliability.

The compact STR1 RFID safety switch can be mounted and used flexibly.

With its high flexibility, the STR1 non-contact safety switch not only offers many mounting options, but also features maximum manipulation protection thanks to its RFID technology. Simply select a combination of the best actuator and the coding required for your application.

There are four different actuator designs: mini, compact, flat, standard

The STR1 safety switch features active sensor surfaces at the front and on both sides

There are three coding options available for individualized manipulation protection: Universal, unique and permanently coded

The STR1 RFID safety switch offers a wide range of application options. You can use it as required by the risk assessment and machine design.

Technical data overview

Sensor principle	RFID
Safety level	PL e, SIL 3
Actuator coding level	Low coding level (EN ISO 14119) High coding level (EN ISO 14119)
Type of output	Self-monitoring semiconductor outputs (OSSDs)
Number of safe outputs	2
Connection type	Cable, 5-wire Cable, 7-wire Cable with plug M12, 5-pin Cable with plug M12, 8-pin Cable with plug M8, 8-pin (depends on variant)
Active sensor surface	Top, sides (left, right)

Product description

The STR1 RFID safety switch has monitored semiconductor outputs (OSSDs) and can be safely connected either individually or in series.
It can be used for applications where a high level of manipulation protection is required. The STR1 is available with three codes. Universally coded sensors accept all actuators. An actuator must be taught into both the uniquely coded and permanently coded variants; this is the only actuator that the STR1 then accepts.
The sensor has three active sensor surfaces. The actuator comes in four different sizes. This allows the STR1 to offer maximum mounting flexibility.

At a glance

- Response range of up to 14 mm
- Small housing with flexible mounting options
- Sensor activation possible from three sides
- Four different actuators available
- Universally coded, uniquely coded, and permanently coded sensors
- PL e (EN ISO 13849), SIL3 (IEC 61508)
- Safe series connection of up to 30 sensors possible

Your benefits

- High level of flexibility when mounting the sensor and actuator
- Reduced need for storage, as one sensor is suitable for a wide range of different applications
- High level of manipulation protection due to individually coded actuator
- High level of machine availability due to large door offset tolerance and high level of shock and vibration resistance
- Economical solution due to series connection of up to 30 sensors
- Fast diagnosis via LED status indicator
- Long product service life due to low-wastage and low-maintenance configuration

Fields of application

- Monitoring of safety doors and removable protective devices
- Applications requiring a high standard of hygiene
- Applications where precise guidance of the safety door is not possible
- Machines and systems on which vibrations occur
- Monitoring the positions of transfer vehicles

Ordering information

Other models and accessories ➜ www.sick.com/STR1

- **System part:** Sensor with actuator
- **Actuator design:** standard

Coding	Connection type Detail	Length of cable	Safe series connection	Auxiliary contact (AUX)	Type	Part no.
Permanently coded	Cable, 7-wire	3 m	In control cabinet (with diagnostics)	1 (Switching behavior complementary to OSSDs)	STR1-SASF03P8	1077189
		10 m	In control cabinet (with diagnostics)		STR1-SASF10P8	1077190
	Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)		STR1-SASF0AC5	1073211
	Cable with plug M12, 8-pin	0.2 m	With T-connector (without diagnostics), with Flexi Loop (with diagnostics)		STR1-SASF0AC8	1073212
	Cable, 5-wire	3 m	None, only individual wiring (with diagnostics)		STR1-SASF03P5	1073213
		10 m			STR1-SASF10P5	1073214
Uniquely coded	Cable, 7-wire	3 m	In control cabinet (with diagnostics)		STR1-SASU03P8	1077192
		10 m	In control cabinet (with diagnostics)		STR1-SASU10P8	1077193
	Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)		STR1-SASU0AC5	1072709
					STR1-SASU0AR5	1103861
	Cable with plug M12, 8-pin	0.2 m	With T-connector (without diagnostics), with Flexi Loop (with diagnostics)		STR1-SASU0AC8	1072710
	Cable, 5-wire	3 m	None, only individual wiring (with diagnostics)		STR1-SASU03P5	1072711
		10 m			STR1-SASU10P5	1072712
Universally coded	Cable, 7-wire	3 m	In control cabinet (with diagnostics)		STR1-SASM03P8	1069564
		10 m	In control cabinet (with diagnostics)		STR1-SASM10P8	1069569
	Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)		STR1-SASM0AC5	1069560
	Cable with plug M12, 8-pin	0.2 m	With T-connector (without diagnostics), with Flexi Loop (with diagnostics)		STR1-SASM0AC8	1069561
		0.325 m		1 (Switching behavior equivalent to OSSDs)	STR1-SASM0AC8S07	1119652
	Cable, 5-wire	3 m	None, only individual wiring (with diagnostics)	1 (Switching behavior complementary to OSSDs)	STR1-SASM03P5	1069562
		10 m			STR1-SASM10P5	1069563

- **System part:** Sensor with actuator
- **Actuator design:** Flat

Coding	Connection type Detail	Length of cable	Safe series connection	Auxiliary contact (AUX)	Type	Part no.
Permanently coded	Cable, 7-wire	3 m	In control cabinet (with diagnostics)	1 (Switching behavior complementary to OSSDs)	STR1-SAFF03P8	1072713
		10 m	In control cabinet (with diagnostics)		STR1-SAFF10P8	1073202
	Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)		STR1-SAFF0AC5	1073206
	Cable with plug M12, 8-pin	0.2 m	With T-connector (without diagnostics), with Flexi Loop (with diagnostics)		STR1-SAFF0AC8	1073207
	Cable, 5-wire	3 m	None, only individual wiring (with diagnostics)		STR1-SAFF03P5	1073208
		10 m			STR1-SAFF10P5	1073209
Uniquely coded	Cable, 7-wire	3 m	In control cabinet (with diagnostics)		STR1-SAFU03P8	1073210
		10 m	In control cabinet (with diagnostics)		STR1-SAFU10P8	1072708
	Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)		STR1-SAFU0AC5	1069575
	Cable with plug M12, 8-pin	0.2 m	With T-connector (without diagnostics), with Flexi Loop (with diagnostics)		STR1-SAFU0AC8	1069576
	Cable, 5-wire	3 m	None, only individual wiring (with diagnostics)		STR1-SAFU03P5	1069577
		10 m			STR1-SAFU10P5	1072707
Universally coded	Cable, 7-wire	3 m	In control cabinet (with diagnostics)		STR1-SAFM03P8	1069574
		10 m	In control cabinet (with diagnostics)		STR1-SAFM10P8	1073215
	Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)		STR1-SAFM0AC5	1069565
	Cable with plug M12, 8-pin	0.2 m	With T-connector (without diagnostics), with Flexi Loop (with diagnostics)		STR1-SAFM0AC8	1069566
	Cable, 5-wire	3 m	None, only individual wiring (with diagnostics)		STR1-SAFM03P5	1069567
		10 m			STR1-SAFM10P5	1069568

- **System part:** Sensor with actuator
- **Actuator design:** Mini

Coding	Connection type Detail	Length of cable	Safe series connection	Auxiliary contact (AUX)	Type	Part no.
Permanently coded	Cable, 7-wire	3 m	In control cabinet (with diagnostics)	1 (Switching behavior complementary to OSSDs)	STR1-SAMF03P8	1073220
		10 m	In control cabinet (with diagnostics)		STR1-SAMF10P8	1077184
	Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)		STR1-SAMF0AC5	1073216
	Cable with plug M12, 8-pin	0.2 m	With T-connector (without diagnostics), with Flexi Loop (with diagnostics)		STR1-SAMF0AC8	1073217
	Cable, 5-wire	3 m	None, only individual wiring (with diagnostics)		STR1-SAMF03P5	1073218
		10 m			STR1-SAMF10P5	1073219
Uniquely coded	Cable, 7-wire	3 m	In control cabinet (with diagnostics)		STR1-SAMU03P8	1077187
		10 m	In control cabinet (with diagnostics)		STR1-SAMU10P8	1077188
	Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)		STR1-SAMU0AC5	1073205
	Cable with plug M12, 8-pin	0.2 m	With T-connector (without diagnostics), with Flexi Loop (with diagnostics)		STR1-SAMU0AC8	1073204
	Cable, 5-wire	3 m	None, only individual wiring (with diagnostics)		STR1-SAMU03P5	1073201
		10 m			STR1-SAMU10P5	1073203
Universally coded	Cable, 7-wire	3 m	In control cabinet (with diagnostics)		STR1-SAMM03P8	1077185
		10 m	In control cabinet (with diagnostics)		STR1-SAMM10P8	1077186
	Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)		STR1-SAMM0AC5	1069570
	Cable with plug M12, 8-pin	0.2 m	With T-connector (without diagnostics), with Flexi Loop (with diagnostics)		STR1-SAMM0AC8	1069571
	Cable, 5-wire	3 m	None, only individual wiring (with diagnostics)		STR1-SAMM03P5	1069572
		10 m			STR1-SAMM10P5	1069573

- **System part:** Sensor with actuator
- **Actuator design:** compact

Coding	Connection type Detail	Length of cable	Safe series connection	Auxiliary contact (AUX)	Type	Part no.
Uniquely coded	Cable with plug M8, 8-pin	0.2 m	None, only individual wiring (with diagnostics)	1 (Switching behavior complementary to OSSDs)	STR1-SACU0BC8	1106352

Coding	Connection type Detail	Length of cable	Safe series connection	Auxiliary contact (AUX)	Type	Part no.
Universally coded	Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)	1 (switching behavior equivalent to actuator in the protected switch-on state)	STR1-SACM0PR5	1112263
	Cable with plug M12, 8-pin	0.2 m	In control cabinet (with diagnostics)		STR1-SACM0PR8	1112262
			With T-connector (without diagnostics), with Flexi Loop (with diagnostics)	1 (Switching behavior complementary to OSSDs)	STR1-SACM0AC8	1106516

- **System part:** sensor

Coding	Connection type Detail	Length of cable	Safe series connection	Auxiliary contact (AUX)	Type	Part no.
Permanently coded	Cable, 7-wire	3 m	In control cabinet (with diagnostics)	1 (Switching behavior complementary to OSSDs)	STR1-SAXF03P8	1086641
		10 m	In control cabinet (with diagnostics)		STR1-SAXF10P8	1086642
	Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)		STR1-SAXF0AC5	1086637
	Cable with plug M12, 8-pin	0.2 m	With T-connector (without diagnostics), with Flexi Loop (with diagnostics)		STR1-SAXF0AC8	1086638
	Cable, 5-wire	3 m	None, only individual wiring (with diagnostics)		STR1-SAXF03P5	1086639
		10 m			STR1-SAXF10P5	1086640
Uniquely coded	Cable, 7-wire	3 m	In control cabinet (with diagnostics)		STR1-SAXU03P8	1086634
		10 m	In control cabinet (with diagnostics)		STR1-SAXU10P8	1086636
	Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)		STR1-SAXU0AC5	1086631
	Cable with plug M12, 8-pin	0.2 m	With T-connector (without diagnostics), with Flexi Loop (with diagnostics)		STR1-SAXU0AC8	1086632
	Cable, 5-wire	3 m	None, only individual wiring (with diagnostics)		STR1-SAXU03P5	1085714
		10 m			STR1-SAXU10P5	1086633

Coding	Connection type Detail	Length of cable	Safe series connection	Auxiliary contact (AUX)	Type	Part no.
Universally coded	Cable, 7-wire	3 m	In control cabinet (with diagnostics)		STR1-SAXM03P8	1086629
		10 m	In control cabinet (with diagnostics)		STR1-SAXM10P8	1086630
	Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)		STR1-SAXM0AC5	1085713
	Cable with plug M12, 8-pin	0.2 m	None, only individual wiring (with diagnostics)	1 (Switching behavior equivalent to OSSDs)	STR1-SAXM0AC8S01	1096777
				1 (switching behavior equivalent to actuator in the protected switch-on state)	STR1-SAXM0AC8S02	1102695
			With T-connector (without diagnostics), with Flexi Loop (with diagnostics)	1 (Switching behavior complementary to OSSDs)	STR1-SAXM0AC8	1085791
	Cable, 5-wire	3 m	None, only individual wiring (with diagnostics)		STR1-SAXM03P5	1086627
		10 m			STR1-SAXM10P5	1086628

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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