



TR4 Direct

RFID safety switch for door monitoring with manipulation protection

SICK
Sensor Intelligence.



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 with plug M12, 8-pin Cable with plug M12, 5-pin Cable (depending on type)

Product description

The TR4 Direct RFID safety switch is used for applications where a high level of manipulation protection is required. TR4 Direct has monitored semiconductor outputs (OSSD) and can therefore be connected directly to a safety controller. The safety switch is only released if a valid actuator is located within the response range of the TR4 Direct. Two actuation principles are available: For universally coded variants, any universally coded actuator can be located in the response range. For uniquely coded variants, only the uniquely coded actuator that has been taught in with the matching code stored may be located within the response range. Up to 30 safety switches, all with LED status indicators, can be connected in series, thereby making electrical installation and service both straightforward and convenient.

At a glance

- Response range of up to 25 mm
- Unique and universally-coded sensors up to enclosure rating IP 69K
- Up to performance level PL e (EN ISO 13849)
- Two OSSD safety outputs
- Reliable series connection of up to 30 sensors possible (depending on the variant)
- LED status indicator
- Periphery indicator and magnetic holding force (optional)
- Flexi-Loop-compatible M12 plug connector (depending on the variant)

Your benefits

- High level of manipulation protection due to individually coded actuator (depending on the type)
- High level of machine availability due to large door offset tolerances and periphery indicator
- High level of reliability due to resistance to shock and vibration
- Economical solution due to series connection of up to 30 sensors
- Long product service life due to low-wastage and low-maintenance configuration
- Fast diagnosis via LED status indicator
- The devices are easy to clean, making them ideal for use in highly contaminated areas or applications with stringent hygienic requirements
- Flexi Loop: Reliable series connection including diagnostics with minimal wiring work

Fields of application

- Monitoring of safety doors and removable guards
- Applications requiring a high level of tamper-proofing
- Applications where precise guidance of the safety door is not possible
- Machinery and systems on which vibrations occur

Ordering information

Other models and accessories → www.sick.com/TR4_Direct

- **Design:** cylindrical
- **System part:** Sensor with actuator

Coding	Assured switch on distance S_{a0}	Connection type Detail	Length of cable	Safe series connections	Type	Part no.
Uniquely coded	15 mm	Cable	3 m	In control cabinet (with diagnostics)	TR4-SAU03PB	6070790
			10 m	In control cabinet (with diagnostics)	TR4-SAU10PB	6070791
		Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)	TR4-SAU02CB	6070800
		Cable with plug M12, 8-pin	0.2 m	With Flexi Loop (with diagnostics), with T-connector (without diagnostics)	TR4-SAU01CB	6070792
	25 mm	Cable	3 m	In control cabinet (with diagnostics)	TR4-SBU03PB	6070796
			10 m	In control cabinet (with diagnostics)	TR4-SBU10PB	6070797
		Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)	TR4-SBU02CB	6070802
		Cable with plug M12, 8-pin	0.2 m	With Flexi Loop (with diagnostics), with T-connector (without diagnostics)	TR4-SBU01CB	6070798
Universally coded	15 mm	Cable	3 m	In control cabinet (with diagnostics)	TR4-SAM03PB	6070787
			10 m	In control cabinet (with diagnostics)	TR4-SAM10PB	6070788
		Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)	TR4-SAM02CB	6070799
		Cable with plug M12, 8-pin	0.2 m	With Flexi Loop (with diagnostics), with T-connector (without diagnostics)	TR4-SAM01CB	6070789
	25 mm	Cable	3 m	In control cabinet (with diagnostics)	TR4-SBM03PB	6070793
			10 m	In control cabinet (with diagnostics)	TR4-SBM10PB	6070794
		Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)	TR4-SBM02CB	6070801
		Cable with plug M12, 8-pin	0.2 m	With Flexi Loop (with diagnostics), with T-connector (without diagnostics)	TR4-SBM01CB	6070795

- **Design:** rectangular
- **System part:** Sensor with actuator
- **Assured switch on distance S_{ao} :** 15 mm

Coding	Connection type Detail	Length of cable	Safe series connections	Boundary area indication	Type	Part no.
Uniquely coded	Cable	3 m	In control cabinet (with diagnostics)	✓	TR4-SEU03PB	6070812
					TR4-SFU03PB	6070818
				–	TR4-SDU03PB	6070806
		10 m	In control cabinet (with diagnostics)	✓	TR4-SEU10PB	6070813
					TR4-SFU10PB	6070819
				–	TR4-SDU10PB	6070807
	Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)	✓	TR4-SEU02CB	6070824
					TR4-SFU02CB	6070826
				–	TR4-SDU02CB	6070822
	Cable with plug M12, 8-pin	0.2 m	With Flexi Loop (with diagnostics), with T-connector (without diagnostics)	✓	TR4-SEU01CB	6070814
					TR4-SFU01CB	6070820
				–	TR4-SDU01CB	6070808
Universally coded	Cable	3 m	In control cabinet (with diagnostics)	✓	TR4-SEM03PB	6070809
					TR4-SFM03PB	6070815
				–	TR4-SDM03PB	6070803
		10 m	In control cabinet (with diagnostics)	✓	TR4-SEM10PB	6070810
					TR4-SFM10PB	6070816
				–	TR4-SDM10PB	6070804
	Cable with plug M12, 5-pin	0.2 m	With Flexi Loop (with diagnostics)	✓	TR4-SEM02CB	6070823
					TR4-SFM02CB	6070825
				–	TR4-SDM02CB	6070821
	Cable with plug M12, 8-pin	0.2 m	With Flexi Loop (with diagnostics), with T-connector (without diagnostics)	✓	TR4-SEM01CB	6070811
					TR4-SFM01CB	6070817
				–	TR4-SDM01CB	6070805

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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