



RE1, RE2 Magnetic safety switches

Simple and established non-contact door monitoring

Simple and established non-contact door monitoring



CE **cUL** **us**

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Product description

RE1 magnetic safety switches are equipped with either normally closed (NC) or normally open (NO) contacts, respectively, and use coded magnetic actuators. Magnetic safety switches can be used in areas where a high level of contamination occurs. The devices are

easy to clean, making them suitable for contaminated areas or environments with strict hygiene standards. Their operating principle enables greater tolerances, making them ideal for applications where precise guidance of guards is difficult.

At a glance

- Response range of up to 7 mm
- 1 NO/1 NC or 2 NO contacts
- Up to performance level PL e / Cat. 4 (EN ISO 13849)
- Direct connection to safe control solution possible
- Sensors with plug connector or connected cable

Your benefits

- Long service life due to durable and low-maintenance design
- Space-saving mounting due to compact housing design
- Just one safety switch in conjunction with a suitable safety module makes it possible to solve applications up to PL e and Cat. 4 (EN ISO 13849)
- High level of machine availability due to high tolerances for door misalignment
- Direct connection to the safe control solution eliminates any additional wiring and reduces installation time
- The devices are easy to clean, making them suitable for contaminated areas or environments with strict hygiene standards

→ www.mysick.com/en/RE1

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Detailed technical data

You can find more detailed data in the operating instructions. Download at www.mysick.com.

	RE11	RE13
Sensor principle	Magnetic	
Safety-related parameters		
Category	Up to category 4 (EN ISO 13849) ¹⁾	
Performance level	Up to PL e (EN ISO 13849) ¹⁾	
B _{10d} parameter	2 x 10 ⁷ switching cycles, with small load	
PFHd (mean probability of a dangerous failure per hour)	2.5 x 10 ⁻⁸ (EN ISO 13849) ²⁾	
Housing material	Glass-fiber reinforced PPS	
Enclosure rating	IP 67	
Ambient operating temperature from ... to	-20 °C ... +60 °C	
Shock resistance	30 g, 11 ms (EN 60947-5-3)	
Vibration resistance	10 Hz ... 55 Hz, 1 mm (EN 60947-5-3)	
Switching voltage	≤ 30 V DC	
Switching current	≤ 400 mA	≤ 100 mA
Connection type	Cable M8 plug connector, 4-pin (depending on type)	Cable Cable with connector M8, 4-pin Cable with connector M12, 4-pin M8 plug connector, 4-pin (depending on type)
Cable length	3 m / 5 m (depending on type)	3 m / 5 m / 0.2 m (depending on type)
Cable material	PVC	
Type of output	Reed contacts	
Number of N/C contacts	1	0
Number of N/O contacts	1	2
Safe switch on distance S_{ao}	3 mm	7 mm
Safe switch off distance S_{ar}	12 mm	20 mm

¹⁾ In combination with a suitable safe evaluation unit.

²⁾ At low load with a switching frequency of 1 operation/minute, 24 hours/day, 365 days/year, there are 525,600 switching operations per year.

Ordering information

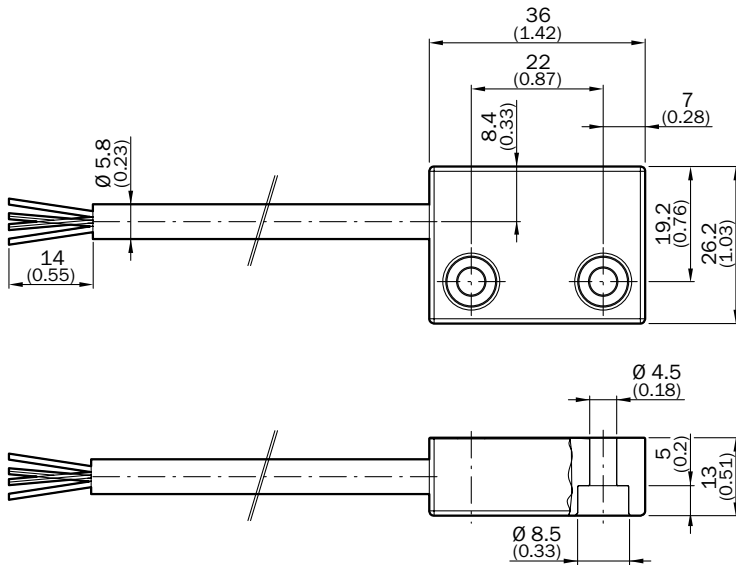
- **System part:** sensor & actuator
- **Design:** rectangular

Connection type	Cable length	Safe switch on distance S _{ao}	Model name	Part no.
Cable	3 m	3 mm	RE11-SA03	1059411
	5 m	3 mm	RE11-SA05	1059501
M8 plug connector, 4-pin	-	3 mm	RE11-SAC	1059410
Cable	3 m	7 mm	RE13-SA03	1059504
	5 m	7 mm	RE13-SA05	1062011
Cable with connector M8, 4-pin	0.2 m	7 mm	RE13-SA84	1062539
Cable with connector M12, 4-pin	0.2 m	7 mm	RE13-SA64	1062540
M8 plug connector, 4-pin	-	7 mm	RE13-SAC	1059503

Dimensional drawings

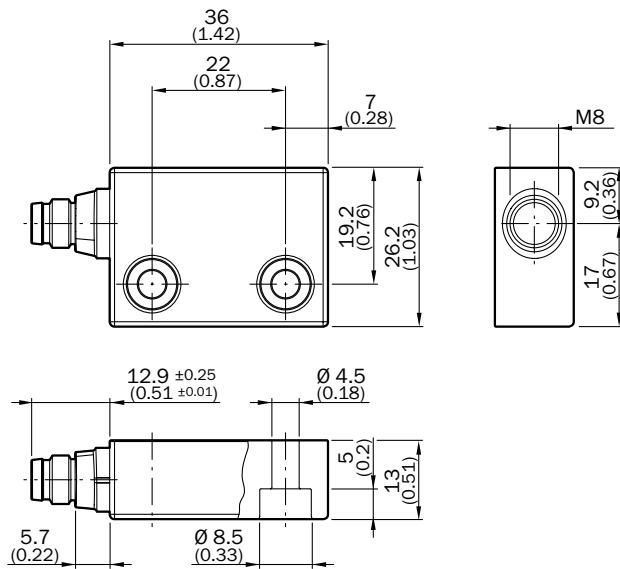
dimensions in mm (inch)

RE11-SA03, RE11-SA05, RE13-SA03, RE13-SA05



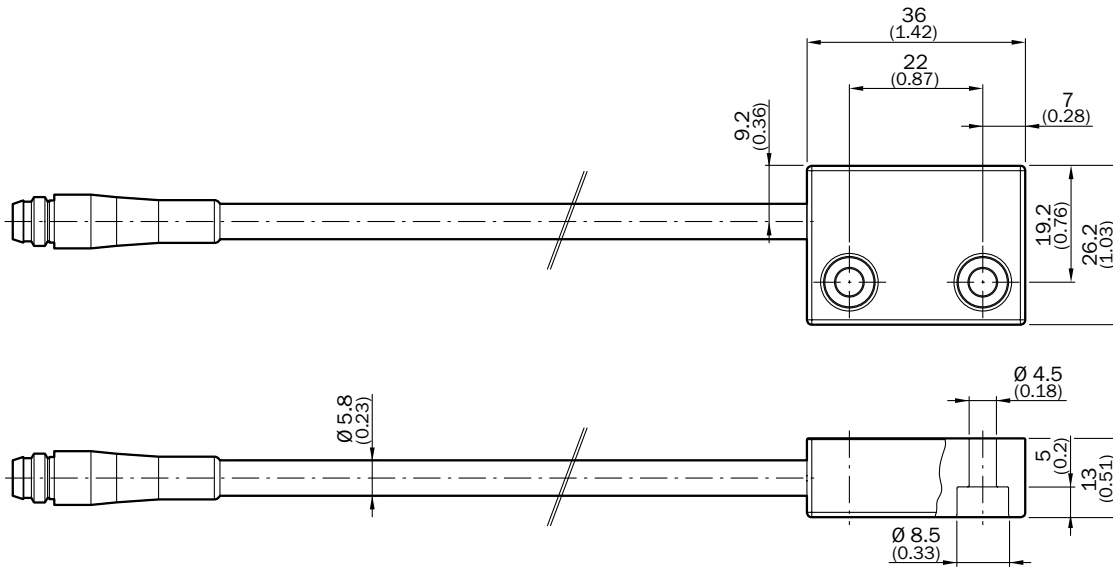
The actuators have the same dimensions as the sensors, but without connecting cable.

RE11-SAC, RE13-SAC



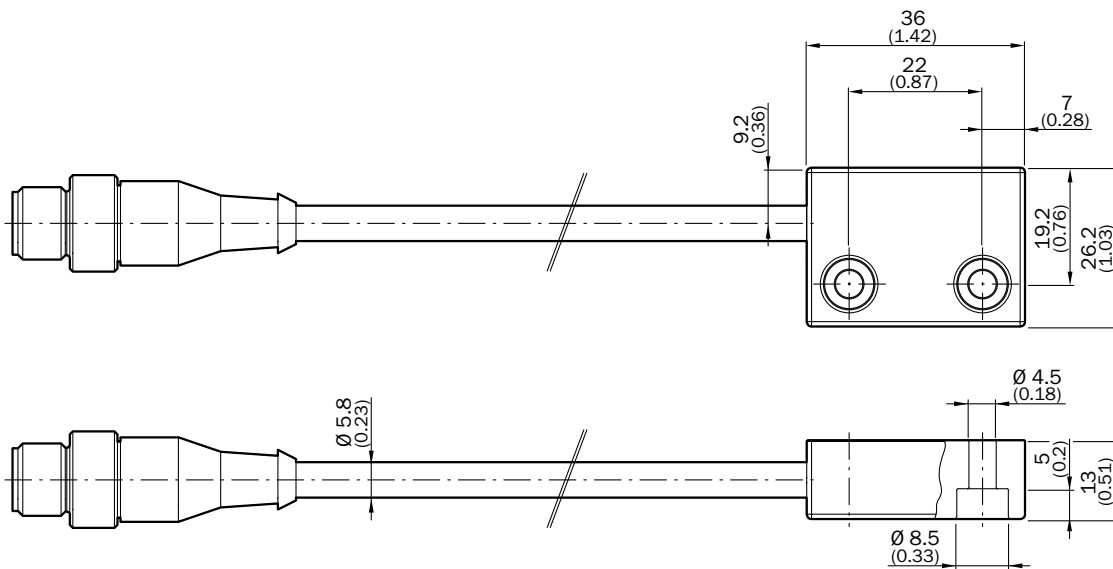
The actuators have the same dimensions as the sensors, but without plug connector.

RE13-SA84



The actuators have the same dimensions as the sensors, but without connecting cable.

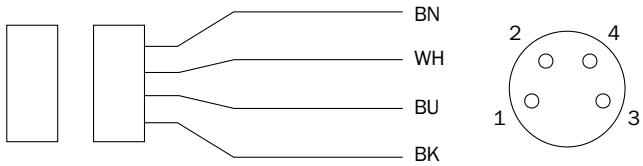
RE13-SA64



The actuators have the same dimensions as the sensors, but without connecting cable.

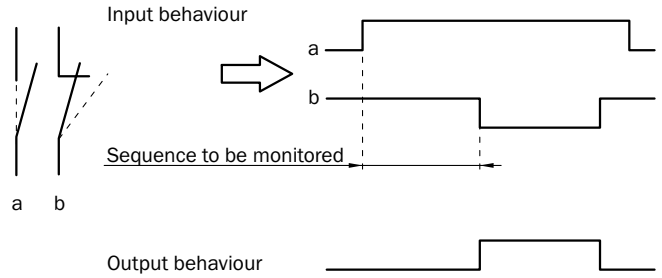
Connection diagram

RE11: sensor connections



1 BN	N/O contact
2 WH	
3 BU	N/C contact
4 BK	

RE11: sensor timing



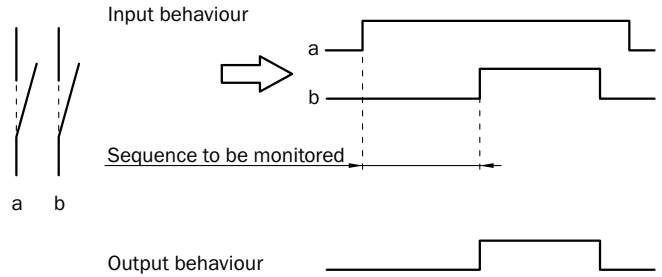
Both contacts must change output state, before it can be reset. Compliance with this sequence must be monitored by the safe evaluation unit.

RE13: sensor connections (plug M8)



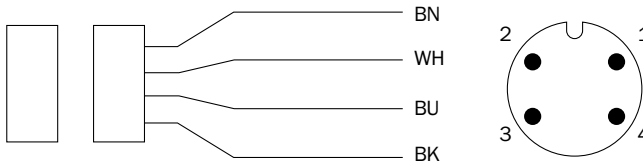
1 BN	N/O contact
2 WH	
3 BU	N/O contact
4 BK	

RE13: sensor timing



Both contacts must change output state, before it can be reset. Compliance with this sequence must be monitored by the safe evaluation unit.

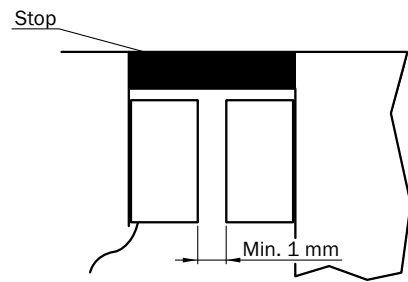
RE13: sensor connections (plug M12)



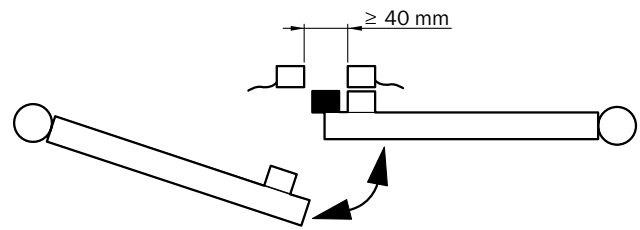
1 BN	N/O contact
2 WH	
3 BU	N/O contact
4 BK	

Mounting

Minimum distance between sensor and actuator

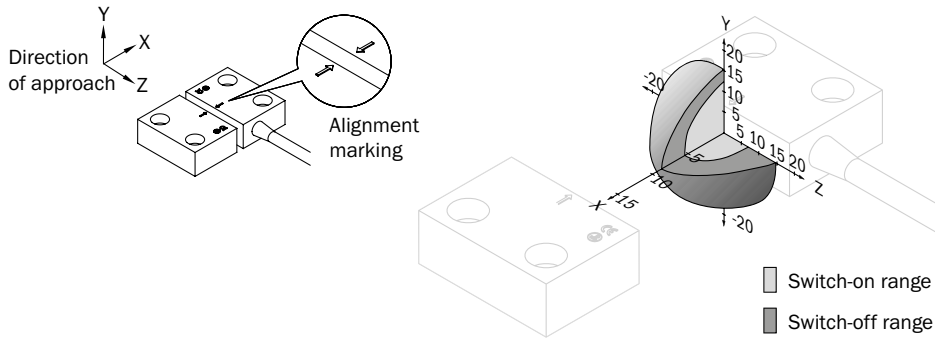


Minimum distance to neighboring sensors

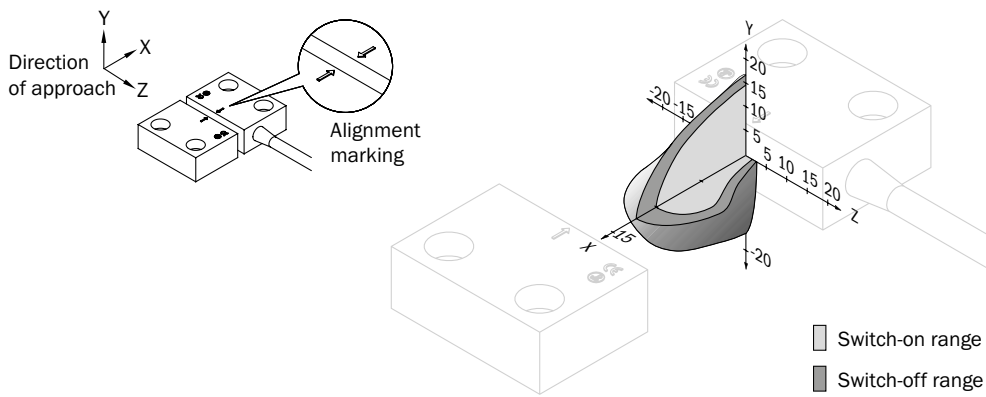


Response range

RE11

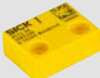



RE13



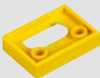
Accessories

Actuators

Figure	Brief description	Model name	Part no.
	Replacement actuator for RE11-Sxx, RE11-Sxxx	RE11-SK	1062121
	Replacement actuator for RE13-Sxx, RE13-Sxxx	RE13-SK	1060292




Other mounting accessories

Others

Figure	Brief description	Packing unit	Model name	Part no.
	Spacer for RE1	10	RE10-SP	1060290

Plug connectors and cables

Connecting cable (female connector-open)

Figure	Connection type head A	Connection type head B	Cable material	Conductor cross-section	Cable length	Model name	Part no.
	Female connector, M8, 4-pin, straight	Cable	PVC	0.25 mm ²	2 m	DOL-0804-G02M	6009870
					5 m	DOL-0804-G05M	6009872
					10 m	DOL-0804-G10M	6010754
	Female connector, M8, 4-pin, angled	Cable	PVC	0.25 mm ²	2 m	DOL-0804-W02M	6009871
					5 m	DOL-0804-W05M	6009873
					10 m	DOL-0804-W10M	6010755
	Female connector, M12, 4-pin, straight	Cable	PVC	0.25 mm ²	5 m	DOL-1204-G05M	6009866
					10 m	DOL-1204-G10M	6010543
					15 m	DOL-1204-G15M	6010753

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Product description

RE2 magnetic safety switches are equipped with either normally closed (NC) or normally open (NO) contacts, respectively, and use coded magnetic actuators. Magnetic safety switches can be used in areas where a high level of contamination occurs. The devices are

easy to clean, making them suitable for contaminated areas or environments with strict hygiene standards. Their operating principle enables greater tolerances, making them ideal for applications where precise guidance of guards is difficult.

At a glance

- Response range of up to 9 mm
- 1 NO/1 NC, 2 NO contacts or 3 NO contacts
- Up to performance level PL e / Cat. 4 (EN ISO 13849)
- Direct connection to safe control solution possible
- Sensors with plug connector or connected cable
- LED status indicator (RE27)

Your benefits

- Long service life due to durable and low-maintenance design
- Just one safety switch in conjunction with a suitable safety module makes it possible to solve applications up to PL e and Cat. 4 (EN ISO 13849)
- High level of machine availability due to high tolerances for door misalignment
- Direct connection to the safe control solution eliminates any additional wiring and reduces installation time
- The devices are easy to clean, making them suitable for contaminated areas or environments with strict hygiene standards
- Fast diagnostics via LED status indicator (RE27)

→ www.mysick.com/en/RE2

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Detailed technical data

You can find more detailed data in the operating instructions. Download at www.mysick.com.

	RE21	RE23	RE27
Sensor principle	Magnetic		
Safety-related parameters			
Category	Up to category 4 (EN ISO 13849) ¹⁾		
Performance level	Up to PL e (EN ISO 13849) ¹⁾		
B _{10d} parameter	2 x 10 ⁷ switching cycles, with small load		
PFHd (mean probability of a dangerous failure per hour)	2.5 x 10 ⁻⁸ (EN ISO 13849) ²⁾		
Housing material	Glass-fiber reinforced PPS		
Enclosure rating	IP 67		
Ambient operating temperature from ... to	-20 °C ... +60 °C		
Shock resistance	30 g, 11 ms (EN 60947-5-3)		
Vibration resistance	10 Hz ... 55 Hz, 1 mm (EN 60947-5-3)		
Switching voltage	≤ 30 V DC		
Switching current	≤ 400 mA	≤ 100 mA	
Output state indication with LED			
Switching voltage	-		≤ 30 V DC
Switching current	-		≤ 10 mA
Connection type	Cable M8 plug connector, 4-pin (depending on type)	Cable Cable with connector M8, 4-pin Cable with connector M12, 4-pin M8 plug connector, 4-pin (depending on type)	Cable Cable with plug, M12, 8-pin (depending on type)
Cable length	3 m / 5 m (depending on type)	3 m / 5 m / 0.2 m (depending on type)	5 m / 10 m / 20 m / 0.2 m (depending on type)
Cable material	PVC		
Type of output	Reed contacts		
Number of N/C contacts	1	0	
Number of N/O contacts	1	2	3
Safe switch on distance S_{ao}	6 mm	9 mm	
Safe switch off distance S_{ar}	31 mm	22 mm	20 mm

¹⁾ In combination with a suitable safe evaluation unit.

²⁾ At low load with a switching frequency of 1 operation/minute, 24 hours/day, 365 days/year, there are 525,600 switching operations per year.

Ordering information

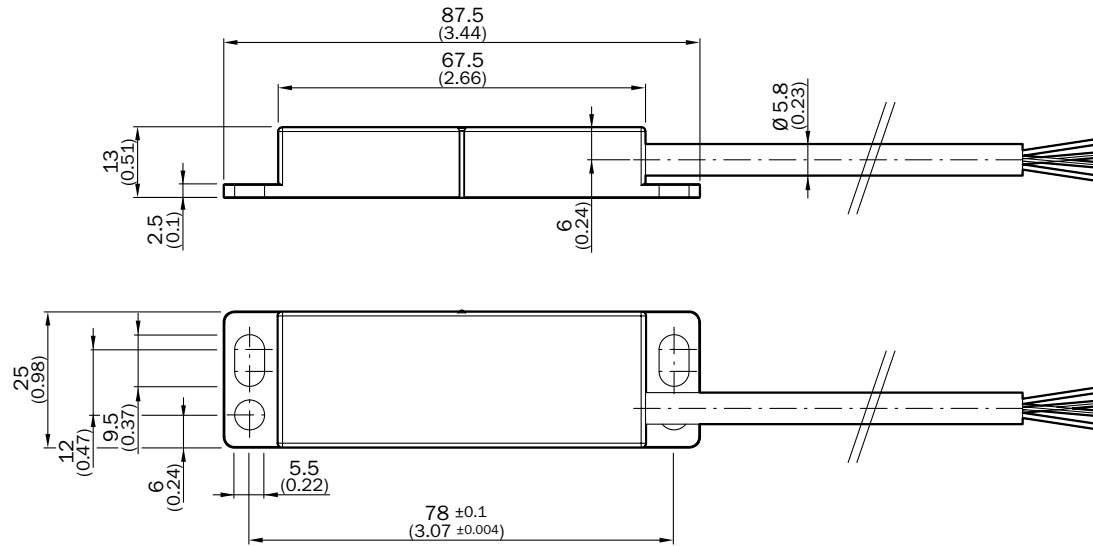
- **System part:** sensor & actuator
- **Design:** rectangular

Status display	Connection type	Cable length	Safe switch on distance S_{an}	Model name	Part no.
-	Cable	3 m	6 mm	RE21-SA03	1059506
		5 m	6 mm	RE21-SA05	1059507
	M8 plug connector, 4-pin	-	6 mm	RE21-SAC	1059505
	Cable	3 m	9 mm	RE23-SA03	1061725
		5 m	9 mm	RE23-SA05	1061726
	Cable with connector M8, 4-pin	0.2 m	9 mm	RE23-SA84	1062541
	Cable with connector M12, 4-pin	0.2 m	9 mm	RE23-SA64	1062542
	M8 plug connector, 4-pin	-	9 mm	RE23-SAC	1059508
✓	Cable	5 m	9 mm	RE27-SA05L	1059510
		10 m	9 mm	RE27-SA10L	1059511
		20 m	9 mm	RE27-SA20L	1059512
	Cable with plug, M12, 8-pin	0.2 m	9 mm	RE27-SA68L	1059509

Dimensional drawings

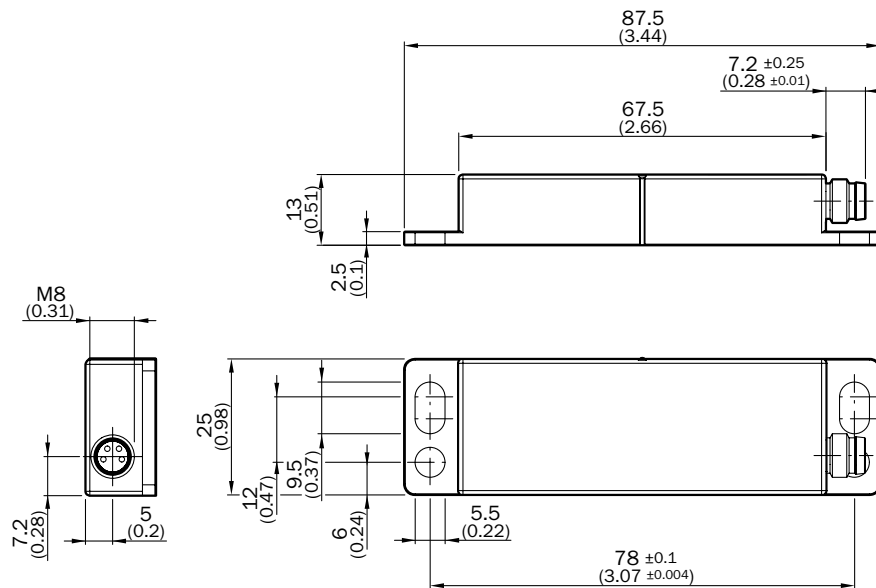
dimensions in mm (inch)

RE21-SA03, RE21-SA05, RE23-SA03, RE23-SA05



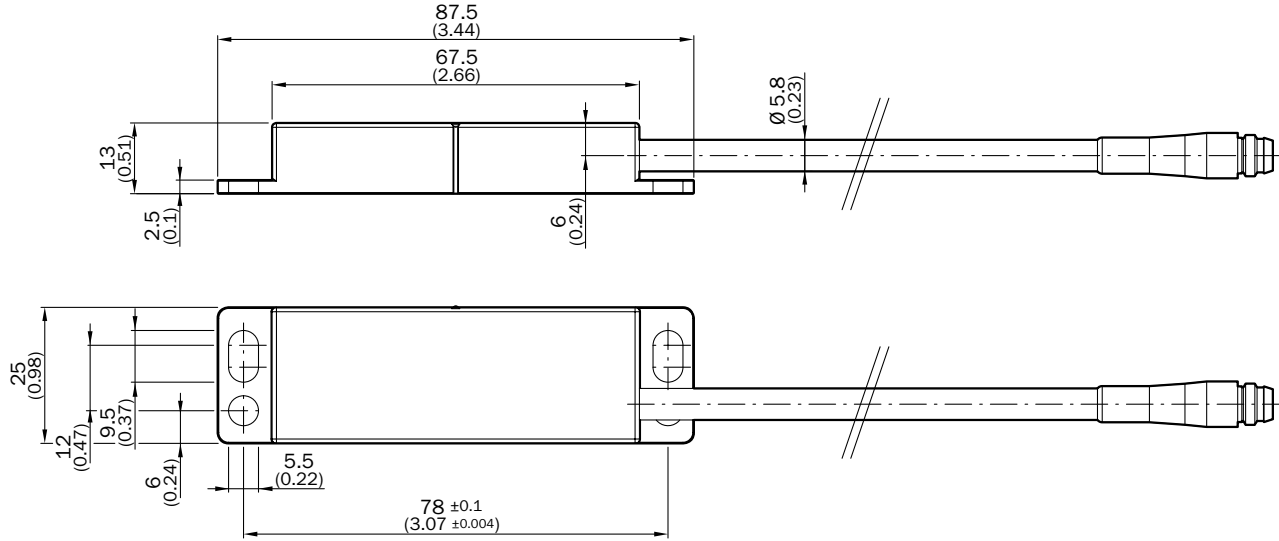
The actuators have the same dimensions as the sensors, but without connecting cable.

RE21-SAC, RE23-SAC



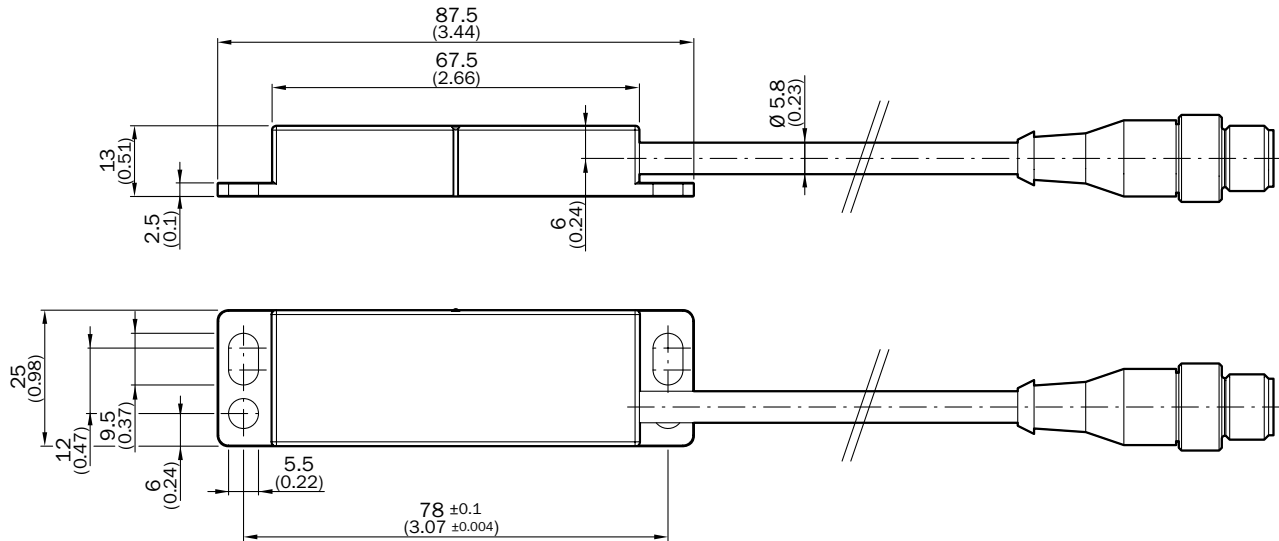
The actuators have the same dimensions as the sensors, but without plug connector.

RE23-SA84



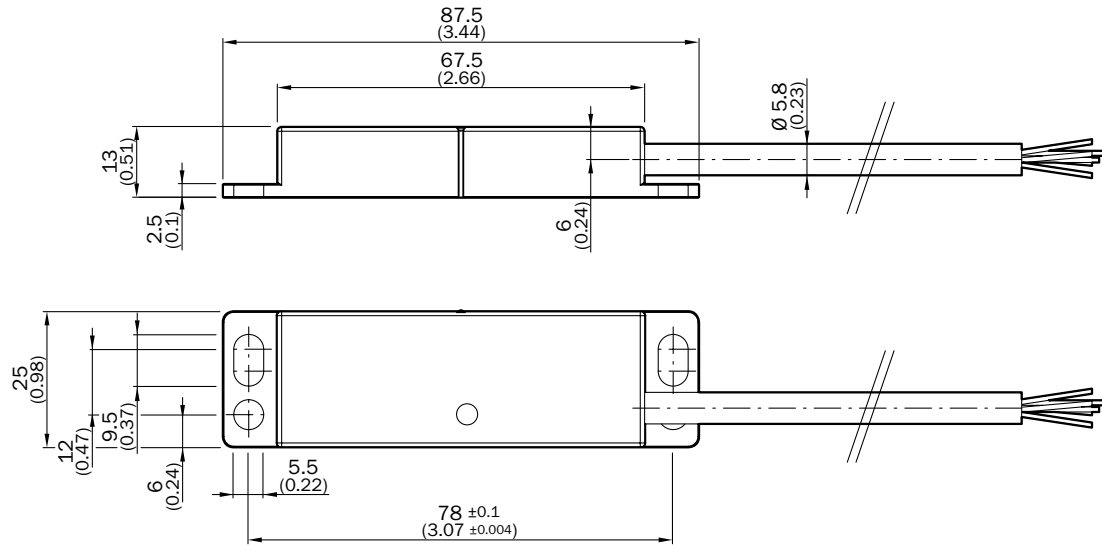
The actuators have the same dimensions as the sensors, but without connecting cable.

RE23-SA64



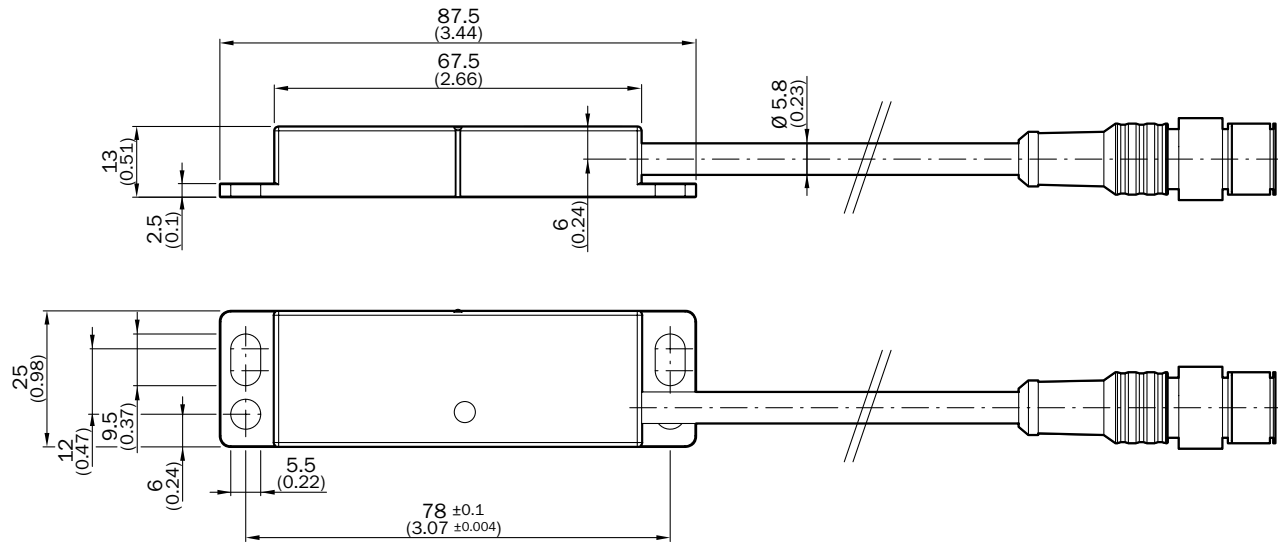
The actuators have the same dimensions as the sensors, but without connecting cable.

RE27-SA05L, RE27-SA10L, RE27-SA20L



The actuators have the same dimensions as the sensors, but without connecting cable.

RE27-SA68L



The actuators have the same dimensions as the sensors, but without connecting cable.

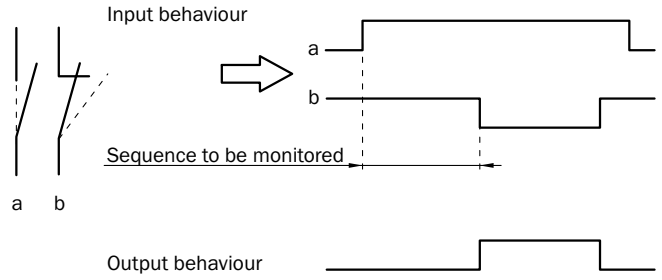
Connection diagram

RE21: sensor connections



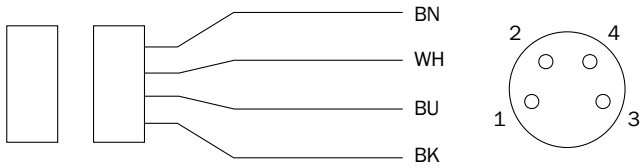
1 BN	N/O contact
2 WH	
3 BU	N/C contact
4 BK	

RE21: sensor timing



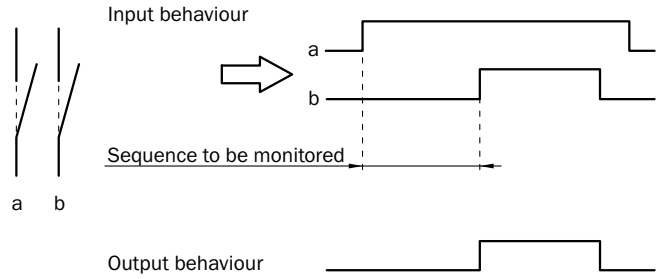
Both contacts must change output state, before it can be reset. Compliance with this sequence must be monitored by the safe evaluation unit.

RE23: sensor connections (plug M8)



1 BN	N/O contact
2 WH	
3 BU	N/O contact
4 BK	

RE23: sensor timing



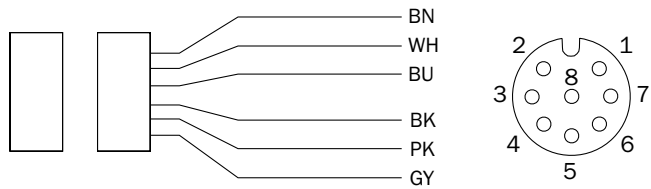
Both contacts must change output state, before it can be reset. Compliance with this sequence must be monitored by the safe evaluation unit.

RE23: sensor connections (plug M12)



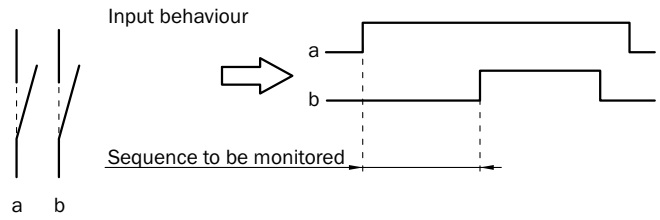
1 BN	N/O contact
2 WH	
3 BU	N/O contact
4 BK	

RE27: sensor connections



7 BN	N/O contact
1 WH	
4 BU	N/O contact
6 BK	
5 PK	N/O contact with LED
8 GY	

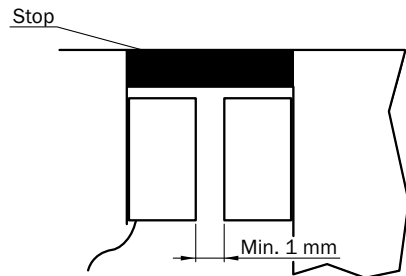
RE27: sensor timing



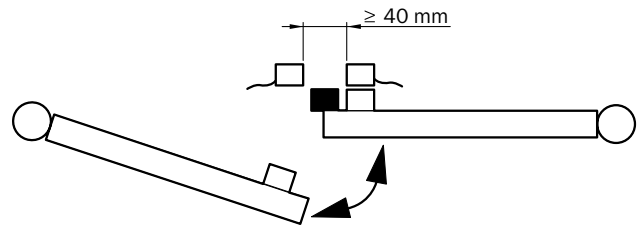
Both contacts must change output state, before it can be reset. Compliance with this sequence must be monitored by the safe evaluation unit.

Mounting

Minimum distance between sensor and actuator

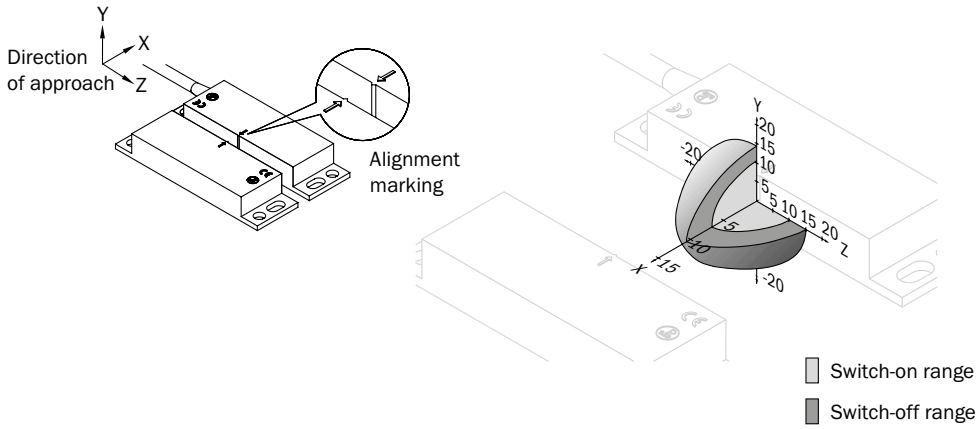


Minimum distance to neighboring sensors

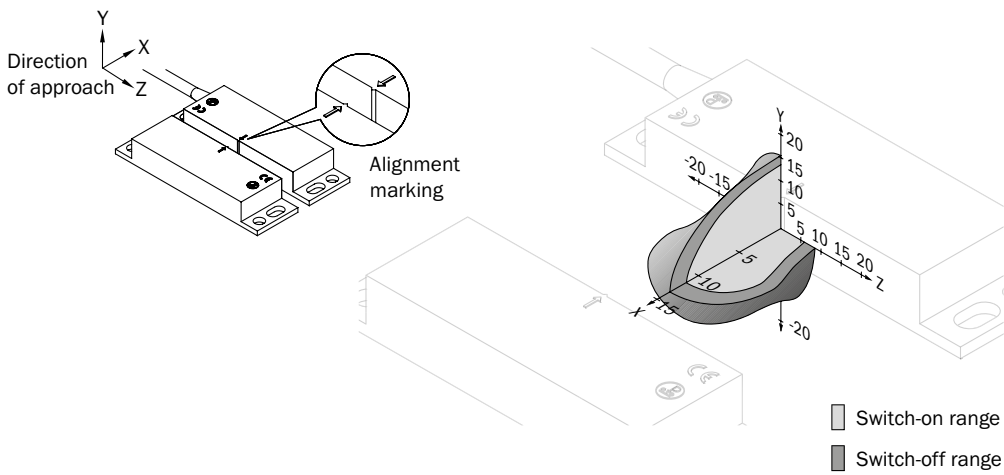


Response range

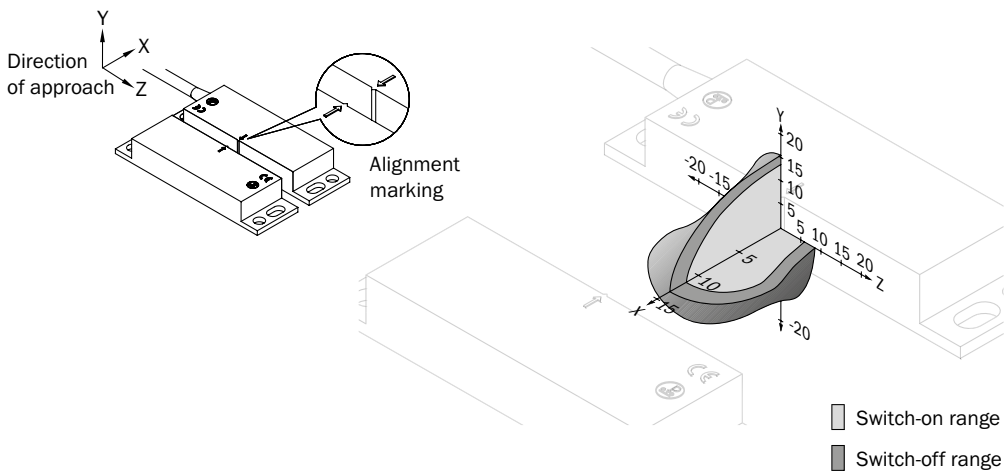
RE21



RE23






RE27




Accessories

Actuators

Figure	Brief description	Model name	Part no.
	Replacement actuator for RE21-Sxx, RE21-Sxxx	RE21-SK	1060293
	Replacement actuator for RE23-Sxx, RE23-Sxxx	RE23-SK	1060294
	Replacement actuator for RE27-SxxxL	RE27-SK	1060295





Other mounting accessories

Others

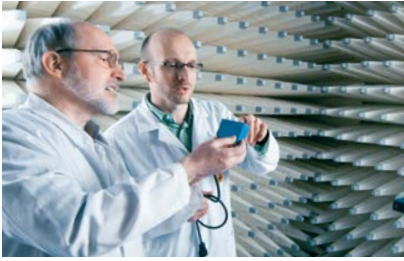
Figure	Brief description	Packing unit	Model name	Part no.
	Spacer for RE2	10	RE20-SP	1060291

Plug connectors and cables

Connecting cable (female connector-open)

Figure	Connection type head A	Connection type head B	Cable material	Conductor cross-section	Cable length	Model name	Part no.
	Female connector, M8, 4-pin, straight	Cable	PVC	0.25 mm ²	2 m	DOL-0804-G02M	6009870
					5 m	DOL-0804-G05M	6009872
					10 m	DOL-0804-G10M	6010754
	Female connector, M8, 4-pin, angled	Cable	PVC	0.25 mm ²	2 m	DOL-0804-W02M	6009871
					5 m	DOL-0804-W05M	6009873
					10 m	DOL-0804-W10M	6010755
	Female connector, M12, 4-pin, straight	Cable	PVC	0.25 mm ²	5 m	DOL-1204-G05M	6009866
					10 m	DOL-1204-G10M	6010543
					15 m	DOL-1204-G15M	6010753
	Female connector, M12, 8-pin, straight	Cable	PVC	0.25 mm ²	5 m	DOL-1208-G05MA	6020993
					10 m	DOL-1208-G10MA	6022152
					15 m	DOL-1208-G15MA	6022153
					30 m	DOL-1208-G30MA	6022242

SICK at a glance



Leading technologies

With a staff of more than 5,800 and nearly 50 subsidiaries and representations worldwide, SICK is one of the leading and most successful manufacturers of sensor technology. The power of innovation and solution competency have made SICK the global market leader. No matter what the project and industry may be, talking with an expert from SICK will provide you with an ideal basis for your plans – there is no need to settle for anything less than the best.



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- Complete system solutions for analysis and flow measurement of gases and liquids



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România
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Schweiz
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South Korea
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