7 mm Safety Magnetic Sensors

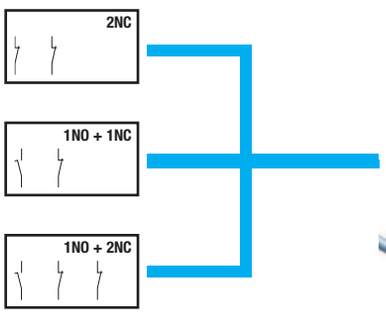
Safety Magnetic Target - SMP1 series

Actuation distance 5 mm

SMP1AMG

Safety Magnetic Sensors

Contacts



SMP1A•••

SMP1A•••K

SMP1A•••001M

SMP1A•••L

SMP1A•••KL

SMP1A•••001ML

Safety Magnetic Target - SMP2 series

Actuation distance 5 mm

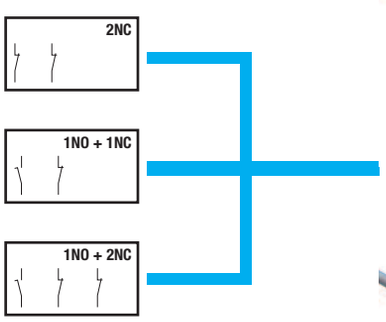
SMP2AMG

Actuation distance 8 mm

SMP2BMG

Safety Magnetic Sensors

Contacts



SMP2A•••

SMP2A•••K

SMP2A•••001M

SMP2A•••L

SMP2A•••KL

SMP2A•••001ML

Safety Magnetic Sensors - Description

Applications

Comepi offers a range of safety magnetic sensors SMP series designed to satisfy applications requiring high safety standards. Combined with an appropriate safety module, SMP magnetic sensors guarantee a safety system with Safety Integraty Level (SIL CL) up to SIL 3 (according to EN 62061) and Performance Level up to PLe (according to EN ISO 13849-1).

- Sealed: immune to dirt
- Wide actuation zone
- Difficult to by-pass as they can be easily hidden (with non-magnetic material)
- Electrical output contacts: 2NC, 1NO + 1NC or 1NO + 2NC
- Optionally provided with LED indicator
- Intervention from all directions

They comply with the requirements of European Directives (Low Voltage, Machines and Electromagnetic Compatibility) and are conform to European and international standards.

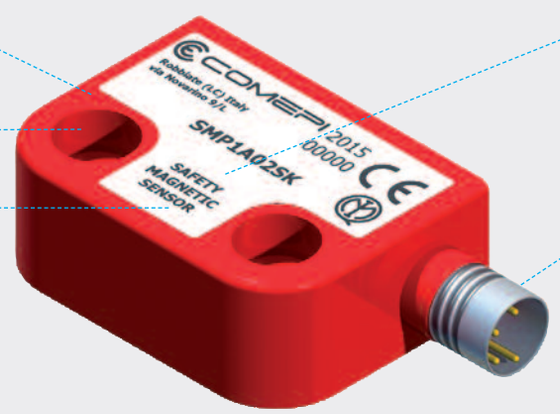
Description

The housing is made of technopolymer and it offers a degree of protection IP67. Integrated cable or M8 / M12 connection allow to install these devices in the most varied applications.

Housing
- 36 mm. width
- 88 mm. width

Housing fixing
- 2 x M4 screws

Output contacts:
- 2NC, 1NO + 2NC, 1NO + 1NC contacts



LED indicator
- Optionally provided on all models

Electrical connection:
- PVC cable
- M8 integrated connector (only for 2NC and 1NO + 1NC contacts)
- PVC cable + M12 connector

Symbols

Example:	SMP	1A	11	S	010		
Structure:	SMP						

Housing dimensions
1A: 36 x 26 x 13 mm.
2A: 88 x 25 x 13 mm.

Contacts (with closed protection)
02: 2NC contacts
12: 1NO + 2NC contacts
11: 1NO + 1NC contacts

Direction of the Output Connection
Null: Right
L: Left

Connection type
Null: PVC cable
K: M8 integrated connector
M: M12 connector

Cable lenght
010: 1 m. PVC cable
020: 2 m. PVC cable
001: 10 cm. PVC cable (M12 + cable version only)
Null: Connector

Version
S: Standard
L: With LED indicator

Safety Magnetic Sensors - Technical Data

		SMP Series
Temperature range		
– Operation	°C	– 25 ... + 80
– Storage	°C	– 25 ... + 80
Mounting positions		All positions are authorised
Degree of protection (according to IEC 60529 and EN 60 529)		IP 67
Pollution degree (according to IEC 60947-5-1)		3
Sil level (Sil CL) (according to EN IEC 62061)		Up to Sil 3 (*)
Performance level (PL) (according to EN ISO 13849-1)		Up to PLe (*)
Safety category (according to EN ISO 13849-1)		Up to Cat 4 (*)
B10d for each channel		20.000.000 (*) / 400.000 (used with max load: 24V - 0,25A)

(*) Connecting a single sensor to a COMEPI safety module MS1A31...*.

Electrical Data

Rated insulation voltage U_i according to IEC 60947-1 and EN 60947-1		120 Vac (cable connection and cable +M12 4 poles connector) 60 Vac / 75 Vdc (M8 connector) 30 Vac / 36 Vdc (M12 8 poles connector)
Rated impulse withstand voltage U_{imp}	kV	6 (1,5 for M8 or M12 connectors)
Conventional free air thermal current I_{th} (according to IEC 60947-5-1) $\theta < 40$ °C	A	0,25
Rated voltage / current		24 Vac / dc - 0,25 A (resistive load)
Max resistive load	W	6 (external fuse 0,25 A type F)
Electrical durability		1.000.000 operations

Approvals

Standards	EN 60947-1, EN 60947-5-1, EN 60947-5-2, EN 60947-5-3 (*) , EN ISO 14119, EN ISO 12100-1, EN ISO 12100-2, EN ISO 13849-1, EN ISO 13849-2, EN 60204-1, EN 60529
Directives	2006/95/CE low voltage 2006/42/CE machinery 2004/108/CE electromagnetic
Certifications	CE - IMQ

Safety Magnetic Sensors - Technical Data

Implementation

SMP1AMG

Switching distance

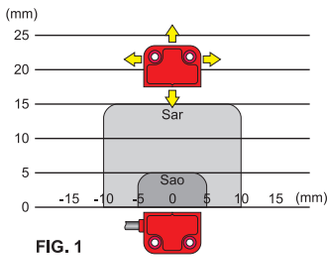


FIG. 1

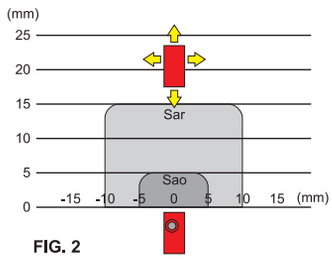
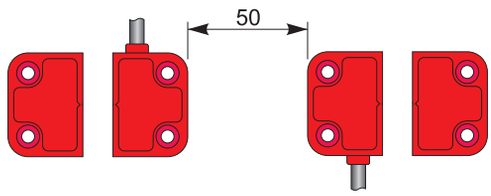


FIG. 2

N.B.: Le aree di attivazione mostrate in fig. 1 e fig. 2 sono indicative.

Minimum distance between sensors



SMP2AMG

Switching distance

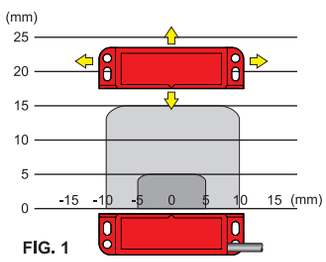


FIG. 1

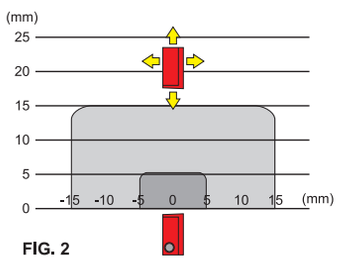
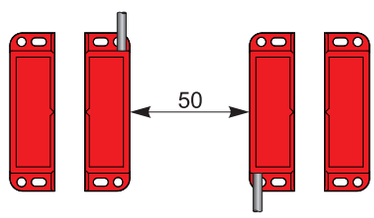


FIG. 2

N.B. : The activation areas shown in Fig.1 and Fig. 2 are indicative.

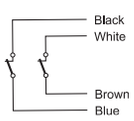
Minimum distance between sensors



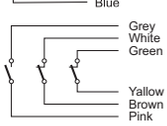
Electrical connections

Cable connections

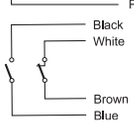
2NC



1NO+2NC

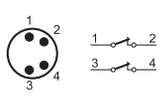


1NO+1NC

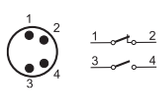


M8 connections

2NC

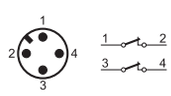


1NA+1NC

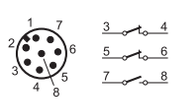


Cable + M12 connections

2NC

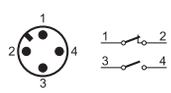


1NO+2NC

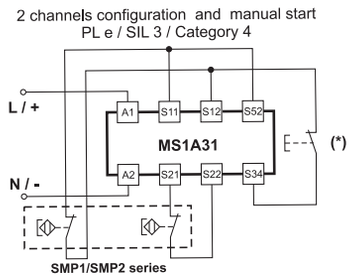


Pins 1 and 2 are disconnected

1NO+1NC



Example of connection with safety module

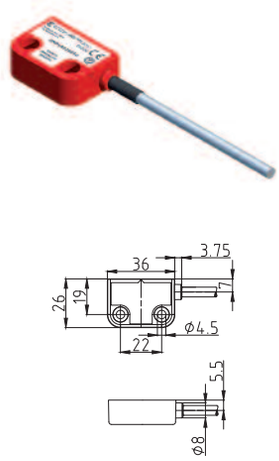


(*) If between S12 and S34 it is connected a jumper instead of the button you get the 2-channel configuration with automatic start.

SMP1 - Polymeric housing - IP67

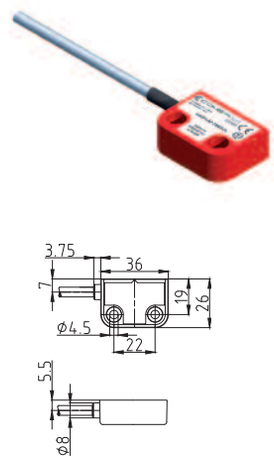
Safety Magnetic Target SMP1AMG
Actuation distance: 5 mm.

Cable connection



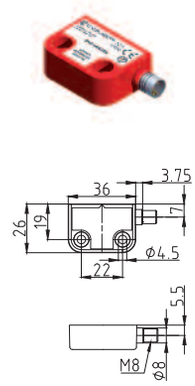
Weight	**75 g**
Operating diagram	**Page 45**

Cable connection



Weight	**75 g**
Operating diagram	**Page 45**

M8 integrated connector



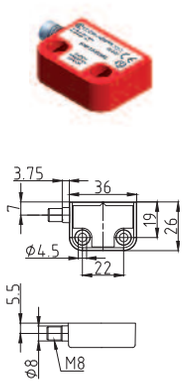
Weight	**35 g**
Operating diagram	**Page 45**

Contact Blocks			
2NC	SMP1A02S•••	SMP1A02S•••L	SMP1A02SK
1NO + 2NC	SMP1A12S•••	SMP1A12S•••L	
1NO + 1NC	SMP1A11S•••	SMP1A11S•••L	SMP1A11SK
2NC with LED signalling	SMP1A02L•••	SMP1A02L•••L	SMP1A02LK
1NO + 2NC with LED signalling	SMP1A12L•••	SMP1A12L•••L	
1NO + 1NC with LED signalling	SMP1A11L•••	SMP1A11L•••L	SMP1A11LK

Electrical connection: Replace the symbol "•••" with the lenght of the cable desired
010: Cable lenght 1m
020: Cable lenght 2m

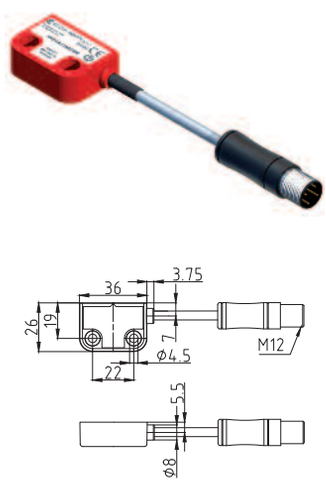
Safety Magnetic Target SMP1AMG
Actuation distance: 5 mm.

M8 integrated connector



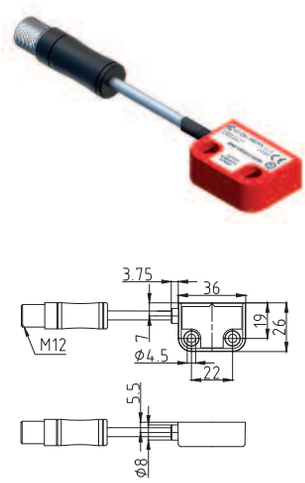
Weight	**35 g**
Operating diagram	**Page 45**

M12 connector



Weight	**50 g**
Operating diagram	**Page 45**

M12 connector



Weight	**50 g**
Operating diagram	**Page 45**

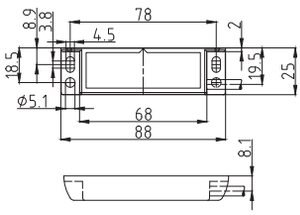
Contact Blocks			
2NC	SMP1A02SKL	SMP1A02S001M	SMP1A02S001ML
1NO + 2NC		SMP1A12S001M	SMP1A12S001ML
1NO + 1NC	SMP1A11SKL	SMP1A11S001M	SMP1A11S001ML
2NC with LED signalling	SMP1A02LKL	SMP1A02L001M	SMP1A02L001ML
1NO + 2NC with LED signalling		SMP1A12L001M	SMP1A12L001ML
1NO + 1NC with LED signalling	SMP1A11LKL	SMP1A11L001M	SMP1A11L001ML

SMP2- Polymeric housing - IP67

Safety Magnetic Target SMP2AMG
Actuation distance: 5 mm.

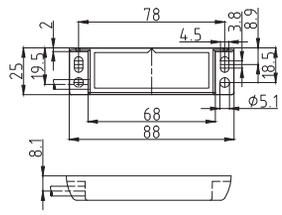
Safety Magnetic Target SMP2BMG
Actuation distance: 8 mm.

Cable connection



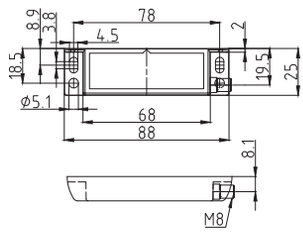
Weight	**90 g**
Operating diagram	**Page 45**

Cable connection



Weight	**90 g**
Operating diagram	**Page 45**

M8 integrated connector



Weight	**55 g**
Operating diagram	**Page 45**

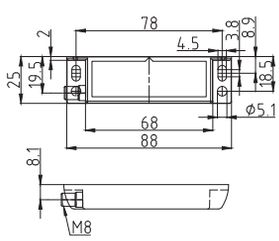
Contact Blocks			
2NC	SMP2A02S•••	SMP2A02S•••L	SMP2A02SK
1NO + 2NC	SMP2A12S•••	SMP2A12S•••L	
1NO + 1NC	SMP2A11S•••	SMP2A11S•••L	SMP2A11SK
2NC with LED signalling	SMP2A02L•••	SMP2A02L•••L	SMP2A02LK
1NO + 2NC with LED signalling	SMP2A12L•••	SMP2A12L•••L	
1NO + 1NC with LED signalling	SMP2A11L•••	SMP2A11L•••L	SMP2A11LK

Electrical connection: Replace the symbol "•••" with the lenght of the cable desired
010: Cable lenght 1m
020: Cable lenght 2m

Safety Magnetic Target SMP2AMG
Actuation distance: 5 mm.

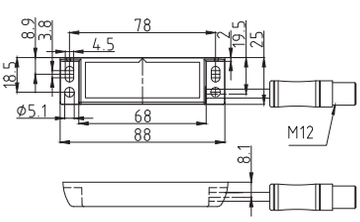
Safety Magnetic Target SMP2BMG
Actuation distance: 8 mm.

M8 integrated connector



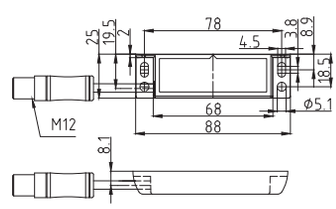
Weight	**55 g**
Operating diagram	**Page 45**

M12 connector



Weight	**70 g**
Operating diagram	**Page 45**

M12 connector



Weight	**70 g**
Operating diagram	**Page 45**

Contact Blocks			
2NC	SMP2A02SKL	SMP2A02S001M	SMP2A02S001ML
1NO + 2NC		SMP2A12S001M	SMP2A12S001ML
1NO + 1NC	SMP2A11SKL	SMP2A11S001M	SMP2A11S001ML
2NC with LED signalling	SMP2A02LKL	SMP2A02L001M	SMP2A02L001ML
1NO + 2NC with LED signalling		SMP2A12L001M	SMP2A12L001ML
1NO + 1NC with LED signalling	SMP2A11LKL	SMP2A11L001M	SMP2A11L001ML