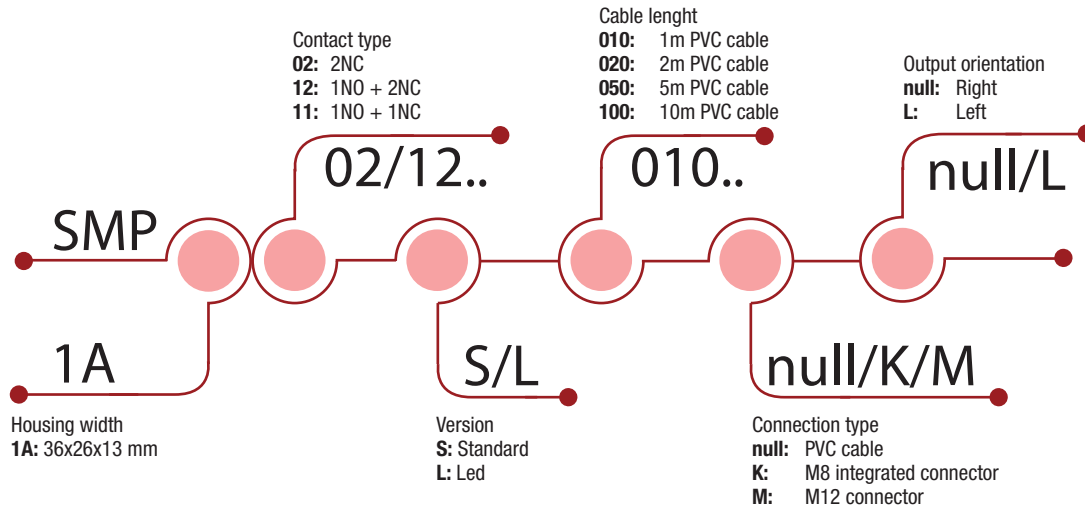


Magnetic Sensors

SMP1 Safety Magnetic Sensors

APPROVALS: UL 508 / EN 60947-5-1



HOW IS IT MADE?

- 01 LED indicator**
 - Optionally provided on all models
- 02 Electrical connection**
 - Positive PVC cable
 - M8 integrated connector (only for 2NC and 1NO + 1NC contacts)
 - PVC cable + M12 connector
- 03 Housing**
 - 36 mm. width
- 04 Mounting screws**
 - 2 x M4 screws
- 05 Output contacts**
 - 2NC, 1NO + 2NC, 1NO + 1NC contacts



Safety Magnetic Sensors - SMP1 series



SMP1AMG
Actuation distance 5 mm

Magnetic Sensors

Safety Magnetic Sensors - Description

APPLICATIONS

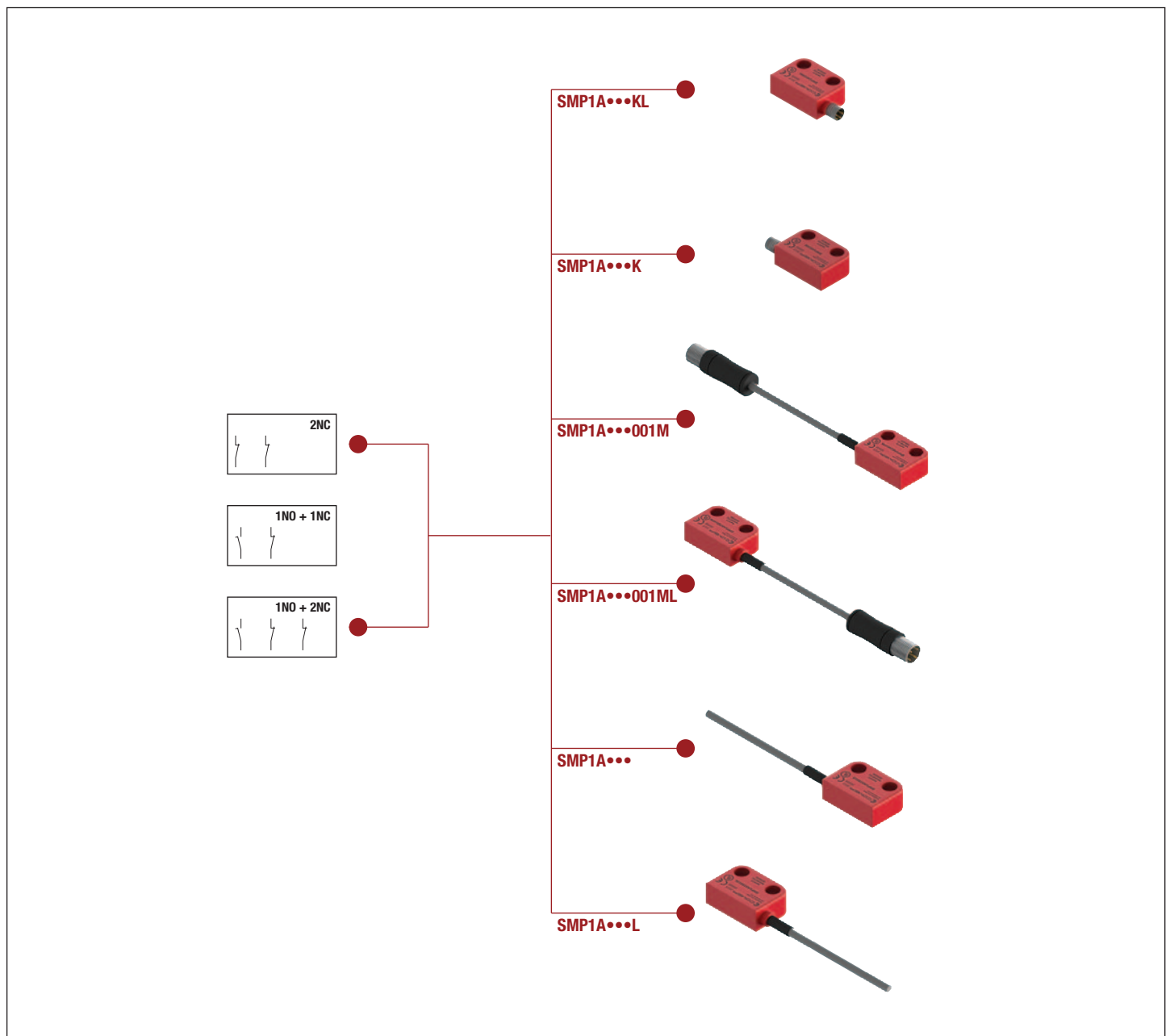
Comepi offers a range of safety magnetic sensors SMP series designed to satisfy applications requiring high safety standards. Combined with an appropriate safety module, SMP magnetic sensors guarantee a safety system with Safety Integrity Level (SIL CL) up to SIL 3 (according to EN 62061) and Performance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



Magnetic Sensors

Safety Magnetic Sensors - Technical Data

		SMP Series
Temperature range		
– Operation	°C	– 25 ... + 80
– Storage	°C	– 25 ... + 80
Mounting positions		All positions are authorized
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)

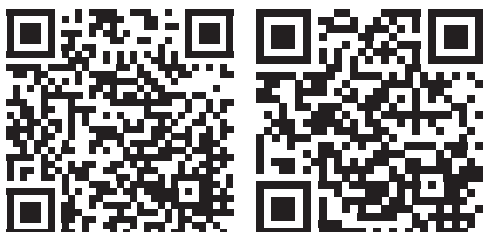
(*) Connecting a single sensor to a COMEPI safety module MS1A31...*

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) $\theta < 40\text{ °C}$	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	2014/35/UE low voltage 2006/42/CE machinery 2014/30/UE electromagnetic
Certifications	CE - UL



Download
Instruction sheet – Safety magnetic sensor
CE declaration

Magnetic Sensors

Safety Magnetic Sensors - Technical Data

IMPLEMENTATION

SMP1AMG

Switching distance

FIG. 1

FIG. 2

Minimum distance between sensors

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

SMP2AMG

Switching distance

FIG. 1

FIG. 2

Minimum distance between sensors

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

Electrical connections

Cable connections

2NC

- Black
- White
- Brown
- Blue

1NO+2NC

- Grey
- White
- Green
- Yellow
- Brown
- Pink

1NO+1NC

- Black
- White
- Brown
- Blue

M8 connections

2NC

1NO+1NC

Cable + M12 connections

2NC

1NO+2NC

Pins 1 and 2 are disconnected

1NO+1NC

Example of connection with safety module

Operating features

GATE CLOSED

operating condition ES. 2NC

LED ON

GATE OPEN

operating condition ES. 2NC

LED OFF

Magnetic Sensors

SMP1 - Polymeric housing - IP67 □

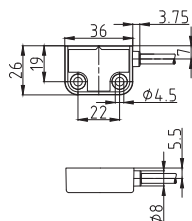
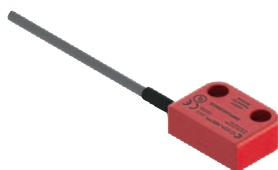
Safety Magnetic Target

SMP1AMG

Actuation distance: 5 mm.

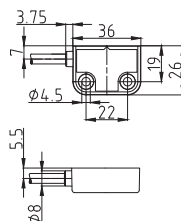


Right output cable connection



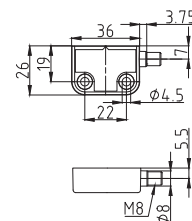
Weight 75 g
Operating diagram Page 35

Left output cable connection



Weight 75 g
Operating diagram Page 35

Integrated right M8 connector



Weight 35 g
Operating diagram Page 35

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 length of the cable desired

010: Cable length 1m 050: Cable length 5m

020: Cable length 2m 100: Cable length 10m

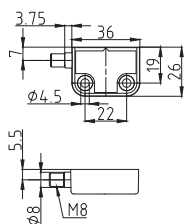
Safety Magnetic Target

SMP1AMG

Actuation distance: 5 mm.

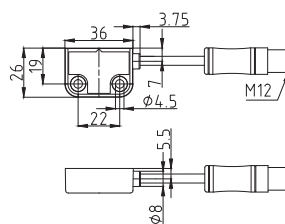
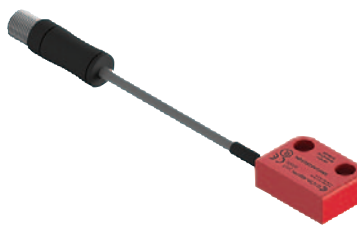


Integrated left M8 connector



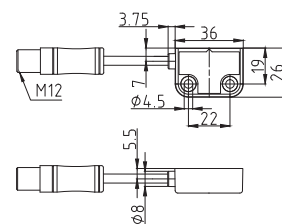
Weight 35 g
Operating diagram Page 35

Cable + M12 connector right output



Weight 50 g
Operating diagram Page 35

Cable + M12 connector left output



Weight 50 g
Operating diagram Page 35

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