

# ATEX MAGNETIC SENSORS

**BMS** = activated by external magnet  
**BMSN** = activated by ferromagnetic target with NAMUR output

Diameter of cylindrical sensors.  
 For other types, change the number with the following:  
**W** = rectangular plastic 19 x 28,5 x 10,5 mm

<b>BMSN</b>	<b>12/</b>	<b>4600</b>	<b>A</b>	<b>-5</b>	<b>PR</b>
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**A** = category 1G - 1D

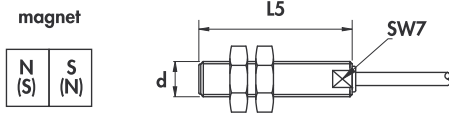
Cable length (if required different than standard 2m)

For Polyurethane cable add PR

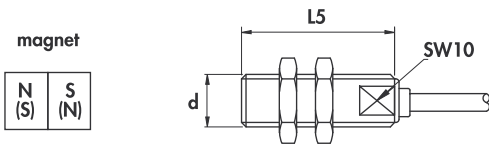


- REED CONTACT 2-wire •
- ATEX certified II 1GD for zone 0;20 •
- Detection of external magnets •
- Associated apparatus not required - Cable output •

**Housing B-10**



**Housing B-12**



Diameter	M8 x 1	M12 x 1
Nut	Size	SW13
	Thickness mm	4
Max tightening torque Nm	10	20

**Materials:**

- Cable: 2m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: stainless steel

**General features:**

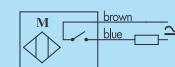
These sensors produce an output contact activated by an external magnetic field, independent by the polarity of the field. The activation distance depends upon the power of the magnet (see page C-9), which must be ordered separately. Reed contacts are able to drive directly dc loads (PNP/NPN). The extremely strong construction allows the use in the most difficult conditions even with high pressures on the housing.

**Technical data:**

- Working voltage: 5 ÷ 30 Vdc
- Output logic: normally open
- Contact resistance max: 0,1 Ω
- Operate time max: 1 ms
- Release time max: 0,4 ms
- Temperature range: -20 ÷ + 60°C
- Degree of protection: IP67
- Cable conductor cross section: 0,35 mm<sup>2</sup>
- Pressure on the front side max: 150 bar
- Marking: II 1D Ex maD 20 T80° C  
II 1G Ex ma II T6
- Certified IMQ 08 ATEX 002 X
- According to: EN60079-0/EN60079-18/EN60079-26

**Use in hazardous area according to instruction manuals**

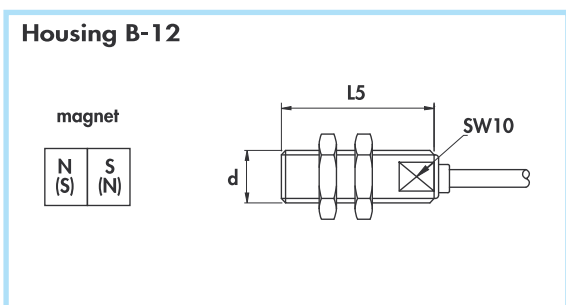
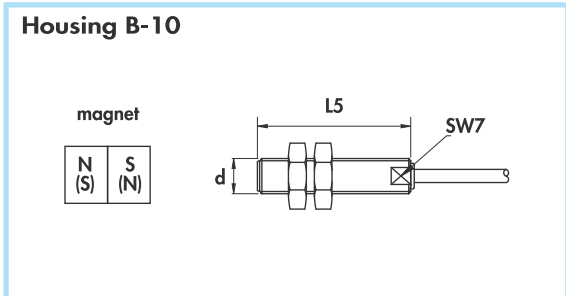
Housing	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Rated operational current (I <sub>e</sub> )	ORDERING REFERENCES
	mm	mm	mm	mm	mm					
B-10	-	-	-	-	35	4	M8 x 1	0,5	500	<b>BMS8/4600MA</b>
B-12	-	-	-	-	35	4	M12 x 1	0,5	500	<b>BMS12/4600MA</b>



# CYLINDRICAL MAGNETIC ATEX SENSORS IN METAL HOUSING



- REED CONTACT 2-wire - NAMUR output
- ATEX certified II 1GD for zone 0;20
- Detection of external magnets
- Cable output



Diameter	M8 x 1	M12 x 1
Nut	Size	SW13
	Thickness mm	4
Max tightening torque Nm	10	20

### Materials:

- Cable: 2m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: stainless steel

### General features:

These sensors produce an output contact activated by an external magnetic field, independent by the polarity of the field. The activation distance depends upon the power of the magnet (see page C-9), which must be ordered separately. The output impedance is compatible with NAMUR standard, allowing the diagnostic of the connections.

The extremely strong construction allows the use in the most difficult conditions even with high pressures on the housing.

### Technical data:

- Working voltage: 7,7 ÷ 9 Vdc
- Output logic: normally open
- Consumption at 8,2 V with  $R_x = 1000 \Omega$ 
  - activated:  $\geq 3 \text{ mA}$
  - non-activated:  $\leq 1 \text{ mA}$
- Operate time max: 1 ms
- Release time max: 0,4 ms
- Temperature range: -20 ÷ +60°C
- Degree of protection: IP67
- Cable conductor cross section: 0,35 mm<sup>2</sup>
- Marking: II 1D Ex iaD 20 T60° C  
II 1G Ex ia IIC T6
- Certified IMQ 08 ATEX 010
- According to: EN60947-5-6/EN60079-0/EN60079-11/EN60079-26

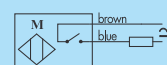
### Safety parameters:

- $V_i$  max: 13,5 Vdc
- $I_i$  max: 60 mA
- $P_i$  max: 200 mW

**These sensors must be used in conjunction with associated apparatus (See Sect. E)**

**Use in hazardous area according to instruction manuals**

Housing	L1	L2	L3	L4	L5	Cable diameter	Body diameter (d)	Max switching frequency (f)	Rated operational current (I <sub>e</sub> )	ORDERING REFERENCES
	mm	mm	mm	mm	mm					
B-10	-	-	-	-	35	4	M8 x 1	0,5	100	<b>BMSN8/4600A</b>
B-12	-	-	-	-	35	4	M12 x 1	0,5	100	<b>BMSN12/4600A</b>





- REED CONTACT 2-wire •
- ATEX certified II 1GD for zone 0;20 •
- For pneumatic cylinders •
- Cable output •



**General features:**

This sensor detects the position of the magnetic ring inside a standard pneumatic cylinder with a T slot. The sensor remains completely recessed and thus mechanically protected. Reed contact provides for a direct driving of DC (PNP/NPN).

**Technical data:**

- Working voltage: 10 ÷ 30 Vdc
- Output logic: normally open
- Contact resistance max: 0,1 Ω
- Operate time max: 1 ms
- Release time max: 0,4 ms
- Temperature range: - 20 ÷ + 60°C
- Degree of protection: IP67
- Cable conductor cross section: 0,14 mm<sup>2</sup>
- Marking: II 1D Ex iaD 20 T60° C  
II 1G Ex ia IIC T6
- Certified IMQ 08 ATEX 010
- According to: EN60079-0/EN60079-11/EN60079-26

**Safety parameters:**

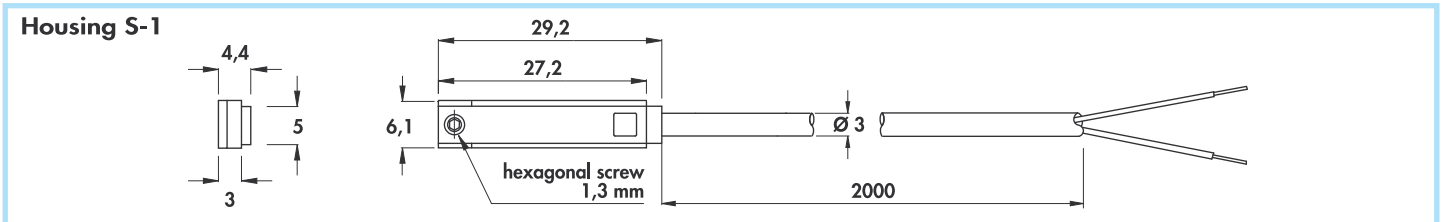
- Vi max: 30 Vdc
- Ii max: 100 mA
- Pi max: 750 mW

**These sensors must be used in conjunction with associated apparatus (See Sect. E)**

**Use in hazardous area according to instruction manuals**

**Materials:**

- Cable: PVC CEI 20-22 II; 90°C; 300V
- Sensor: plastic



Housing	Cable diameter	Rated operational current (I <sub>e</sub> )	Max switching frequency (f)	ORDERING REFERENCES	
				mm	mA
S-1	3	100	0,5		<b>BMS/4600A</b>

Note: different cable lengths must be specified at the end of the code. Ex: BMS/4600A -1 for 1m of cable with connector.

## RECTANGULAR MAGNETIC ATEX SENSORS

- REED CONTACT 2-wire - NAMUR output
- ATEX certified II 1GD for zone 0;20
- For pneumatic cylinders
- Cable output



### General features:

This sensor detects the position of the magnetic ring inside a standard pneumatic cylinder with a T slot. The sensor remains completely recessed and thus mechanically protected. The output impedance is compatible with NAMUR standard, allowing the diagnostic of the connections.

### Technical data:

- Working voltage:  $7,7 \div 9$  Vdc
- Output logic: normally open
- Consumption at 8,2 V with  $R_x = 1000 \Omega$ 
  - activated:  $\geq 3$  mA
  - non-activated:  $\leq 1$  mA
- Operate time max: 1 ms
- Release time max: 0,4 ms
- Temperature range:  $-20 \div +60^\circ\text{C}$
- Degree of protection: IP67
- Cable conductor cross section:  $0,14 \text{ mm}^2$
- Marking: II 1D Ex iaD 20 T60° C  
II 1G Ex ia IIC T6
- Certified IMQ 08 ATEX 010
- According to: EN60957-5-6/EN60079-0/EN60079-11/EN60079-26

### Safety parameters:

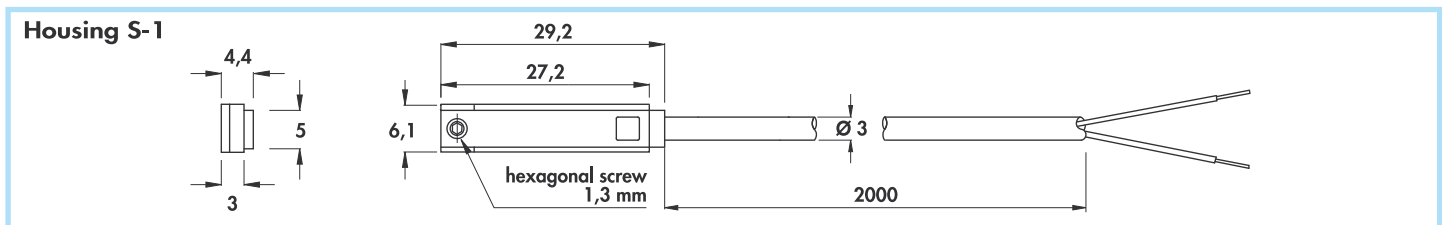
- $V_i$  max: 13,5 Vdc
- $I_i$  max: 60 mA
- $P_i$  max: 200 mW

These sensors must be used in conjunction with associated apparatus (See Sect. E)

Use in hazardous area according to instruction manuals

### Materials:

- Cable: PVC CEI 20-22 II;  $90^\circ\text{C}$ ; 300V
- Sensor: plastic

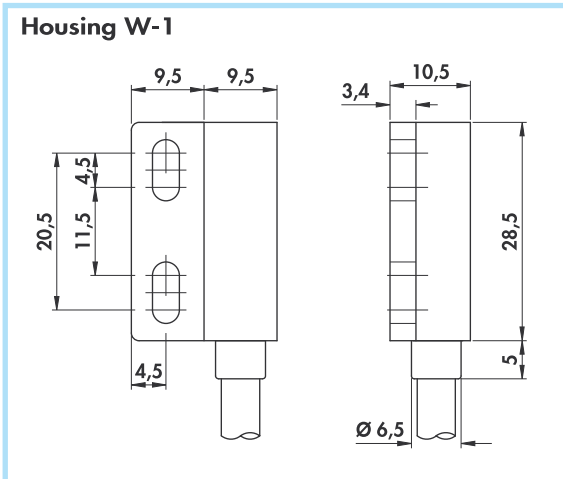
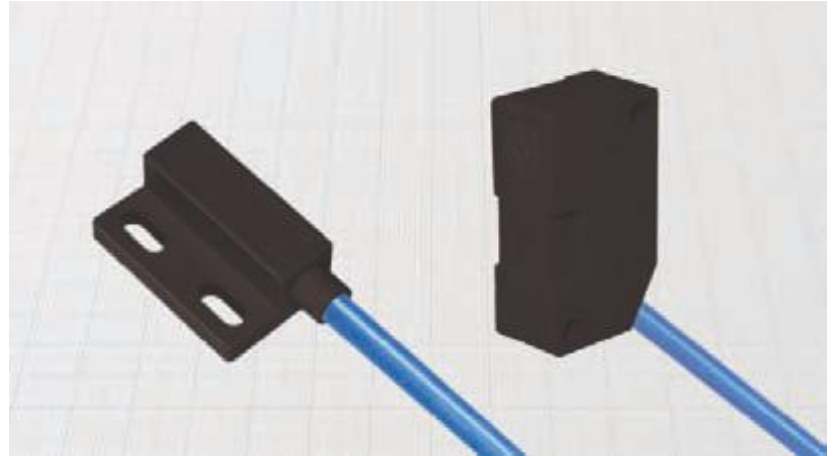
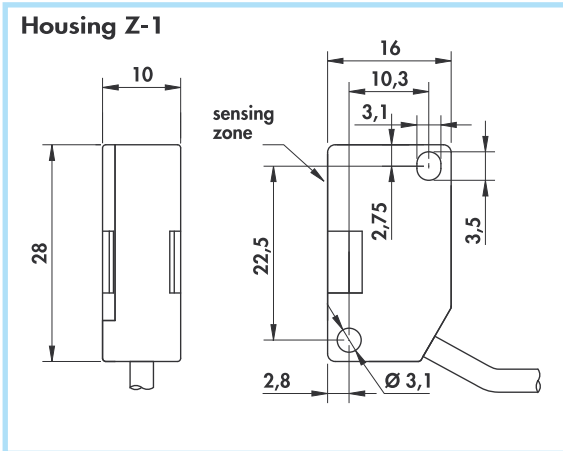


Housing	Cable diameter	Max switching frequency (f)	ORDERING REFERENCES
	mm	KHz	
S-1	3	0,5	<b>BMSN/4600A</b>

Note: different cable lengths must be specified at the end of the code. Ex: BMS/4600A-1 for 1m of cable with connector.



- REED CONTACT 2-wire •
- ATEX certified II 1GD for zone 0;20 •
- TYPE Z and W •
- Cable output •



Model	Type Z	Type W
Max tightening torque Nm	1,5	0,75

**Materials:**

- Cable: 2m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic

**General features:**

These sensors produce an output contact activated by an external magnetic field, independent by the polarity of the field. The activation distance depends upon the power of the magnet (see page C-9), which must be ordered separately. The special material of the housing allows the use without additional protections against electrostatic charges.

**Technical data:**

- Working voltage: 10 ÷ 30 Vdc
- Output logic: normally open
- Contact resistance max: 0,1 Ω
- Operate time max: 1 ms
- Release time max: 0,4 ms
- Temperature range: -20 ÷ + 60°C
- Degree of protection: IP67
- Cable conductor cross section: 0,14 mm<sup>2</sup> in Type Z  
0,35 mm<sup>2</sup> in Type W
- Marking: II 1D Ex iaD 20 T60° C  
II 1G Ex ia IIC T6
- Certified IMQ 08 ATEX 010
- According to: EN60079-0/EN60079-11/EN60079-26

**Safety parameters:**

- Vi max: 30 Vdc
- Ii max: 100 mA
- Pi max: 750 mW

These sensors must be used in conjunction with associated apparatus (See Sect. E)

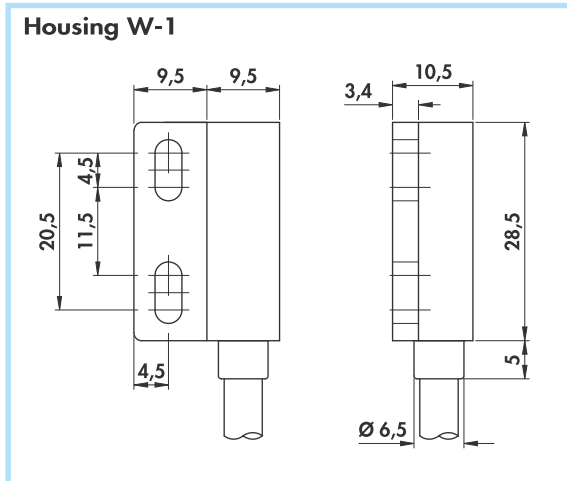
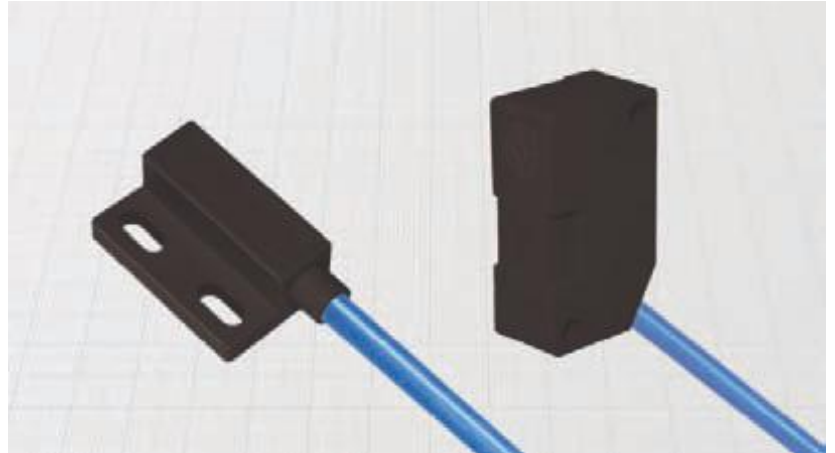
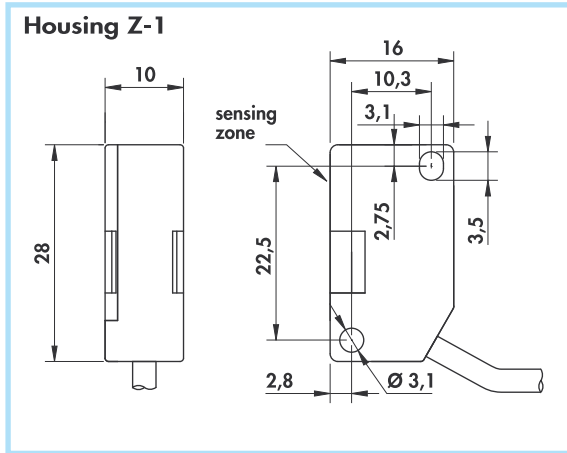
Use in hazardous area according to instruction manuals

Housing	Cable diameter	Max switching frequency (f)	Rated operational current (I <sub>e</sub> )	ORDERING REFERENCES
	mm			KHz
Z - 1	3	0,5	100	<b>BMSZ/4600A</b>
W - 1	5	0,5	100	<b>BMSW/4600A</b>

# RECTANGULAR MAGNETIC ATEX SENSORS



- REED CONTACT 2-wire - NAMUR output
- ATEX certified II 1GD for zone 0;20
- TYPE Z and W
- Cable output



Model	Type Z	Type W
Max tightening torque Nm	1,5	0,75

### Materials:

- Cable: 2m PVC CEI 20 - 22 II; 90°C; 300 V; O.R.
- Housing: plastic

### General features:

These sensors produce an output contact activated by an external magnetic field, independent by the polarity of the field. The activation distance depends upon the power of the magnet (see page C-9), which must be ordered separately. The output impedance complies with the NAMUR standard, allowing the diagnostic of the connections. The special material of the housing allows the use without additional protections against electrostatic charges.

### Technical data:

- Working voltage: 7,7 ÷ 9 Vdc
- Output logic: normally open
- Consumption at 8,2 V with  $R_x = 1000 \Omega$ 
  - activated:  $\geq 3 \text{ mA}$
  - non-activated:  $\leq 1 \text{ mA}$
- Operate time max: 1 ms
- Release time max: 0,4 ms
- Temperature range: - 20 ÷ + 60°C
- Degree of protection: IP67
- Cable conductor cross section: 0,14 mm<sup>2</sup> in Type Z, 0,35 mm<sup>2</sup> in Type W

- Marking: II 1D Ex iaD 20 T60° C, II 1G Ex ia IIC T6
- Certified IMQ 08 ATEX 010
- According to: EN60957-5-6/EN60079-0/EN60079-11/EN60079-26

### Safety parameters:

- $V_i$  max: 13,5 Vdc
- $I_i$  max: 60 mA
- $P_i$  max: 200 mW

These sensors must be used in conjunction with associated apparatus (See Sect. E)

Use in hazardous area according to instruction manuals

Housing	Cable diameter	Max switching frequency (f)	Rated operational current (I <sub>e</sub> )	ORDERING REFERENCES
	mm			KHz
Z - 1	3	0,5	100	BMSNZ/4600
W - 1	5	0,5	100	BMSNW/4600

Fig. A - Nickel plated

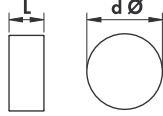


Fig. B - Epoxy encapsulated

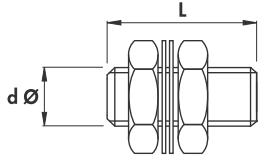


Fig. C - Epoxy coated

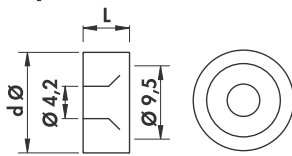


Fig. D - Epoxy encapsulated

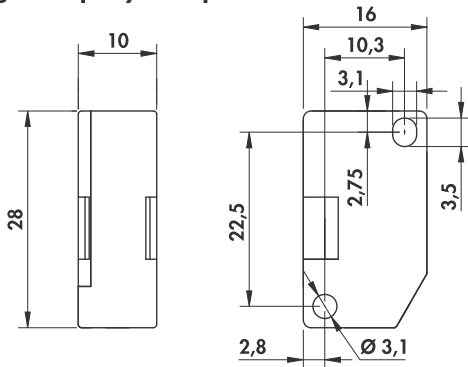
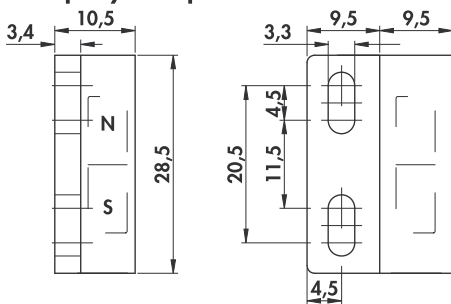


Fig. E - Epoxy encapsulated



**General features:**

These magnets can be used as actuators for all the magnetic sensors which need an external activation magnet. They're suitable for applications up to 70° C. For particular applications contact our technical office.

In the ordering reference table there are approximate detection distances obtained with different types of BDC sensors.

The special material of the housing allows the use without additional protections against electrostatic charges.

**Use in hazardous area according to instruction manuals**

**Materials:**

- Housing B: stainless steel
- Housing D - E: plastic

Housing		B	C	D
Nut	Size	SW13	-	-
	Thickness mm	4	-	-
Max tightening torque Nm		10	x	1,5

Fig.	Diameter	L	DETECTION DISTANCE		ORDERING REFERENCES
	mm	mm	With Reed sensors	With solid state sensors	
A	5	3	6	15	MAG-T53 MAG-T83 MAG-T105
A	8	3,6	13	22	
A	10	5	20	30	
B	M8x1	20	10	17	MAG-M820
C	13	6	25	45	MAG-TF136
D	-	-	13	22	MAG-Z -A
E	-	-	15	27	MAG-W-A