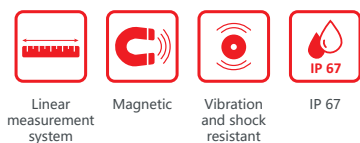




SERIE MSM

LINEAR MEASURING MAGNETIC SENSOR

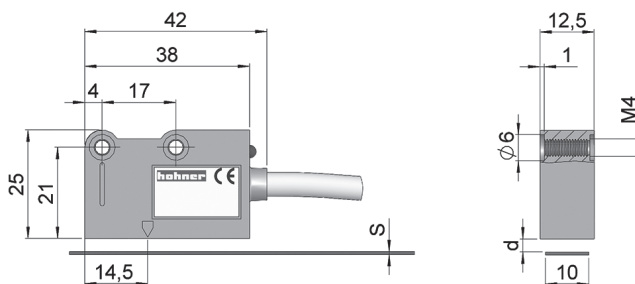
- Magnetic detection without contact
- Easy assembly
- Resolution 10 μm
- Accuracy $\pm 8 \mu\text{m}$
- Pole pitch 2+2
- Protection class IP67
- Metallic cover
- External or integrated reference signal
- Connection by cable (other cable length available)



Magnetic band CSM

	CSM	CSM + PS (*)	CSM + AP (*)
S (mm)	1.3	1.6	2.1
d (mm)	0.2 ÷ 1.4	1.1 MAX	0.6 MAX

(*) PS and AP see accessories section



SENSOR REFERENCE

Reference example: MSM-10E528

Serie	Resolution	Zero	Power supply	Special Customer
MSM -	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Pole pitch 2+2	10. 10 μm (*)	E. External C. Constant step (every 2 mm) (**)	528. 5...28 VDC	

(*) Resolution between edges (1 Pulse = 4 edges). Other resolutions available, upon request (1, 5, 25, 50, 100, 500, 1000 μm).

(**) Integrated zero available, upon request.

BAND REFERENCE

Serie

CSM

Band length: ☐ ☐ , ☐ ☐ m (*)

(*) 1 unit = 1 meter.

IMPORTANT: In order not to compromise the accuracy of the system, the magnetic band must be longer than the machine run of at least 4 cm from each side.

For a better protection of magnetic band from shavings, liquid sprinklings, powder, etc. we suggest to always use the stainless steel cover PS, already equipped with a double-sided adhesive tape, or the aluminium support AP (see accessories).



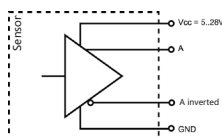
SERIE MSM

LINEAR MEASURING MAGNETIC SENSOR

SENSOR SPECIFICATIONS

Resolution	10 µm
Accuracy	±8 µm
Reference indexes	E. External (Accessories EC) C. Constant step every 2 mm (Constant step every 4 mm for resolution 1000 mm) Integrated zero available upon request, positioned on the magnetic band.
Repeatability	±1 increment
GAP, distance sensor/band (d) see previous table	0.2 to 1.4 mm
Speed	12 m/s (10 µm)
Housing	Metallic
Protection class (EN 60529)	IP67
Operating temperature range	0°C to +50°C
Storage temperature range	-20°C to +80°C
Humidity	100% not condensed
Vibration (EN 60068-2-6)	300 m/s ² (55...2000 Hz)
Shock (EN 60068-2-27)	1000 m/s ² (11ms)
Weight	0.04 Kg
Connection	2 meters cable (other cable lengths available on order)

OUTPUT SIGNALS



OUTPUT CIRCUIT	Line Driver
Power supply	5...28 VDC ±5%
Current consumption without load	Max: 60 mA
Current consumption with load	140 mA max (VDC=5V and R= 120Ω) 90 mA max (VDC=28V and R= 1.2kΩ)
Frequency	300 kHz
Short circuit protection	Yes
Protection polarity inversion	Yes
Channel A leads 90° electrics channel B	

CONNECTION



	Cable
	3x2x0.14+2x0.35 mm ²
GND	Blue (BU)
+UB	Red (RD)
A	Green (GN)
B	White (WH)
\bar{A}	Orange (OG)
\bar{B}	Light blue (LBU)
Z	Brown (BN)
\bar{Z}	Yellow (YE)
Case	Shield

The cable's bending radius should not be lower than 60 mm.

BAND SPECIFICATIONS

Pole pitch	2+2 mm
Accuracy at 20°C	±20 µm/meter
Width band	10 mm
Thickness band "S" (see previous table)	1.3 mm
Maximum length	75 m
Thermal expansion	10.6 x 10 ⁻⁶ °C ⁻¹ Tref: 20°C ± 0,1°C
Bending radius	130 mm _{MIN}
Operating temperature range	-20°C to +70°C
Storage temperature range	-20°C to +80°C

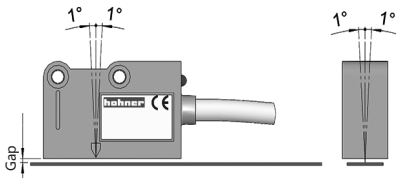
IMPORTANT: In order not to compromise the accuracy of the system, the magnetic band must be longer than the machine run of at least 4 cm from each side.

SERIE MSM

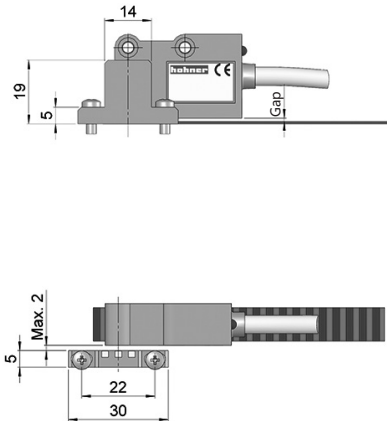
LINEAR MEASURING MAGNETIC SENSOR

ALIGNMENT AND SENSOR MOUNTING

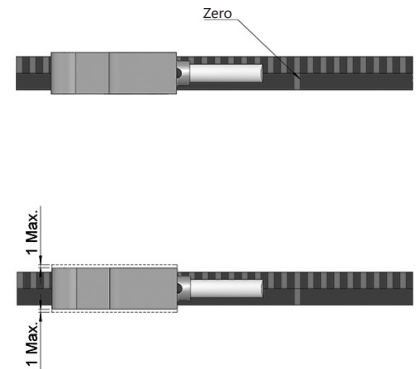
Sensor - Band



Sensor with external zero - Band

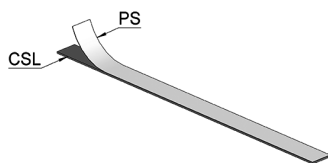


Sensor with integrated zero

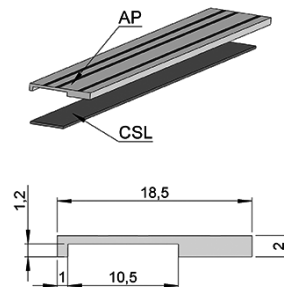


ACCESSORIES

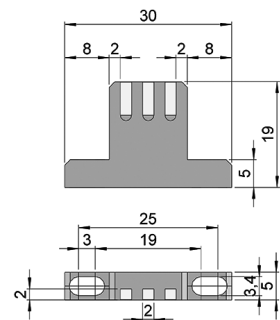
PS: Cover for band protection



AP: Aluminium support



EC: External zero



Stainless steel cover for protection. To be placed in the magnetic band. (10 mm width - 0.3 mm thickness).



It is not possible to use the support AP if the magnetic band is already covered by PS band protection.

INSTALLATION AND HANDLING

1. Degrease the surface you want to place the magnetic band by using alcohol and dry it carefully.
2. Place the band and keep it aligned with the reader head ensuring the magnetic part is just next to the sensor.
3. Place the cover PS or the support AP, if provided.
4. The max. adhesion will be achieved after 48 hours from sticking.
5. Keep other magnetic parts clear from the tape.
6. Store and roll up the tape keeping the magnetic strip on the outside, in order to avoid tensions.