SERIE MSM

LINEAR MEASURING MAGNETIC SENSOR

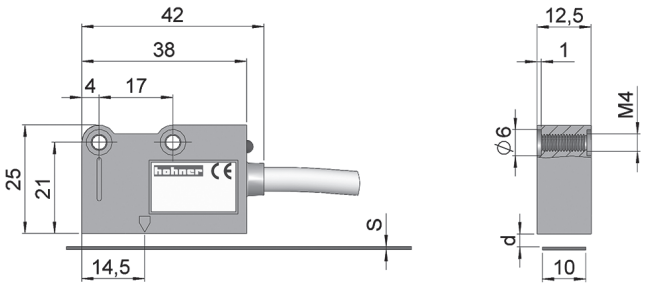
- Magnetic detection without contact
- Easy assembly
- Resolution 10 µm
- Accuracy ±8 µm
- Polar pitch 2+2
- Protection class IP67
- Metallic cover
- External or integrated reference signal
- Connection by cable (other cable lenght available)

Linear measurement system | Magnetic | Vibration and shock resistant | IP67

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 -	□□	□	□□□	.□□
Pole pitch 2+2	**10.** 10 µm (*)	**E.** External (**)	**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 lenght: □□□□□ mm

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).

Integrated zero available, upon request.

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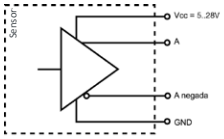
SENSOR SPECIFICATIONS

Resolution	10 µm
Accuracy	±8 µm
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/s² (55...2000 Hz)
Shock (EN 60068-2-27)	1000 m/s² (11ms)
Weight	40g
Connection	2 meter cable

OUTPUT SIGNALS



OUTPUT CIRCUIT	Line Driver
Power supply	5...28 VDC ±5%
Load without charge	Max: 60 mA
Load with charge	140 mA MAX (VDC=5V and Z= 120Ω) 90 mA MAX (VDC=28V and Z= 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 mm²
GND	Blue
VCC	Red
A	Green
B	White
$\tilde{A}$	Orange
$\tilde{B}$	Sky blue
0 (reference)	Brown
$\tilde{0}$	Yellow

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

BAND SPECIFICATIONS

Pole pitch	2+2 mm
Accuracy at 20°C	±30 µm/meter
Width band	10 mm
Thickness band "S" (see previous table)	1,3 mm
Maximum length	50 m
Thermal expansion	10,5 x 10^{-6} $°C^{-1}$ Tref: 20°C ± 0,1°C
Bending radius	≥ 130 mm
Operating temperature range	0°C to +70°C
Storage temperature range	-20°C to +80°C

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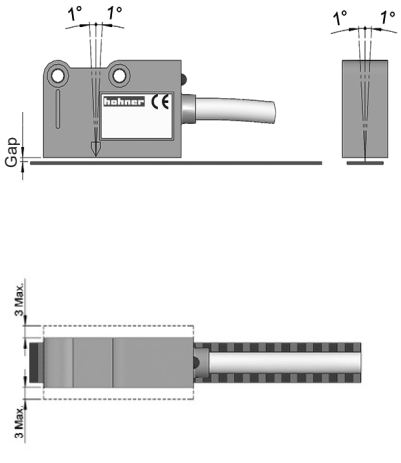
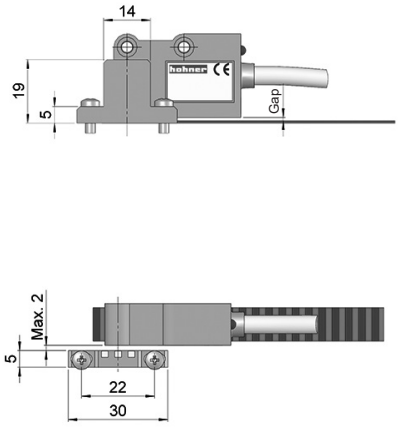
ALIGNMENT AND SENSOR MOUNTING

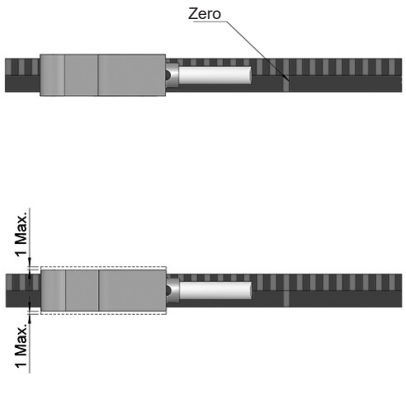
Sensor - Band



Sensor with external zero - Band

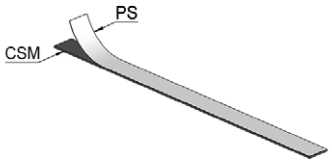


Sensor with integrated zero



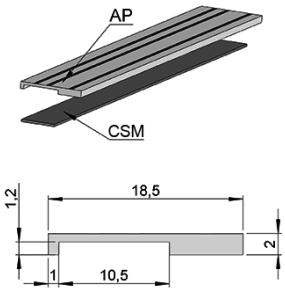
ACCESSORIES

PS: Cover for band protection



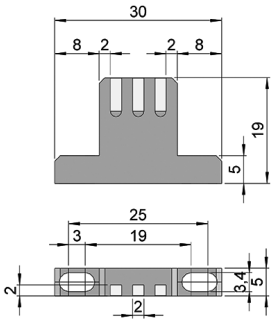
Stainless steel cover for protection. To be placed in the magnetic band (10 mm width - 0.3 mm thickness).

AP: Aluminium support



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

EC: External zero



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.

MSM_EN_01 02/17
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