

SERIE MSA

ABSOLUTE LINEAR MEASURING MAGNETIC SENSOR



SENSOR SPECIFICATIONS

| | |
|--|---|
| Absolute resolution | 10 µm |
| Accuracy | ±15 µm |
| Repeatability | ±1 increment |
| Signal period | 2 mm |
| GAP, distance sensor/band (d) see previous table | 0,3 to 1 mm |
| Measuring length | up to 30 m |
| Max. traversing speed | 300 m/min |
| Protection class (EN 60529) | IP67 |
| Operating temperature range | 0°C to +50°C |
| Storage temperature range | -20°C to +70°C |
| Humidity | 100% not condensed |
| Vibration (EN 60068-2-6) | 200 m/s ² (55...2000 Hz) |
| Weight | 80g |
| Axial connection | 2 meter cable (other cable length or radial output available, upon request) |

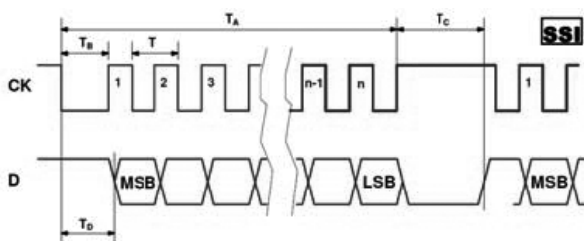
OUTPUT SIGNALS



| | |
|-------------------------------|--------------------------------|
| Interface | SSI Gray |
| Clock frequency | 0,1...1,2 MHz |
| n | Position bit* = 24 bit |
| T _c | 12...45 µs |
| Power supply | 5...28 VDC ±5% |
| Current consumption | 150 mA _{MAX} (Z=120Ω) |
| Length of cable allowed | 20 m |
| Short circuit protection | Yes |
| Protection polarity inversion | Yes |

Reading through positioning sensor based on magneto resistance, with AMR effect (Magnetic Anisotropy).

(*) The number of bit transmitted is different for other resolutions. See values table in MSA reference manual, section 8.

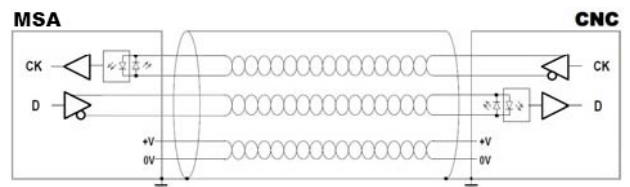


CONNECTION



| | |
|--------|---|
| | Cable 2x2x0,25+2x0,25 mm ² |
| GND | White |
| VCC | Brown |
| D+ | Pink |
| D- | Grey |
| CK+ | Green |
| CK- | Yellow |
| Shield | Shield |

The cable is suitable for continuous movements.
The cable's bending radius should not be lower than 70 mm.



- In case of cable extension, it is necessary to guarantee:
- > The electrical connection between the body of the connectors and the cables shield.
 - > Ensuring a minimum power supply of 5 V to the sensor, the maximum cable length can be extended to 50 m.

SERIE MSA

ABSOLUTE LINEAR MEASURING MAGNETIC SENSOR

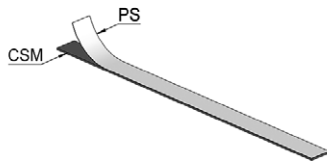


BAND SPECIFICATIONS

| | |
|---|---|
| Pole pitch | Incremental track 2+2 mm + absolute track |
| Accuracy at 20°C | ±20 µm/m (high accuracy) ±80 µm/m (low accuracy) |
| Width band | 10 mm |
| Thickness band "S" (see previous table) | 1,3 mm |
| Maximum length | 30 m |
| Thermal expansion | $10,5 \times 10^{-6} \text{ } ^\circ\text{C}^{-1}$ 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 |

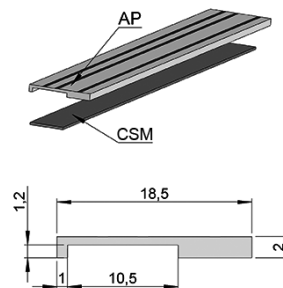
ACCESSORIES


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.

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.