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| Code ST03 | Project A43 | Release A | Title TECHNICAL DATASHEET |
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MAGNETIC SENSOR CTR M

GENERAL FEATURES

- Miniaturized MAGNETIC SENSOR MTR.
- Remote INTERPOLATION UNIT.
- MAGNETIC BAND MP200 consisting of a magnetic strip, which is polarized at regular distances of 2+2 mm and supported by a stainless steel tape. Extremely easy to mount on the operating machine.



MECHANICAL AND ELECTRICAL FEATURES

| | | | | | |
|--|--|-------------------------|--|--|--|
| MECHANICAL <ul style="list-style-type: none"> • Die-cast transducer. • Double fixing system transducer with M4 screw thread or with M3 through screws. • Wide mounting tolerances. | | | Code CTR M | | |
| | | | Reference signal constant pitch every 2 mm*** (C) | | |
| ELECTRICAL <ul style="list-style-type: none"> • Very flexible power cable. • High stability of the signals. • For applications where max. speed exceeds 1m/s, the use of a "special cable" is requested. | | | Pole pitch 2+2 mm | | |
| | | | Resolution 1000 - 500 - 100 - 50 - 25 - 10 - 5 - 1 μm | | |
| CABLE (standard length 2 m) | | | Accuracy** ± 15 μm | | |
| | | | Repeatability ± 1 increment | | |
| Minimum bending radius 60 mm | | 8 CORES Ø 5.3 mm | | Cable 8 cores | |
| CONNECTION | | LINE DRIVER | PUSH-PULL | Output signals LINE DRIVER / PUSH-PULL | |
| GREEN | | \overline{A} | A | Max. measuring frequency 300 kHz | |
| ORANGE | | \overline{A} | | Sensor - magnetic band gap see drawings | |
| WHITE | | B | B | Power supply 5 ÷ 28 Vdc ± 5% | |
| SKY BLUE | | \overline{B} | | Current consump. without load 60 mA _{MAX} | |
| BROWN | | Z | Z | Current consumption with load | |
| YELLOW | | \overline{Z} | | 140 mA _{MAX} (with 5 V and Zo = 120 Ω) 115 mA _{MAX} (with 12 V and Zo = 1.2 kΩ) 90 mA _{MAX} (with 28 V and Zo = 1.2 kΩ) | |
| RED | | V + | V + | Phase displacement 90° ± 5° electrical | |
| BLUE | | V - | V - | Max. speed | |
| SHIELD | | | | Vibration resistance 1.2 m/s (MTR M1) / 12 m/s (MTR M10) | |
| The sensor is normally supplied with a 2 m cable. It is possible to require longer cables, considering the following maximum available length. L _{MAX} =10 m (sensor cable); L _{MAX} =100 m (2 m sensor cable + cable extension*). | | | | | Shock resistance 300 m/s ² [55 ÷ 2000 Hz] |
| | | | | | Electrical protections inversion of power supply polarity and short-circuits on output port |

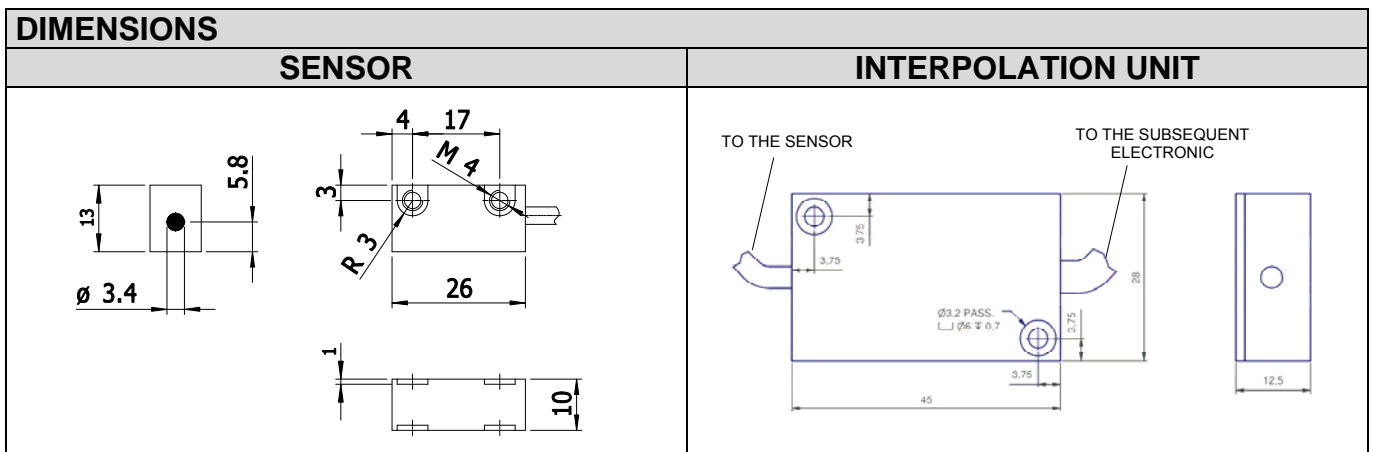
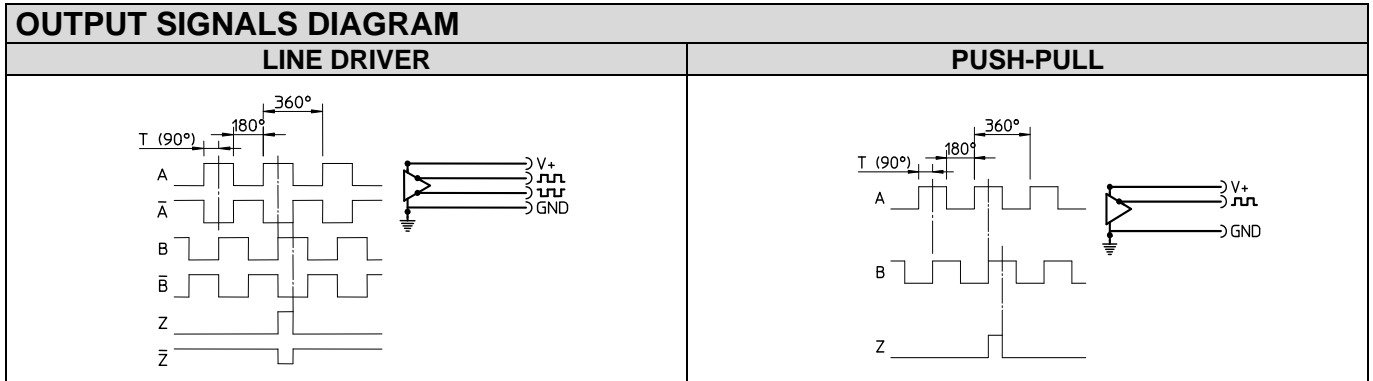
* Cable extension with power supply conductor section of 0.5 mm².
 ** In order to obtain this accuracy value, it is necessary to respect the alignment tolerance values prescribed by Manufacturer. Better accuracy results can be obtained by reducing the gap between the sensor and the magnetic band.
 *** Except for model 1K (resolution 1000 μm), having constant pitch every 4mm.

ORDERING CODE

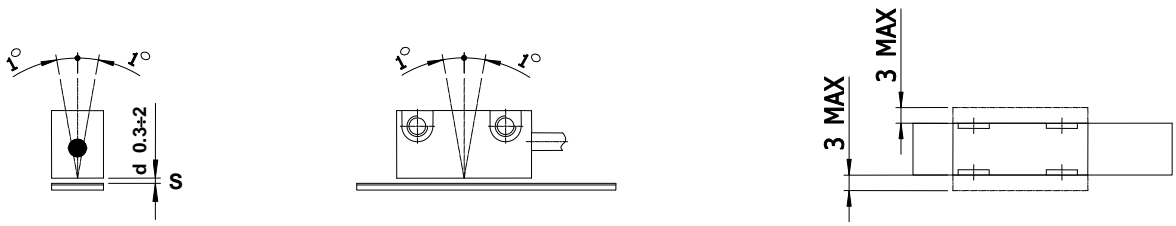
| MODEL | PITCH | RESOLUTION | ZERO MARKER | POWER SUPPLY | OUTPUT | CABLE | CONNECTION |
|------------|-----------|--|--------------------|--------------|-----------------|---|--|
| CTR | M | 10 | C | 528V | L | M02/N | SC |
| CTR | M = 2+2mm | 1 = 1μm 5 = 5μm 10 = 10μm 1K = 1000μm | C = constant pitch | 528V = 5-28V | L = LINE DRIVER | M01/N = 1m M02/N = 2m M10/N = 10m | SC = without conn. C3 = C3 C4 = C4 |

Example **MAGNETIC SENSOR CTR M10C 528VL M02/N SC**

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ALIGNMENT TOLERANCES SENSOR-STRIP



| S(mm) | MP200 | MP200+CV103 | MP200+SP202 |
|-------|---------|--------------------|--------------------|
| d(mm) | 0.3 ± 2 | 1.7 _{MAX} | 1.2 _{MAX} |

d → distance between sensor and top side of S

| INSTALLATION AND HANDLING | | |
|--|---|--|
| <p>RECOMMENDED MAGNETIC BAND FIXING</p> <ol style="list-style-type: none"> Remove grease from the surfaces by using alcohol and give a finishing touch by using a dry cloth. Fix the magnetic band. Fix the cover strip. <p>After 48 hours the best adhesion will be obtained.</p> | <p>WHAT TO AVOID</p> <ol style="list-style-type: none"> All mechanical reworks (cutting, drilling, face milling etc.). All modifications of the body of slider. All mishandling. Impacts and external stress. Exposure to external magnetic fields. | |