

MAIN FEATURES

Absolute linear system based on magnetic principle without wear thanks to no-contact technology. Thanks to high IP rating TMAA is suitable for harsh environment applications such as marble and glass working machines or washing systems machines.

- 1 µm max resolution
- Power supply up to +28 V DC with SSI or BiSS-C electronic interfaces available
- Up to 5 m/s travel speed
- IP 67 as protection grade
- Cable output, connector available on cable end



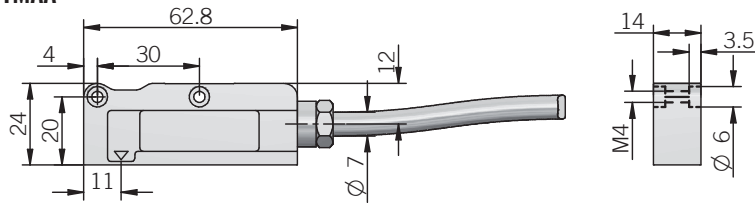
ORDERING CODE

TMAA 1 B 5/28 S S X 10 S PR3 .XXX

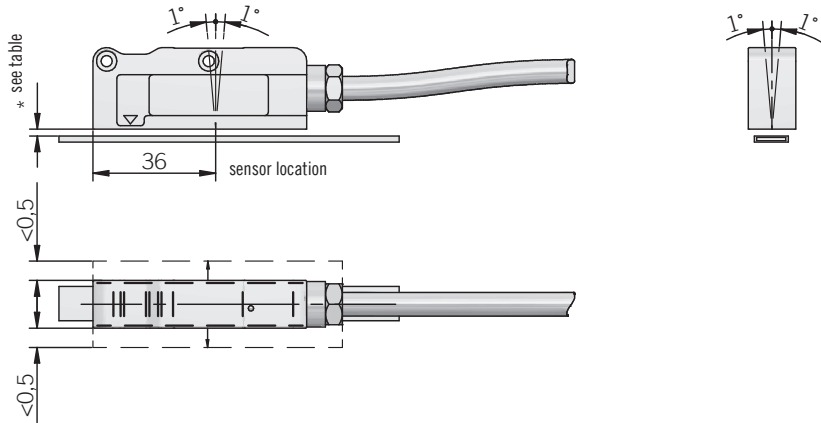
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|--|--|--|--|--|--|--|--|--|--|--|--|--|
| SERIES magnetic absolute linear sensor TMAA | | | | | | | | | | | | |
| RESOLUTION 1 µm 1 5 µm 5 | | | | | | | | | | | | |
| CODE TYPE binary B | | | | | | | | | | | | |
| POWER SUPPLY 5 ... 28 V DC 5/28 | | | | | | | | | | | | |
| ELECTRICAL ABSOLUTE INTERFACE Serial Synchronous Interface - SSI S BiSS-C B | | | | | | | | | | | | |
| ELECTRICAL INCREMENTAL INTERFACE without Sin/Cos analogue signals X with Sin/Cos analogue signals S | | | | | | | | | | | | |
| OPTION to be reported X | | | | | | | | | | | | |
| TAPE WIDTH mm 10 | | | | | | | | | | | | |
| ENCLOSURE RATING IP 67 S | | | | | | | | | | | | |
| OUTPUT TYPE radial cable (standard length 3 m) PR3 | | | | | | | | | | | | |
| VARIANT custom version XXX | | | | | | | | | | | | |

PRELIMINARY

TMAA



Mechanical tolerances



dimensions in mm

ELECTRICAL SPECIFICATIONS

| | |
|---|---|
| Working principle | 14 bit magnetic scanning |
| Absolute resolution | 1 - 5 μ m |
| Incremental resolution | up to 1 μ m |
| Signal period | 2 mm |
| Measuring length | max 30 m |
| Power supply | 4,75 ... 29,4 V DC (reverse polarity protection) |
| Current consumption without load | 150 mA max |
| Electrical interface for absolute signals | RS-422 |
| Electrical interface for incremental signals | 1Vpp typical (0,6 ... 1,2Vpp) reference voltage 2,5V DC |
| Phase A / B | $90^\circ \pm 10^\circ$ e |
| Incremental frequency | max 100 kHz (at 2m/s) |
| Clock frequency | SSI: 100 kHz ... 1,2 MHz BiSS: 100 kHz ... 2 MHz |
| SSI - BiSS pause time (Tc) | 12 ... 45 μ s |
| SSI frame | (MSB ... LSB) 28 bit data length |
| BiSS-C unidirectional frame | 26 bit data + 2 bit error + 6 bit CRC |
| Code type | binary |
| Accuracy (sensor+tape) | $\pm (15 + 20) \mu$ m/m |
| Repeatability | ± 1 increment |
| Max travel speed | 5 m/s (resolution 5 μ m) 1,5 m/s (resolution 1 μ m) |
| Cable length | max 20 m |
| Cable bending radius | 70 mm min (without incremental signals) 90 mm min (with incremental signals) |
| Electromagnetic compatibility | according to 2014/30/EU directive |
| RoHS | according to 2011/65/EU directive |

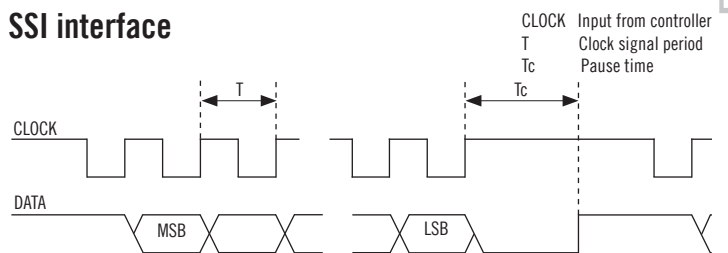
MECHANICAL SPECIFICATIONS

| | |
|--|---|
| Enclosure rating | IP 67 (IEC 60529) |
| Vibration | 20 G, 10 ... 2000 Hz (IEC 60068-2-6) |
| Fixing | n.2 holes M4 / M3 |
| Operating temperature | $0^\circ \dots +50^\circ\text{C}$ ($+32^\circ \dots +122^\circ\text{F}$) |
| Storage temperature | $-20^\circ \dots +70^\circ\text{C}$ ($-4^\circ \dots +158^\circ\text{F}$) |
| Relative humidity | 100 % |
| Working distance from magnetic tape | 0,3 ... 1 mm without steel tape protection 0,55 ... 0,75 mm with steel tape protection |
| Weight | 80 g (2,82 oz) |

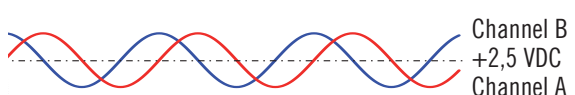
CONNECTIONS

| Function | Cable colour |
|------------|--------------|
| + V DC | red |
| 0 V | blue |
| Ch. A | green |
| Ch. A- | orange |
| Ch. B | white |
| Ch. B- | light-blue |
| data + | pink |
| data - | grey |
| clock + | brown |
| clock - | yellow |
| ⏏ | shield |

SSI interface



Incremental interface



PRELIMINARY