

# Magnetic Transducer

## TM +MP200

The linear magnetic measuring system **TM+MP200** is composed by the magnetic transducer **TM** and the magnetic band **MP200**:

The transducer works contactless, relieving the polarized fields of the magnetic band and converting the measure into digital signals.

The system can be profitably employed in severe industrial environments, in presence of water, oil, grease. The mounting method is easy and cheap and the measure is accurate and repeatable.

The scanning head **TM** is contained in a compact and strong metal case, and it is available with reading resolution 0.1 mm (**TM10**) or 0.01 mm (**TM100**).

An electronic zero pulse is generated each 4 mm (type **TM10C/TM100C**), or matching with one or more external magnets (**TM10E/TM100E**).

### Complying with CE standards

### Magnetic Band MP200

The magnetic band **MP200** consists of a plasto-ferrite strip, which is polarized at regular distance, and supported by a stainless steel carrier; it is equipped with the adhesive tape for an easy mounting.

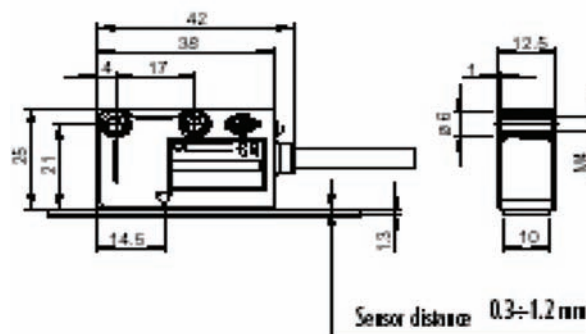
As an optional, the magnetic band can be supplied with a magnetically transparent stainless steel cover for physical protection.

elap



## DIMENSIONS

### Magnetic Transducer TM + Magnetic Band MP200



### Reading Transducer Specifications

| TYPE                   | TM10C/TM10E  | TM100C/TM100E                            |
|------------------------|--|--|
| Reading resolution     | 0.1 mm   | 0.01 mm                                  |
| Accuracy               | $\pm 0.1$ mm/m   | $\pm 0.05$ mm/m                          |
| Electronic zero pulse  | each 4 mm (type C) or matching with external magnet (type E)                           |  |
| Frequency              | 32.5 KHz   | 250 KHz                                  |
| Sensor distance        | 0.3 + 1.2 mm   |  |
| Phase difference       | 90° $\pm$ 5° electrical degree   |  |
| Max. speed             | 13 m/s   | 10 m/s                                   |
| Vibration resistance   | (10 Hz + 2 KHz) at 100 m/s <sup>2</sup>  |  |
| Shock resistance       | 1000 m/s <sup>2</sup> (11 m/s)   |  |
| Protection degree      | IP67   |  |
| Operating temperature  | 0 + 70° C  |  |
| Stocking temperature   | -20° + 80 C°   |  |
| Humidity               | 100% non condensed   |  |
| Supply                 | 5 Vdc $\pm$ 10% 25 mA<br>10+30 Vdc 15 mA   | 5 Vdc $\pm$ 10% 65 mA<br>10+30 Vdc 40 mA |
| Output signals         | Push-pull or line-driver   |  |
| Standard cable         | Length 2 m   |  |
| Electrical protections | for the supply: against polarity inversions<br>for the outputs: against short circuits |  |

### Magnetic Band Specifications

|                              |   |
|------------------------------|---|
| <i>Pole pitch</i>            | 2 + 2 mm  |
| <i>Accuracy</i>              | 0.1 mm  |
| <i>Width</i>                 | 10 mm   |
| <i>Thickness</i>             | 1.3 mm  |
| <i>Max. length</i>           | 50 m  |
| <i>Thermal expansion</i>     | $10.5 \times 10^{-6} \text{C}^{-1}$ ref.t.=20°C±0.1°C |
| <i>Operating temperature</i> | 0 + 70°C  |
| <i>Stocking temperature</i>  | -20° + 80°C   |