

Code ST04	Project A43	Release A	Title TECHNICAL DATASHEET
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MAGNETIC SENSOR MTR P

GENERAL FEATURES

- Miniaturized MAGNETIC SENSOR MTR.
- Remote INTERPOLATION UNIT.
- MAGNETIC BAND MP100 consisting of a magnetic strip, which is polarized at regular distances of 1+1 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 MTR P									
			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		1+ 1 mm							
			Resolution		10 - 5 - 1 - 0.5 μm							
CABLE (standard length 2 m)			Accuracy**		± 10 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			A		A		Max. measuring frequency		300 kHz			
ORANGE			A				Sensor - magnetic band gap		see drawings			
WHITE			B		B		Power supply		5 ÷ 28 Vdc ± 5%			
SKY BLUE			B				Current consump. without load		60 mA _{MAX}			
BROWN			Z		Z		Current consumption with load 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)		Phase displacement		90° ± 5° electrical	
YELLOW			Z						Max. speed		0.6 m/s (MTR P05) / 1.2 m/s (MTR P1)	
RED			V +		V +				Vibration resistance		300 m/s ² [55 ÷ 2000 Hz]	
BLUE			V -		V -		Phase displacement		1000 m/s ² (11 ms)			
SHIELD							Protection class		IP 67 DIN 40050/IEC 529			
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*).							Operating temperature		0° ÷ 50°C			
							Storage temperature		-20° ÷ 80°C			
							Relative humidity		100% (not condensed)			
							Weight (sensor + interpolator)		50 g			
							Electrical protections		inversion of power supply polarity and short-circuits on output port			

* Cable extension with power supply conductor section of 0.5 mm².

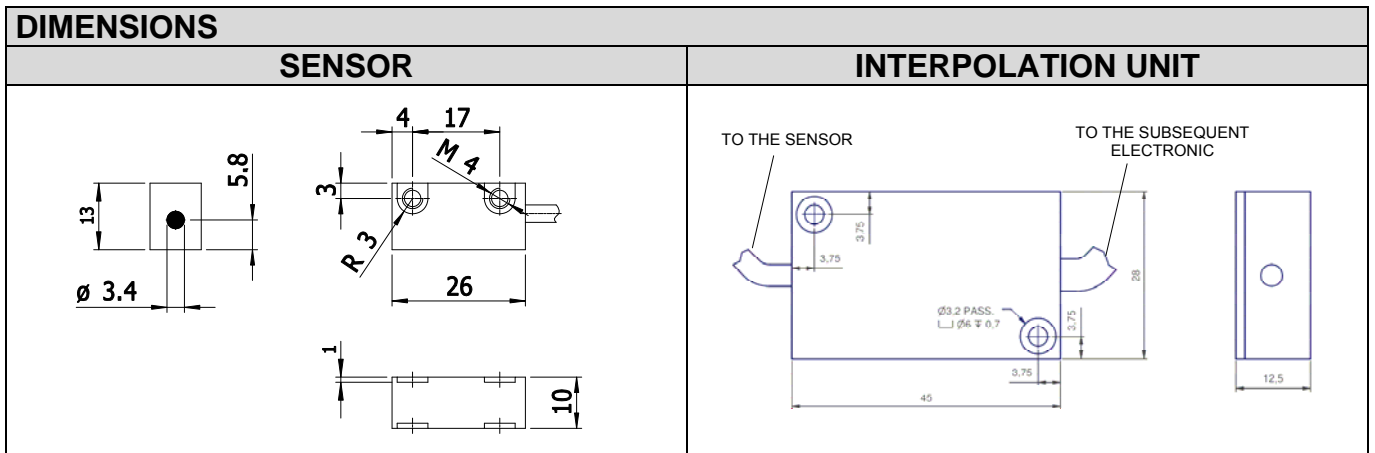
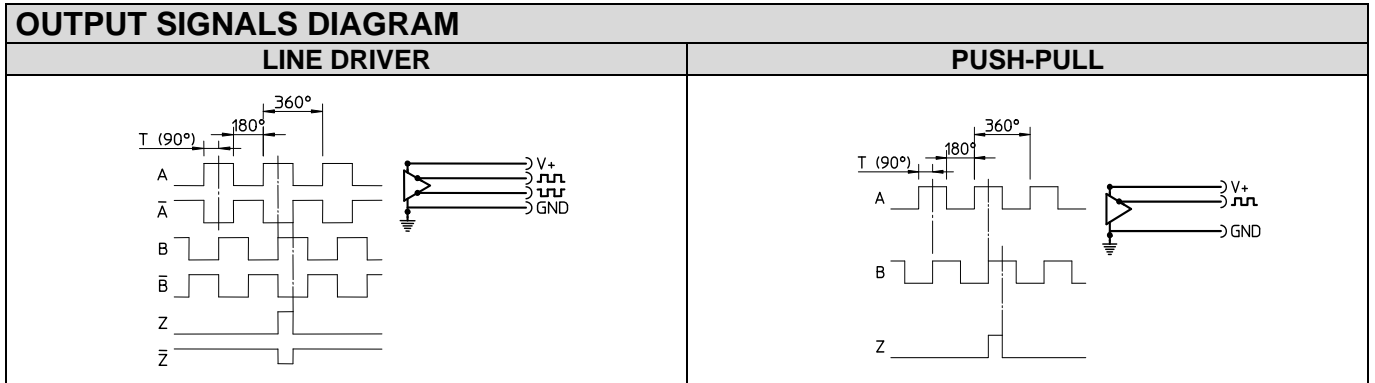
** In order to obtain this accuracy value, it is necessary to respect the alignment tolerance values prescribed by Manufacturer. Better accuracy results can be obtained by reducing the gap between the sensor and the magnetic band.

ORDERING CODE

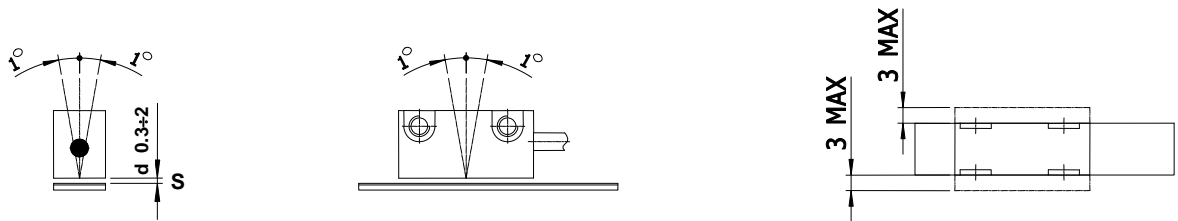
MODEL	PITCH	RESOLUTION	ZERO MARKER	POWER SUPPLY	OUTPUT	CABLE	CONNECTION
MTR	P	1	C	528V	L	M02/N	SC
MTR	M = 1+1mm	05 = 0.5μm 1 = 1μm 5 = 5μm 10 = 10μm	C = constant pitch	528V = 5÷28V	L = LINE DRIVER	M01/N = 1m M02/N = 2m M10/N = 10m	SC = without conn. C3 = C3 C4 = C4

Example ↪ **MAGNETIC SENSOR MTR PIC 528VL M02/N SC**

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ALIGNMENT TOLERANCES SENSOR-STRIP



S(mm)	MP100	MP100+CV103	MP100+SP202
d(mm)	0.1+0.4	N.A.	N.A.

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. 	