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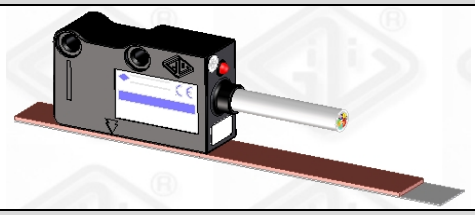
Code	Project	Release	Title
ST04	*A25-B*	*E*	***PRODUCT INFORMATION***

MAGNETIC TRANSDUCER MTS M

GENERAL CHARACTERISTICS

- Small overall dimensions of the TRANSDUCER.
- MAGNETIC BAND MP200 (or MP200Z with positioned reference signals upon request) is composed of a magnetic strip, which is polarized at regular distances of 2+2mm and supported by a stainless steel tape. Extremely easy to mount on the operating machine.



MECHANICAL AND ELECTRICAL FEATURES

MECHANICAL
- Die-cast transducer.
- Double fixing system's transducer with M4 screw thread or with M3 through screws.
- Liberal mounting tolerances.
- Reference signals at required positions (only with MP200Z).

ELECTRICAL
- Very flexible power cable.
- High stability of the signals.
- For applications where the max speed is more than 1m/s, the use of a "special cable" is request.

CABLE (2 meters standard length)

Minimum bending radius 60mm	8 CORES Ø5.3mm	
CONNECTIONS	**LINE-DRIVER**	**PUSH-PULL**
GREEN	A	A
ORANGE	$\overline{A}$	
WHITE	B	B
SKY BLUE	$\overline{B}$	
BROWN	Z	Z
YELLOW	$\overline{Z}$	
RED	V +	V +
BLUE	V -	V -
SHIELD		

The sensor is normally supplied with a 2m cable.
It is possible to require longer cable, considering the following maximum available length.
L_{MAX}=10m (sensor cable);
L_{MAX}=100m (2m sensor cable + cable extension[1]).

Cod. MTS M	
Reference signal	Constant pitch every 2mm[3] **(C)** External **(E)** Positioned on magnetic band **(Z)**
Pole pitch	2+2mm
Resolution	1-5-10-25-50-100-500-1000µm
Accuracy[2]	± 15µm
Repeatability	± 1 increment
Cable	8 cores
Output type	LINE-DRIVER / PUSH-PULL
Max. measuring frequency	300kHz
Sensor - magnetic band distance	See drawings
Power supply	5÷28V_{DC} ± 5%
Current consump. without load	60mA_{MAX}
Current consumption with load	140mA_{MAX} (with 5V and Zo=120Ω) 115mA_{MAX} (with 12V and Zo=1.2kΩ) 90mA_{MAX} (with 28V and Zo=1.2kΩ)
Phase displacement	90° ± 5° electrical
Maximum speed	1.2m/s **(MTS M1)** / 12m/s **(MTS M10)**
Vibration resistance	[10Hz÷2000Hz] at 100m/s^2
Shock resistance	1000m/s^2 (11ms)
Class of protection	IP 67 DIN 40050/IEC 529
Operating temperature	0° ÷ 50°C
Storage temperature	-20° ÷ 80°C
Humidity	100% not condensed
Weight of transducer	40g
Electrical protections	Inversion of power supply polarity Short circuit on output port

[1] Cable extension with power supply conductor's section of 0.5mm^2.
[2] To obtain this accuracy value it's necessary to respect the alignment tolerances values prescribed by manufacturer. Better accuracy results can be obtained by reducing the gap between the sensor and the magnetic band.
[3] Except for model 1K (resolution 1000µm), having constant pitch every **4**mm.

ORDERING CODE

MODEL	PITCH	RESOLUTION	ZERO MARKER	POWER SUPPLY	OUTPUT	CABLE	CONNECTION
MTS	**M**	**10**	**C**	**528V**	**L**	**M02/N**	**SC**

MTS	**M** = 2+2mm	**1** = 1µm	**C** = Constant pitch	**528V** = 5÷28V	**L** = LINE-DRIVER	**M01/N** = 1m	**SC** = Without conn.
		5 = 5µm	**E** = External			**M02/N** = 2m	**C3** = C3
		10 = 10µm	**Z** = Selected on magnetic band			**M10/N** = 10m	**C4** = C4
		1K= 1000µm					

Example ☞ **MTS M10C 528VL M02/N SC**

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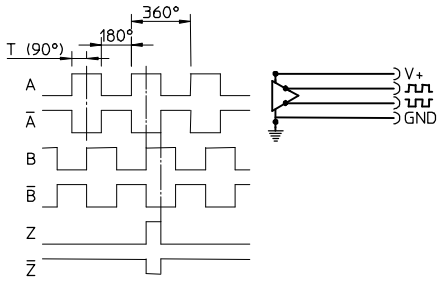
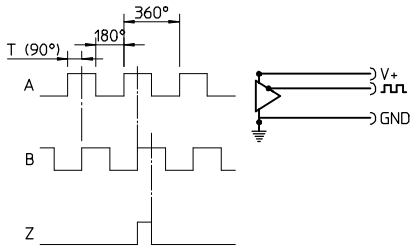
OUTPUT SIGNALS DIAGRAM

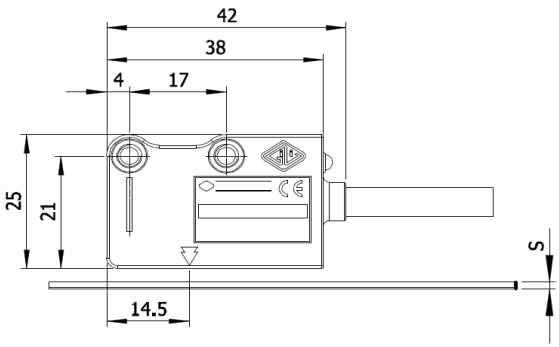
LINE- DRIVER

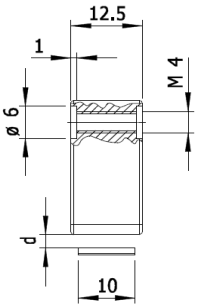


PUSH-PULL



SENSOR DIMENSIONS



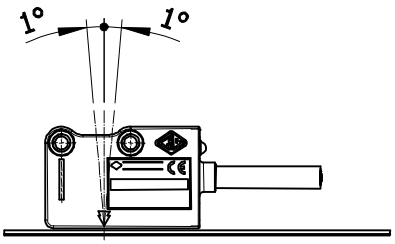


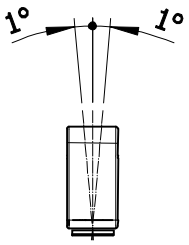
S(mm)	*MP200Z*	*MP200Z+CV103*	*MP200Z+SP202*
	1.3	*1.6*	*2.1*
d(mm)	**0.35 ¸ 0.9**	**0.7_{MAX}**	**0.2_{MAX}**

S(mm)	*MP200*	*MP200+CV103*	*MP200+SP202*
	1.3	*1.6*	*2.1*
d(mm)	**0.3 ¸ 1.5**	**1.2_{MAX}**	**0.7_{MAX}**

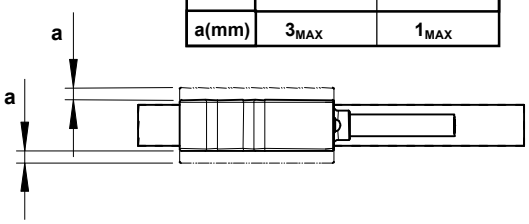
d → distance between sensor and top side of S

ALIGNMENT TOLERANCES SENSOR-STRIP





	MTS MxxxC MTS MxxxE	*MTS MxxxZ*
a(mm)	**3_{MAX}**	**1_{MAX}**



INSTALLATION AND HANDLING

RECOMMENDED MAGNETIC BAND FIXING

1. Remove grease from the surfaces by using alcohol and give a finishing touch by using a dry cloth.
2. Fix the magnetic band.
3. Fix the cover strip.
4. After 48 hours the best adhesion will be obtained.

WHAT NOT TO DO

1. All mechanical reworks (cutting, drilling, face milling etc.).
2. All modifications of the body of slider.
3. All mishandling.
4. Impacts and external stress.
5. Expositions to external magnetic fields.