

POSITION TRANSDUCER MT MAGNETIC STRIP P50

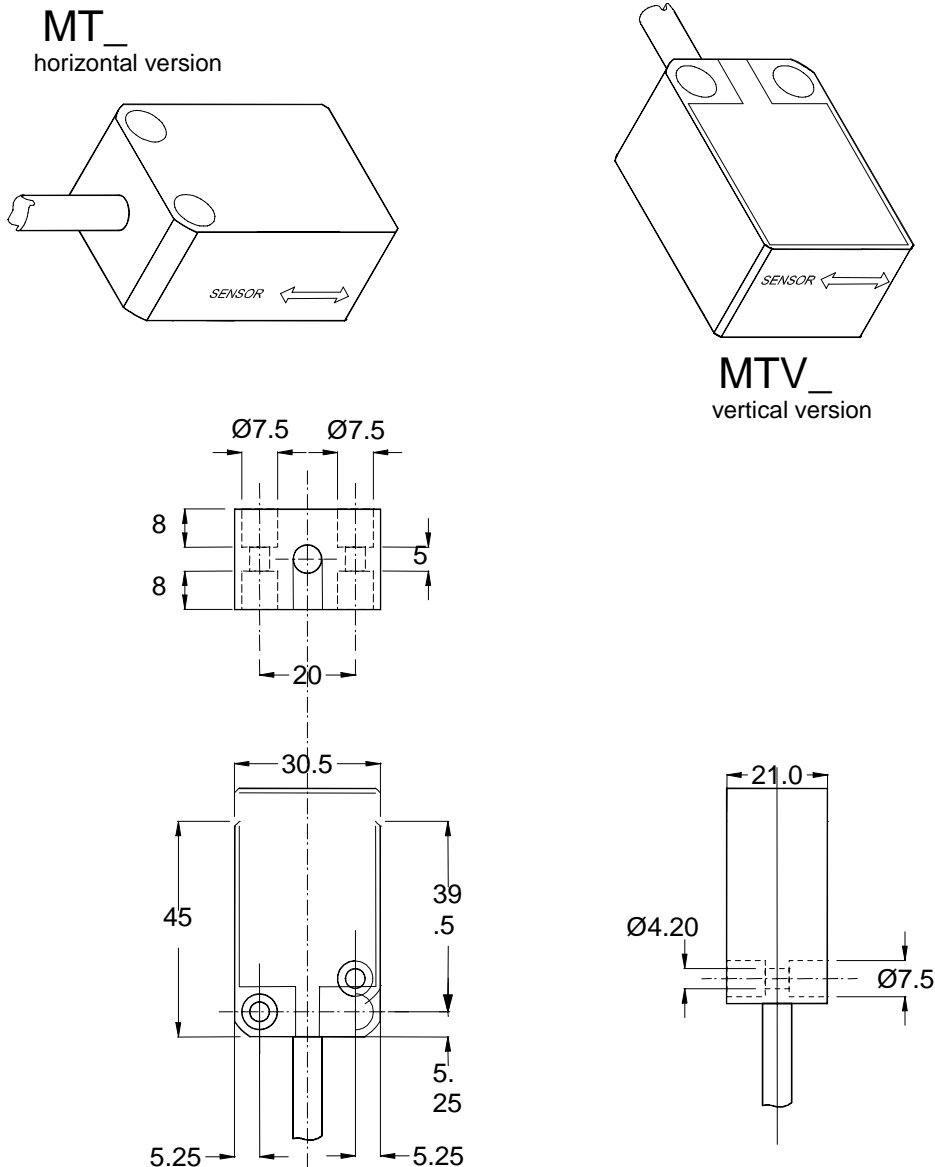
The transducer MT combined with the magnetic strip P50 is an incremental measure system without contact for linear distances.

The measure transducer integrates in the same device, a sensor sensitive to a magnetic field, an electronic signals conversion circuit, and an output circuit. The sensor running on the magnetic strip produces a signal which, opportunely amplified and worked out, is changed into an incremental position signal for interfacing with displays, PLC, CNC, axes control, etc.

The band consists of a magnetized plastic ferrite strip with alternate magnetic poles of 5 mm pitch, carried by a ferromagnetic steel strip. Mechanical protection of the plastic ferrite strip is supplied by a nonmagnetic steel strip.

The capacity to measure distances longer than a meter, easy assembling, absence of parts that contact/rub, a waterproof transducer and a water-oil-dust-shaving resistant strip make this system suitable for a large number of applications, while taking position measurements of machinery within industries such as: woodworking, glass, marble, etc...

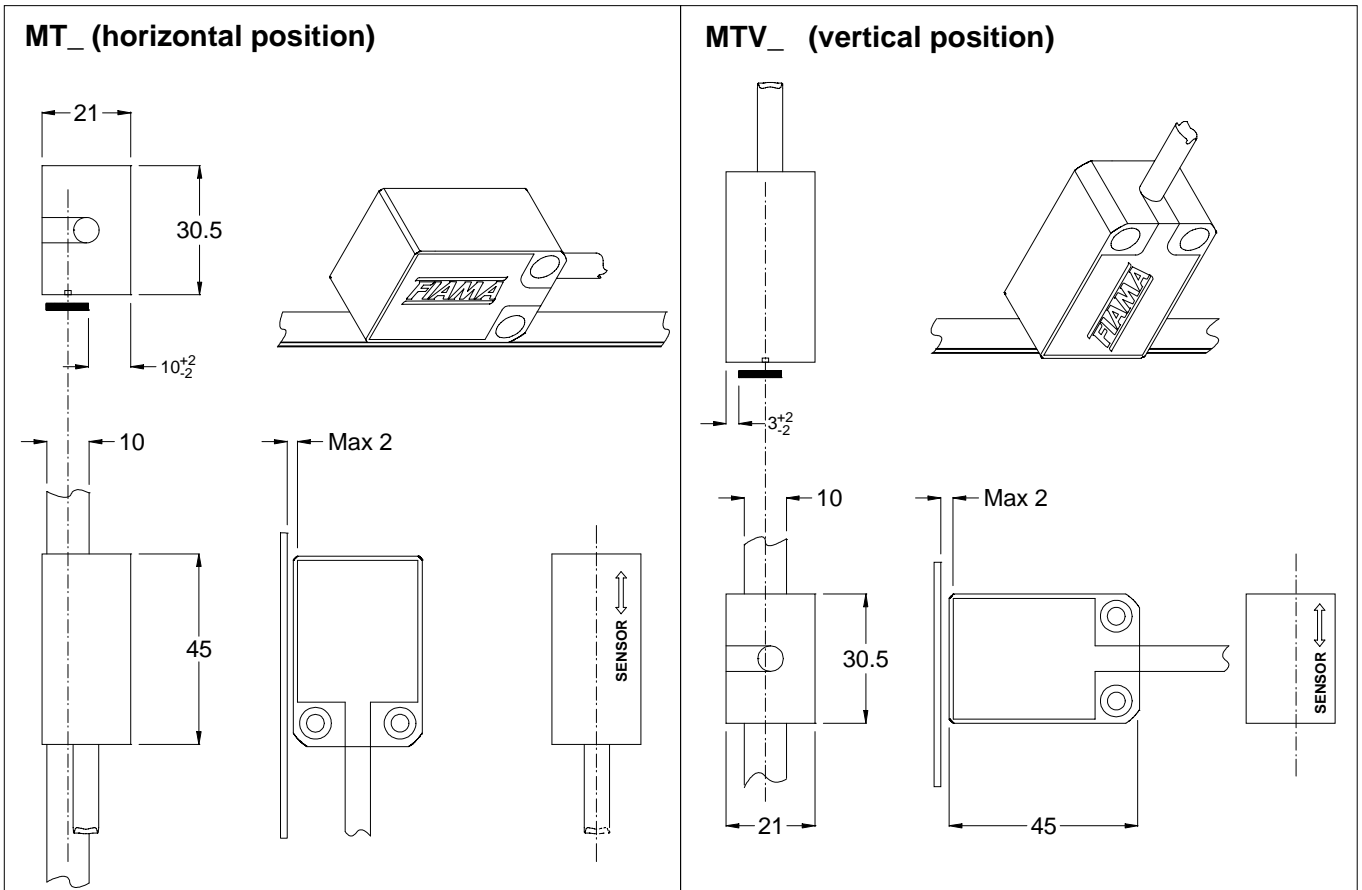
The transducer is available in two shapes: the horizontal version, with the output cable placed parallelly to the magnetic band and the vertical version, with the output cable perpendicular to the magnetic band.



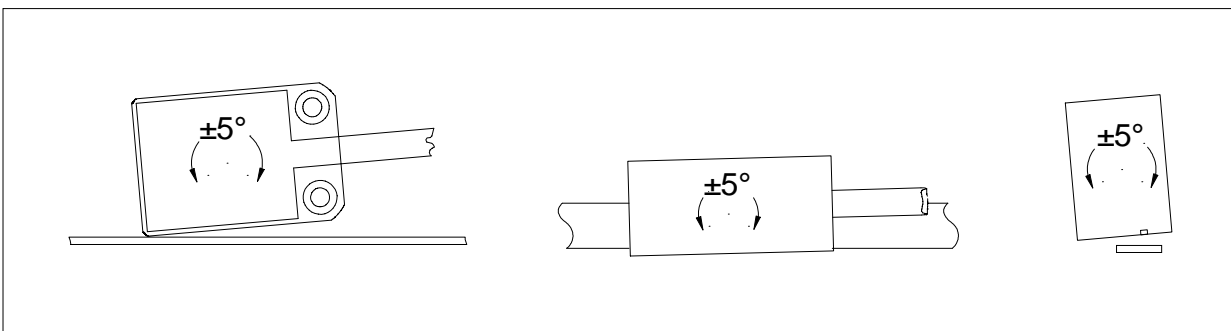
Transducer

The measure transducer integrates in the same device, a sensor sensitive to a magnetic field, an electronic signals conversion circuit, and an output circuit. The sensor running on the magnetic strip produces a signal which, opportunely amplified and worked out, is changed into an incremental position signal.

For the optimal operating of the system, the magnetic sensor, which position compared to the case is showed by the label with the double dart, has to be positioned on the half, about, (in transversal direction) of the magnetic band; by fixing the transducer is necessary to observe the quotas on the following draws, pay attention that the distance between the sensor and the magnetic band doesn't exceed 2 mm.



Alignement mounting tolerance

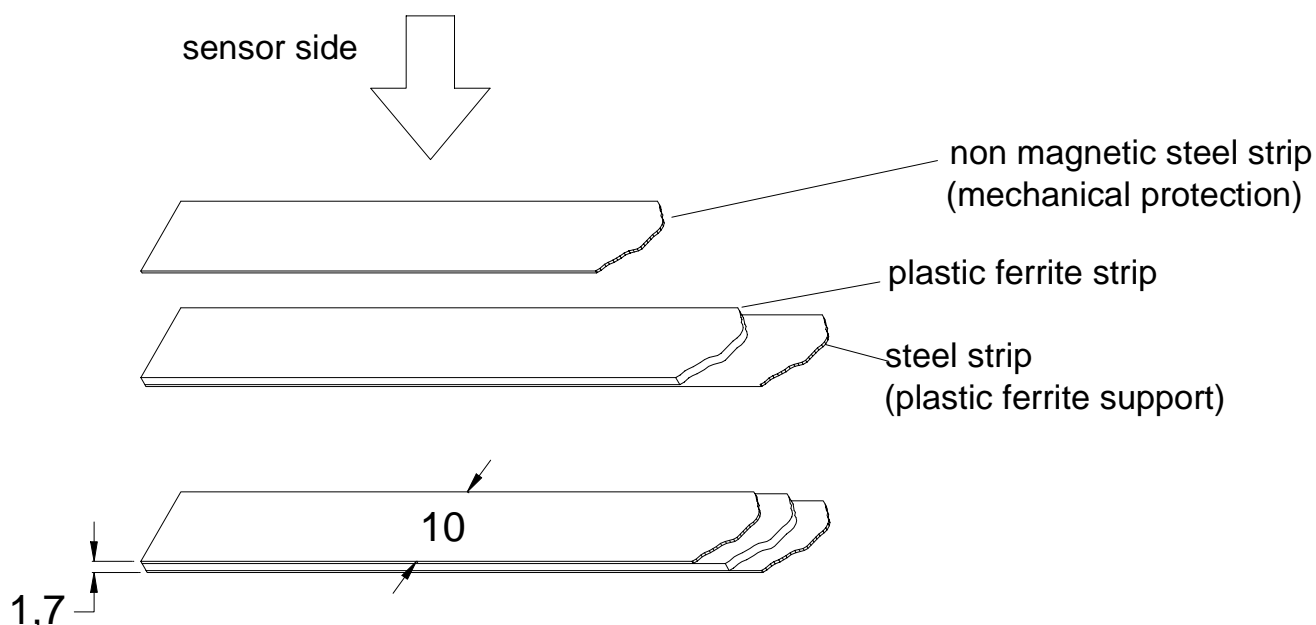


Magnetic strip

The band consists of a magnetized plastic ferrite strip with alternate magnetic poles of 5 mm pitch, carried by a ferromagnetic steel strip. Mechanical protection of the plastic ferrite strip is supplied by a non magnetic steel strip with thickness 0,2mm.

The magnetic band is assembled by sticking it with a biadhensive tape. The surface has to be smooth, clean and dry: is advisable to clean it with a degreasing product (isopropyl alcohol, ethyl alcohol, solvents, etc). The magnetic band has to be stucked holding the plastic ferrite side in the direction of the sensor, which means the steel side leaned on the stand surface. Fixed the magnetic band, to keep off damages due to abrasions or grazes of the plastic ferrite strip, is advisable the appliance (always biadhensive) of the non magnetic protection streep.

The optimal ambient temperature for stick the biadhensive tape is over 10°C. The maximum adherence of the tape works out after 48 hours (about) of the application and is kept between -10 and 80°C.

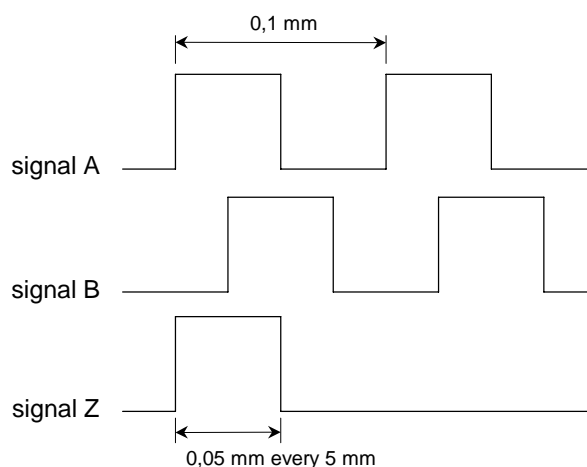


Connection scheme

PUSH-PULL OUTPUT (type: MT1, MTV1)		LINE DRIVER TTL OUTPUT (type: MT2, MT3, MTV2, MTV3)	
Brown	+10÷25 VDC	Brown	+10÷25VDC / 5VDC
Yellow	signal A	Yellow	signal A
White	signal B	Orange	signal /A
Gray	signal Z	White	signal B
Geen	GND	Purple	signal /B
Purple	n.c. (not connectd)	Gray	signal Z
Orange	n.c.	Black	signal /Z
Black	n.c.	Geen	GND
Shield	n.c.	Shield	n.c.

Output signals

The measure transducer turns the shifting compared to the magnetic band in digital signals with two squaring channels (A, B) very similar to the signals produced by incremental encoders or optical lines. Every 5 mm you have a reference impulse (Z) which can be used as the zero-setting signal of the quota. Pay attention: if the reference signal Z isn't used it has to be isolate electrically of the other signals and of the power supply.



MT transducer specifications

Power	10-25 VDC±20%, max 50mA, or 5VDC±5% max 100 mA
Signals output	2 quadrature channels, reference pulse each 5mm
Output	push-pull max 20mA, short-circuit protected or TTL line driver 5V RS422 (to specify)
Resolution	max 0,025 mm (x4 count)
Measure Accuracy	0,1 mm/m
Maximum speed	3 m/s
Electric connection	cable output $\phi 6,6$ standard length 2m suitable for movable wiring
Maximum distance transducer/band	2 mm
Transducer dimensions	30,5 x 45 x 21 mm
Protection degree	IP65
Working temperature	0 ÷ 50°C
Electromagnetic compatibility	2014/30/EU
RoHS	2011/65/EU

Magnetic strip characteristics P50

Length	On request, max 25m
Width	10 mm
Thickness	1,7 mm
Linear thermal expansion coefficient	11 ppm/K
Working temperature	-10 ÷ 65°C

Versions:

MT1 supply 10-25VDC, output push-pull	MTV1 supply 10-25VDC, output push-pull, for vertical reading
MT2 supply 10-25VDC, output TTL line driver 5V	MTV2 supply 10-25VDC, output TTL line driver 5V, for vertical reading
MT3 supply 5VDC, output TTL line driver 5V	MTV3 supply 5VDC, output TTL line driver 5V, for vertical reading