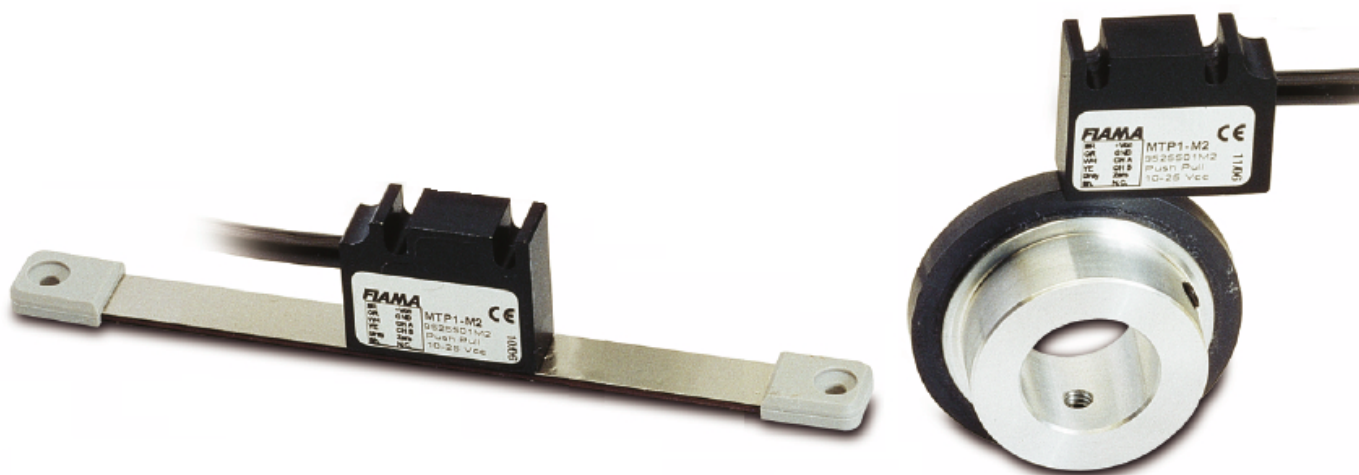




COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001:2015 =



USER'S MANUAL AND MAINTENANCE

TRANSDUCER MTP_

MAGNETIC STRIP P50

MAGNETIC RING DM_

Manual purpose

This manual has been designed by the manufacturer to provide the necessary information regarding the instrument MTP_ to those who are authorized to carry out safely its installation, maintenance, dismantling and disposal. All the necessary information for the buyers and planners can be found in the Sales catalogue. Other than adopting good technical construction methods, the information should be read carefully and strictly applied. Inobservance of this information could cause risks for the health and safety of people and economical damage. This information, provided by the Manufacturer in the original language(Italian) is also available in other languages to satisfy legislative and/or commercial needs. This manual must be kept in good conditions by a responsible person in an ideal place so that it is always available for consultation. In case this manual is lost or deteriorates, a replacement should be requested directly from the manufacturer quoting the manual's code. This manual reflects the state of skill of the instrument at the time of input on the market: however the manufacturer reserves the right to make changes, add or improve the manual without giving any reason to hold the present manual inadequate.

Identification of the equipment

The identification plate represented is applied on the instrument.

To find out the identification code of the instrument, consult the sales catalogue.

Environmental conditions

Temperature setting: min. 0°C, max. + 50°C.

It is forbidden to use the instrument other than its specific use and in potentially explosive conditions or where anti- explosive elements are used.

Storage

Here below are some references to be followed for the storage of the instrument.

Avoid environments with excessive humidity and those exposed to bad weather (avoid open areas). Avoid putting the instrument directly on the ground. Store the instrument in its original packing.

Conformity declaration and EC marking

The instrument answers to the following Communitarian Directives:

2014/30/EU Electromagnetic compatibility, 2011/65/EU RoHS.

Maintenance

The instrument does not needs a particular maintenance except cleaning to do only with a soft cloth dampen with ethylic alcohol or water. Do not use hydrocarbon solvents (petrol, diluents, etc.): the using of these products could affect the proper functioning of the instrument.

Reparations should be done only and exclusively at the FIAMA technical assistance centre.

Calibrations and tests

It is advisable to verify the transducer calibration periodically, once every working year.

Assistance request procedure

For any kind of technical assistance request, contact the sales department of the Manufacturer directly indicating the information given on the identification plate, the number of hours used and the type of defect.

Manufacturer's responsibility

The manufacturer declines any responsibility in case of :

- Using the instrument contrary to the national safety and accident-prevention laws.
- Wrong installation, inobservance or wrong procedures of the instructions provided in the present manual.
- Defective electrical power supply.
- Modifications or tampering.
- Operations carried out by untrained or unqualified staff.

The safety of the instrument also depends on the strict observance of the procedures indicated in the manual: always operate the instrument in its functioning capacity and carry out a careful routine maintenance.

- All phases of inspection and maintenance should be done by qualified staff.
- The configurations provided in the manual are the only ones permitted.
- Do not try to use it anyway contrary to the indications provided.
- The instructions in this manual do not substitute but accomplish the obligations of the current legislation regarding the safety laws.

Installation

Before installing the instrument, read the following warnings:

- Connect the instrument strictly following the instructions of the manual.
- It is the responsibility of the user to check, before using, the correct settings of the parameters of the instrument to avoid damage to persons or things.
- The instrument CANNOT function in a dangerous environment (inflammable or explosive).

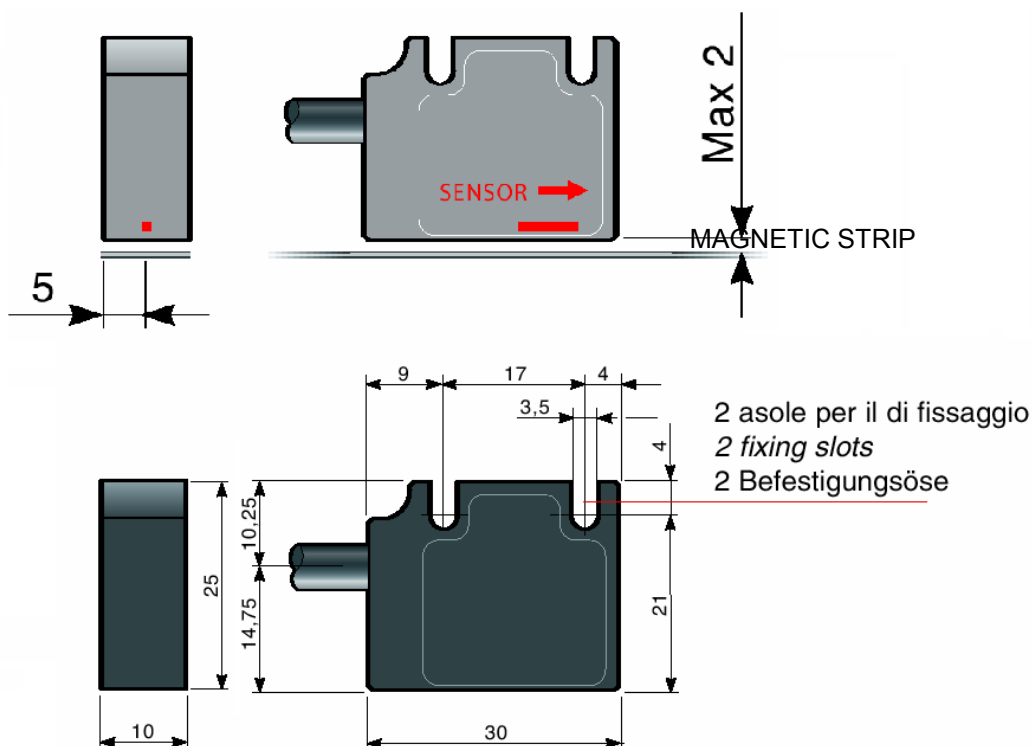
Description

The transducer MTP 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...

Transducer mounting

For the optimal operating of the system the magnetic sensor, is necessary to observe the quotas mounting on the following draws, pay attention that the distance between the sensor and the magnetic band doesn't exceed 2 mm.

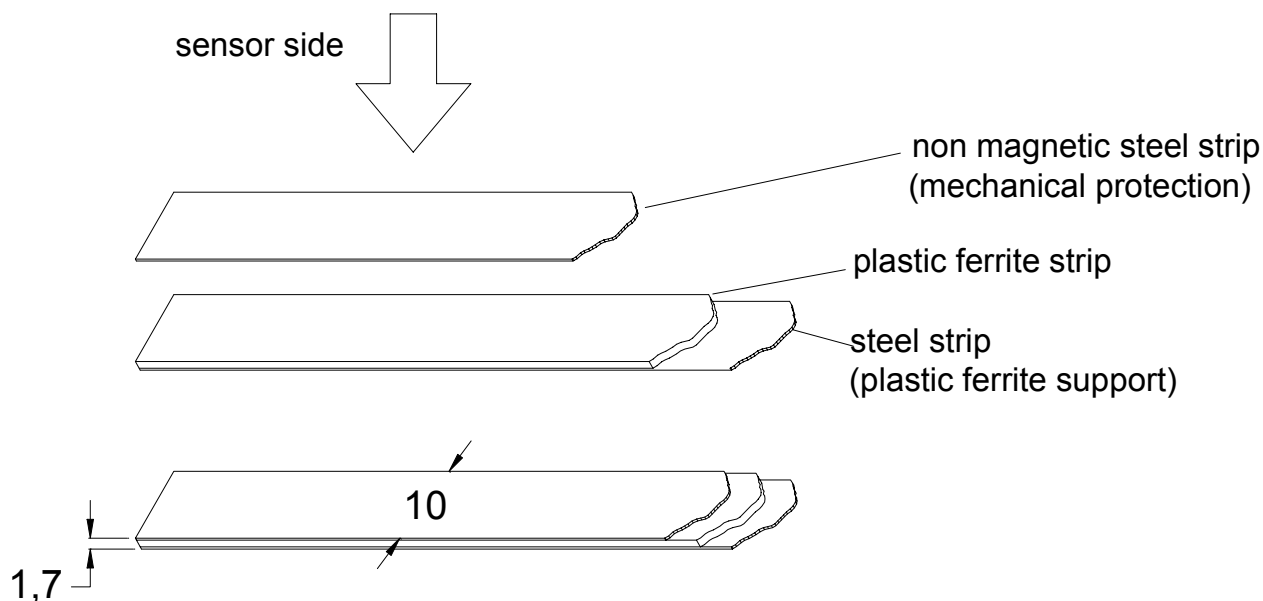


Magnetic strip

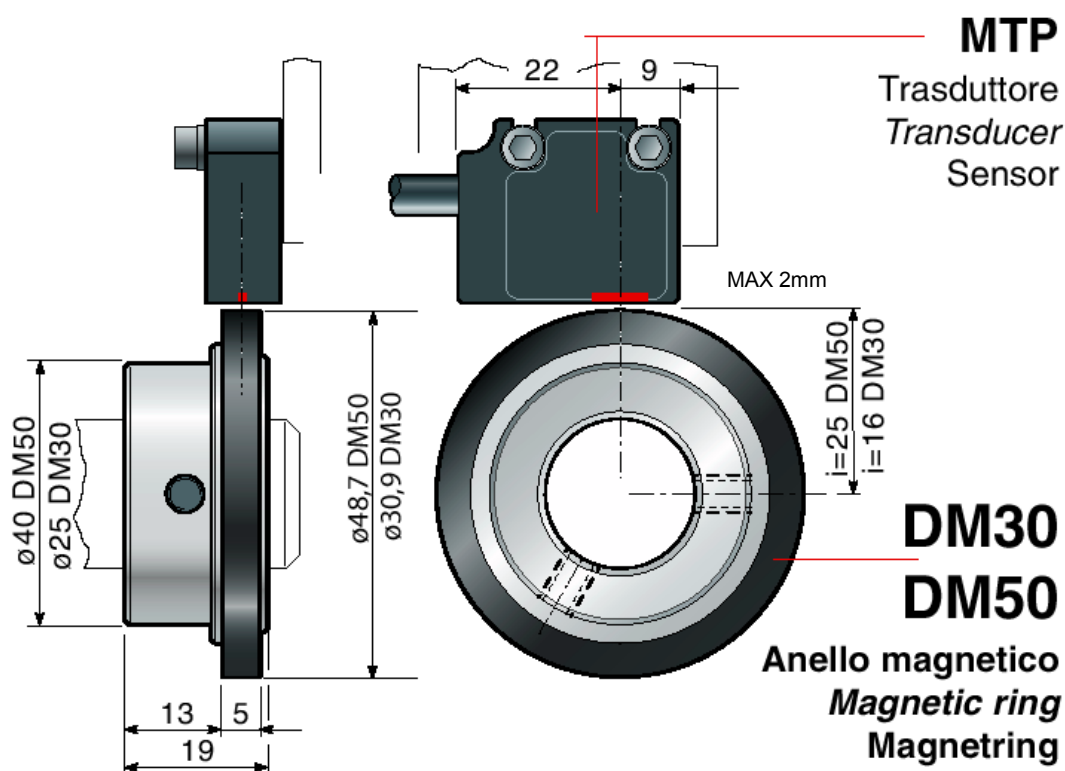
The band consists of a magnetized plastic ferrite strip with alternate magnetic poles of 5 mm pitch, carried by a ferromagnetic steel strip. Mechanical protection of the plastic ferrite strip is supplied by a non magnetic steel strip with thickness 0,2mm.

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.


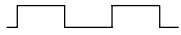

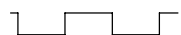
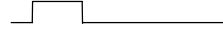


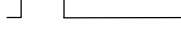

The optimal ambient temperature for stick the biadhensive tape is over 10°C. The maximum adherence of the tape works out after 48 hours (about) of the application and is kept between -10 and 80°C.



Magnetic ring

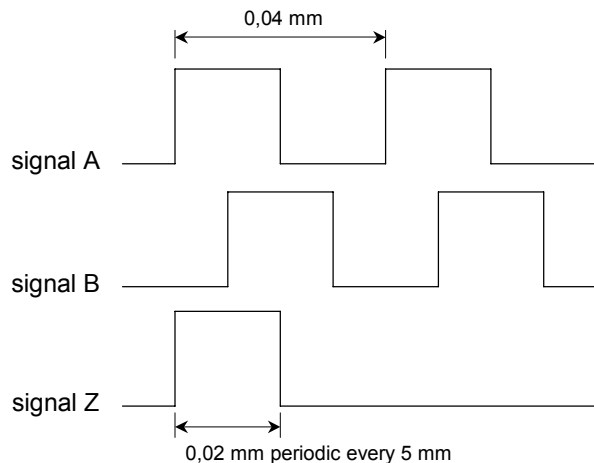


Connection scheme

PUSH-PULL OUTPUT (type: MTP1)		LINE DRIVER TTL OUTPUT (type: MTP2, MTP3, MTP4)	
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 
Green	GND	Purple	signal /B 
Shield	internally not connected	Gray	signal Z 
		Black	signal /Z 
		Green	GND
		Shield	internally not connected

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.



RESOLUTION:

- 0,04mm x1 count
- 0,02mm x2 count
- 0,01mm x4 count

MTP transducer specifications

Power supply	10-25 VDC \pm 20%, max 50mA, or 5VDC \pm 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 0,01 mm (x4 count)
Measure Accuracy	0,1 mm/m
Maximum speed	3 m/s
Electric connection	cable output ϕ 5 standard length 2m suitable for movable wiring
Maximum distance transducer/band	2 mm
Transducer dimensions	30 x 25 x 10 mm
Protection degree	IP65
Housing	alluminium
Working temperature	0 \div 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 \div 65°C

Magnetic ring characteristics DM30 - DM50

Ring external diameter	DM30: \varnothing 30,9	DM50: \varnothing 48,7
Mounting hole	DM30: \varnothing 14	DM50: \varnothing 20 (or \varnothing 25)
Resolution with MTP_ transducer	DM30: 2500 pulse/rev	DM50: 3750 pulse/rev
Max rotation speed with MTP_ transducer	1500 RPM	