

# User guide

## TRANSMITTER PRESSURE GAUGE MT



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### 1 – Important information

Please read this information carefully before installation and use of the instrument. Keep it in a safe and accessible place for every user.

The instrument's safety is guaranteed only if it is chosen correctly for the intended application, appropriately installed, and if the manufacturer's maintenance procedures are followed accurately.

Technicians in charge of the instrument selection, installation and maintenance should be able to understand if the instrument's condition could affect its functioning and, thereby, lead to any premature damage or breaking.

It is essential that these procedures are included in the plants' regulations and should be carried out by qualified staff. Any improper use could damage the instrument, causing breakage and hazards to the staff and the plant.

For an accurate choice of the instrument, it is highly recommended that you refer to the most recent catalogue sheets available online at [www.nuovafima.com](http://www.nuovafima.com)



In accordance with directive  
EMC 2014/30/UE – PED 2014/68/UE

Standards of reference: EN 61326  
IEC 60770 – IEC 61298-2

### 2 – Safety Instructions



Warning

- The manufacturer disclaims all responsibility in case of damages caused by the improper use of the product and by the non-respect of the instructions reported in this manual.
- Follow carefully the specific safety rules in case of measuring oxygen pressure, acetylene, inflammable or toxic gas or liquids.
- Disconnect the instruments only after the depressurisation of the system.
- The process fluids residuals in the disassembled instruments could affect people, the environment and the system. It is highly recommended to take proper precautions.



Attention

- Before installation, be sure that the right instrument has been selected following the working conditions and, in particular, the range, the working temperature and the compatibility between the material used and the process fluid.
- This manual does not concern the instruments conforming to the standard 2014/34/UE (ATEX).
- The product warranty is no longer valid in case of non-authorized modifications and of wrong use of the product.
- The user is responsible for the instrument installation and maintenance.
- Handle and carefully stock the instrument used for toxic or inflammable liquids measurement

### 3 – Intended use

The transmitter pressure gauge has a double function: to locally display an input pressure (gauge) and turn it into an electrical output signal (transmitter). The electrical signal changes proportionally on the input pressure value

### 3 – Electrical connections

|               |                          |               |            |              |
|---------------|--------------------------|---------------|------------|--------------|
| Output signal | 4...20 mA                | Output signal | 0...5 Vdc  | 0...10 Vdc   |
| N° of wires   | 2                        | N° of wires   | 3          | 3            |
| Charge (Ohm)  | $R_L - (V_{in}-10)/0,02$ | Charge (Ohm)  | min. 5Kohm | min. 10 Kohm |
| Input : +Vin  | 10...30                  | Input : +Vin  | 8...30     | 14...30      |
|               |                          |               |            |              |

The transmitter metal case should always be connected to the ground through the process connection thread to protect it from disturbances due to electromagnetic fields or electrostatic charges.

If it is impossible, connect the transmitter to the ground through the connector and the cable screen.

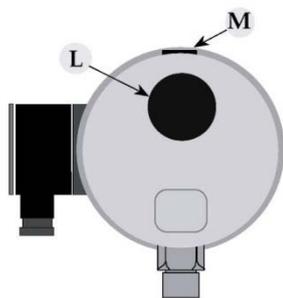
### 4 – Installation

Before installing an electrical instrument safely and securely into a plant or a system, it is recommended to verify that the installation is performed correctly according to the particular design features. After installation, the instrument should not be subject to any heat source that could exceed the established ambient temperature limits.

Secure the instrument's thread through a special key/wrench on the process connection hexagon without grasping the case by hands (20...30Nm) without grasping the case by the hands. The correct torque depends on the process connection type and the seal type used (form and material).

As for those process connections with a cylindrical thread (Gas-Metric), a head gasket compatible with the measurement gas or fluid should be used.

If the connection thread is conical, the instrument is tightened through a simple screwing on the plug. To improve the thread tightness, placing a PTFE layer on the male thread is recommended.



If the instrument is equipped with a fluid diaphragm seal, the connection should be clamped on the diaphragm; otherwise, the calibration could be compromised. If a remote mounting capillary is mounted between the instrument and the pressure switch, verify that during the mounting operations, the capillary does not twist and break and that any curving angles do not compress the passage hole of the pressure transmission fluid.

The blow-out vents in the gauge case (blow-out vent L and filling cap M) should not be closed or tightened. In instruments with a scale range up to 16 bar, the filling cap M should be drilled.

Disassemble the connector as in fig.1 and connect the cable as in fig.2.

Reassemble the connector and fix it on the transmitter.

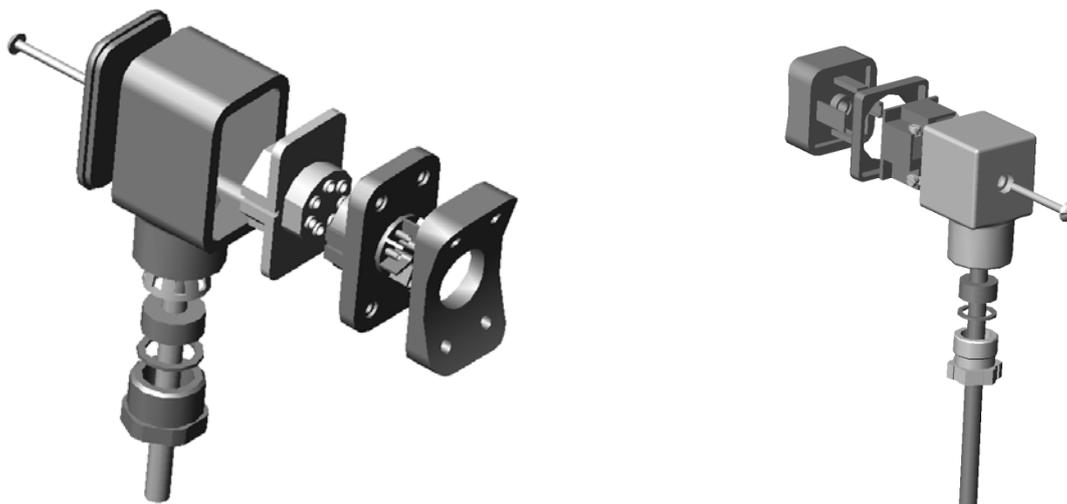


Figure 1 – Exploded view of the connector

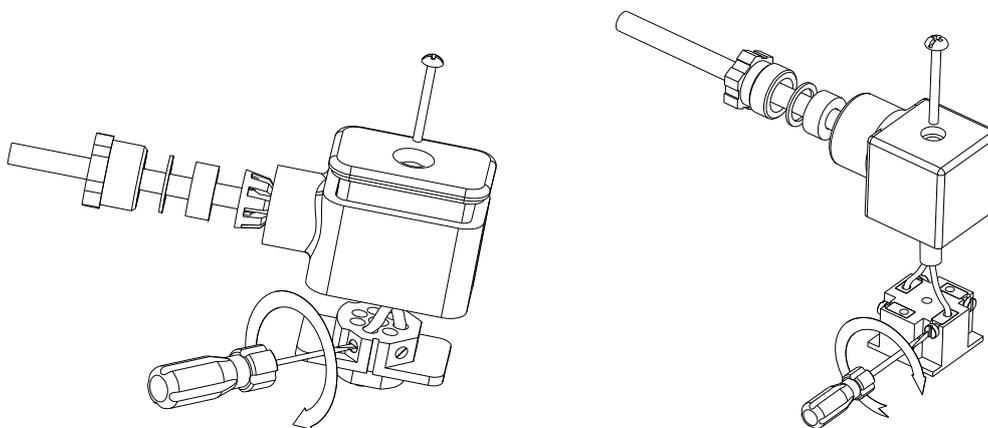


Figure 2 – Wires connections



The IP grade according to standard CEI EN 60529 is guaranteed only if the female connector, equipped with a connection cable, is mounted on the instrument and all the other components are assembled correctly.

## 5 – Recalibration and maintenance

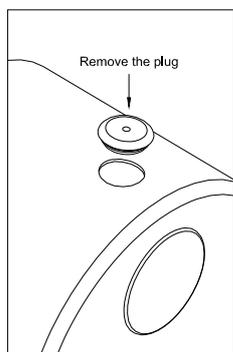


Figure 1

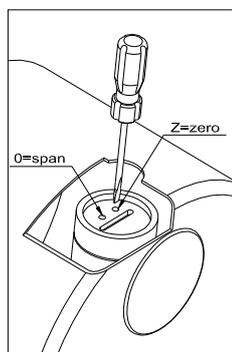


Figure 2

In order to perform the instrument zero adjusting, please proceed as follows:

1. Disconnect the connector from the transmitter;
2. Remove the filling cap to reach the ZERO trimmer (figure1);
3. Connect the sensor to the measurement circuit (PLC-PC board or millimeter);
4. If the input pressure is at zero, adjust the output signal value to 4 mA together with the corresponding ZERO trimmer placed inside the instrument (figure 2).
5. Reinstall the filling cap.

In case a complete recalibration is necessary, please contact NUOVA FIMA S.r.l.

## 7. Disposal and demolition

Dispose of instrument components and packaging materials in an environmentally compatible way and in accordance with the rules of the specific waste in the country of origin.