

# User guide

## PRESSURE TRANSMITTER ST



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### 1. Important information

A careful reading of this instruction manual is strongly recommended before installation and use of the instrument.

This manual must be stored in a safe and easily accessible place.

To operate in safe conditions, this instrument should be selected according to the intended application and should be properly installed according to the manufacturer's installation instructions.

The operators in charge of the instrument selection, installation and maintenance should be able to recognize what conditions may affect the instrument functioning and that may lead to premature damage or failure of it.

Plants regulations procedures need to be carried out by qualified operators. If used improperly, the instrument may damage and may be dangerous to operators and plant. In order to select the right instrument, all products details can be found on the most updated edition of the general products catalogue available on-line at [www.nuovafima.com](http://www.nuovafima.com).



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

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

### 2. Safety Instructions



- 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 if measuring oxygen pressure, acetylene, inflammable or toxic gas or liquids.
- Disconnect the instruments only after depressurization of the system.
- The process fluids residuals remaining in the disassembled instrument components could affect people, the environment and the system. Proper precautions are highly recommended.



- Before installation be sure that the right instrument has been selected according to 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 standard 2014/34/EU (ATEX).
- The product warranty is no longer valid in case of non-authorized modifications and unproper use of the product.
- The user is totally responsible for the instrument installation and maintenance.
- Instruments employed for measuring toxic or inflammable fluids, should be handled and stored with extreme care.

### 3. Intended use

The pressure transmitter turns the input pressure into an output electrical signal. The electrical signal changes according to the input pressure level.

## 4. Electrical connections

		EN 175301-803 Form A	M12x1	Cable output
		EN 175301-803 Form C		
<b>Output signal:</b>	<b>4...20 mA</b>			
<b>N° of wires:</b>	2			
<b>Charge (Ohm):</b>	$R_L - (V_{in}-10)/0,02$			
<b>Input +Vin:</b>	10...30			

		EN 175301-803 Form A	M12x1	Cable output
		EN 175301-803 Form C		
<b>Output signal:</b>	<b>0...5 Vdc</b> <b>0...10 Vdc</b>			
<b>N° of wires:</b>	3                    3			
<b>Charge (Ohm):</b>	min. 5Kohm    min. 10Kohm			
<b>Input +Vin:</b>	8...30            14...30			

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

If this procedure cannot be performed, the transmitter should be connected to the ground through the connector and the cable screen.

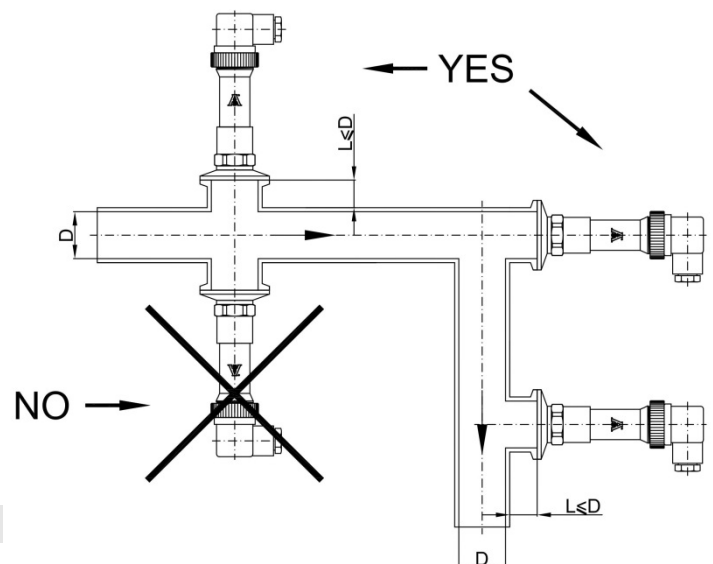
## 5. Installation

- Before installing an electric safety equipment into a plant or a system, the user should verify that the instrument is suitable to the plant characteristics and that it is installed correctly. After installation procedure is finalized, the user should verify that the instrument is not exposed to any source of heat that may exceed the established ambient limits. Secure the instrument thread through a special key/wrench on the process connection hexagon without grasping the case by the hands.
- Secure the instrument thread through a special key/wrench on the process connection hexagon (20...30Nm). The correct torque depends on the type of process connection and the type of seal used (form and material). If the connection thread is conical the instrument is tightened through a simple screwing on the plug. In order to improve the thread tightness, the male thread should be wrapped with a PTFE layer.
- If the instrument is equipped with a fluid diaphragm seal the connection should be clamped on the diaphragm otherwise the calibration could be compromised.
- The monitoring devices such as rings, clamps, nuts, flanges, seals and O-rings are not generally included in the supply and are not included in this manual. Seals and O-rings must be chosen from the food industry approved models.

### Instruments showing symbol.

Instruments with a DIN11851 connection should be installed using special seals such as those produced by Siersema Componenten System (S.K.S.) B. V. or seals type ASEPTO-STAR k-flex produced by Kieselmann GmbH.

Instruments provided with a process connection complying with the ISO 2853 (IDS/ISS) standards should be installed using a "T-seal" seal type produced by Combifit International B.V. In the opposite picture you can see how to install it correctly in order to ensure a proper instrument operation and cleanliness. Improper installation may produce



residual media which could speed the corrosion process and affect the cleaning procedure.

## Connector Assembling EN 175301-803 Form A

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

Reassemble the connector and fasten it on the transmitter.



Figure 1 – Exploded view of the connector

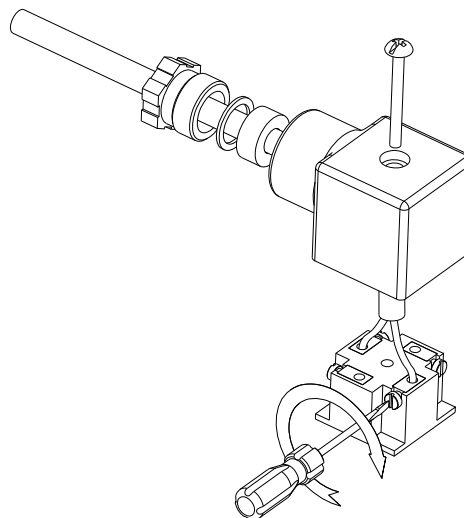


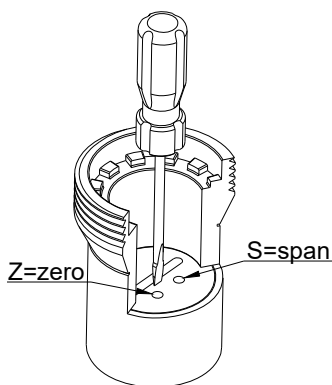
Figure 2 – Wires connections



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

## 6. Recalibration and maintenance

In some models the zero and the full scale range can be adjusted as follows:



- Connector disassembling (see fig. 1)
- Zero adjustment (Z)
- Span adjustment(S)

The STSA transmitters is “maintenance free”.

In case of damage, contact NUOVA FIMA S.r.l. through the following service:

Product Return - [www.nuovafima.com/en/product-return/](http://www.nuovafima.com/en/product-return/)



## 7. Disposal

Instrument components and packaging materials must be disposed respecting the environment and observing the specific national rules.