


## PRESSURE SENSOR



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## 1 SAFETY INSTRUCTIONS

 **WARNING:** The sensor must be powered by a LIMITED POWER SOURCE. The protection offered may be compromised if the pressure sensor is not used as specified. A suitable isolation device must be provided outside the equipment. Detailed information on safety symbols and marks can be found on the last page of this document (**section 7**).

## 2 DESCRIPTION

**PARATRONIC** pressure sensors are designed for liquid pressure measurements on pipes. This is handled by a G ¼ or ½ inch male coupling.

Self-powered by the measurement circuit, they supply a 4/20mA signal for a measurement of up to 25 bar (depending on the model).

A DIN IP65 connector or cable output (IP68 option) is used for connection.

They are simple and quick to use.

## 3 TECHNICAL SPECIFICATIONS


### 3.1 MECHANICAL SPECIFICATIONS

Description:	Metallic tubular body
Material:	Stainless steel
Dimensions (mm):	diam. $27 \pm 0.1$ , standard length: 136, (depending on connector model – max 146). IP68 option: 160 (see details)
Weight (g):	200 (standard) or 160 + 50 (IP68 option + metre of cable)
Use:	
Pressure connection:	Screwed onto G1/4 male (8x13mm) or G1/2 male (15x21mm) pipe
Electrical connection:	By screw connector (IP65) or cable output (IP68 option)
Cable (for IP68 option):	Double-coated, with no capillary tube. Blue polyethylene outer cladding. Electrical shielding, 2 x 0.60 mm <sup>2</sup> conductors (60 mΩ/m of cable), diam. 7 mm $\pm 0.5$ mm, weight 50 g per metre

### 3.2 ELECTRICAL SPECIFICATIONS

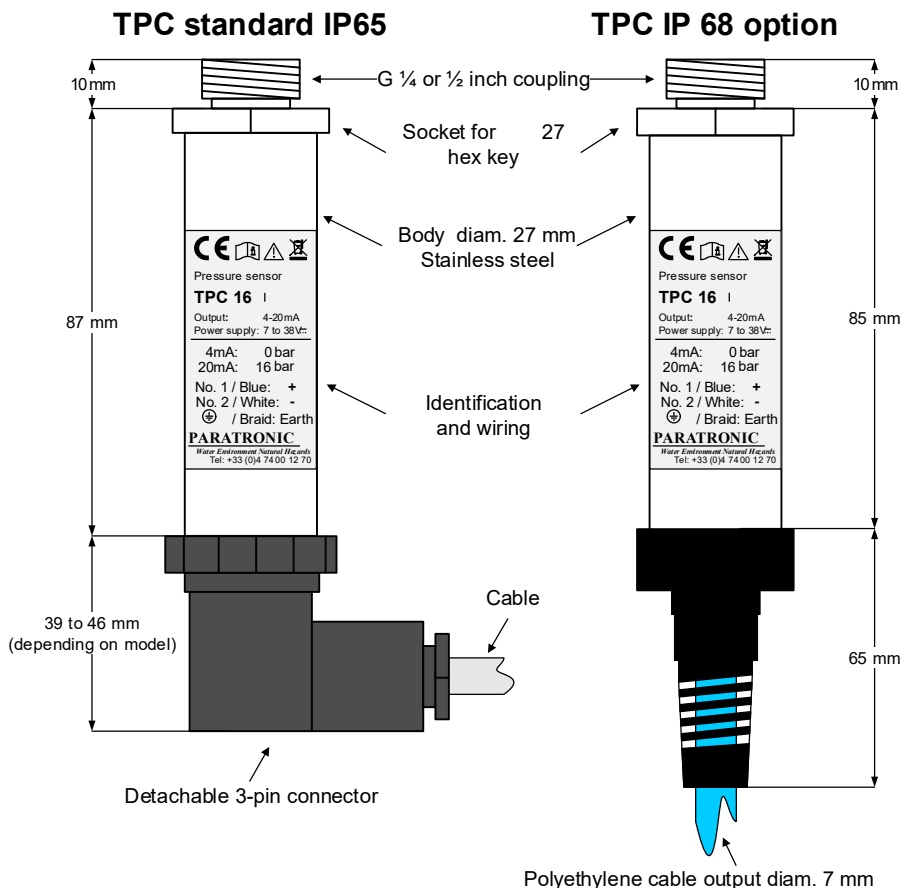
Power supply voltage:	7 to 38 V= with limitation at 1A
Output signal:	4/20mA (protected against polarity inversion)
Measurement range:	0 - 0.1 bar to 0 – 25 bar (depending on model)
Temperature drift:	$< \pm 0.03\% \text{ FS} / ^\circ\text{C}$ ( $\pm 4.5 \mu\text{A}/^\circ\text{C}$ )
Repeatability and hysteresis:	$< \pm 0.2\% \text{ FS}$ ( $\pm 30 \mu\text{A}$ ).
Line-of-best-fit linearity:	$< \pm 0,25\% \text{ FS}$ ( $\pm 40 \mu\text{A}$ ).*
Non-deterioration range:	1.5 x full scale
Heating time:	$< 150\text{ms}$
Response time:	$< 10\text{ms}$
Constancy:	$< \pm 0.3\% \text{ FS/year}$
Connection:	Cable with 2 x 0.60 mm <sup>2</sup> conductors

### 3.3 ENVIRONMENT, STANDARDS

Maximum altitude:	2000m above sea level
Protection rating:	IP65 (standard), IP68 (option)
Operating temperature:	-5°C to 50°C (liquid phase)
Storage temperature:	0°C to 80°C
Electromagnetic compatibility:	Fast transients level 4 Lightning surge wave 1.2/50 - 8/20, 2 KV EN 61000-6-2, EN 61000-6-3
Electrical safety:	EN 61010-1
Health:	EN 62479
Environment:	EN 50581
CE Mark	

\*: Value given for full scales  $\geq 1$ bar, line-of-best-fit linearity  $\text{FS} < 1$  bar  $< \pm 0.45\% \text{ FS}$  ( $\pm 70 \mu\text{A}$ ).

**4 DIMENSIONS**



**5 USE**

**5.1 ELECTRICAL CONNECTION**

- The pressure sensor is connected via the removable 3-pin connector or via the cable if the IP68 option is selected.
- In any case, measurement circuit protection with a PRO TAS30, for example, is required.

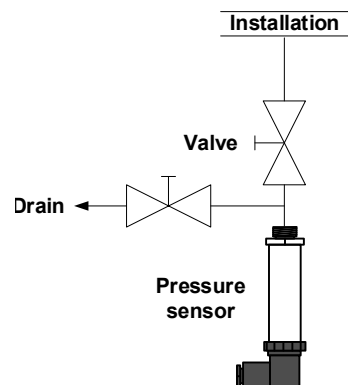
Connection via 3-pin connector. "Terminal marking"

Pressure sensor	
<b>TPC 16 I</b>	
Output :	4-20mA
Power supply:	7 to 38V ...
4mA :	0 bar
20mA :	16 bar
No. 1 / Blue :	+
No. 2 / White :	-
⊕ / Braid :	Earth
<b>PARATRONIC</b>	
Water Environment Natural Hazards	
Tel: +33 (0)4 74 00 12 70	

Connection via cable (IP68 option). "Wire marking"

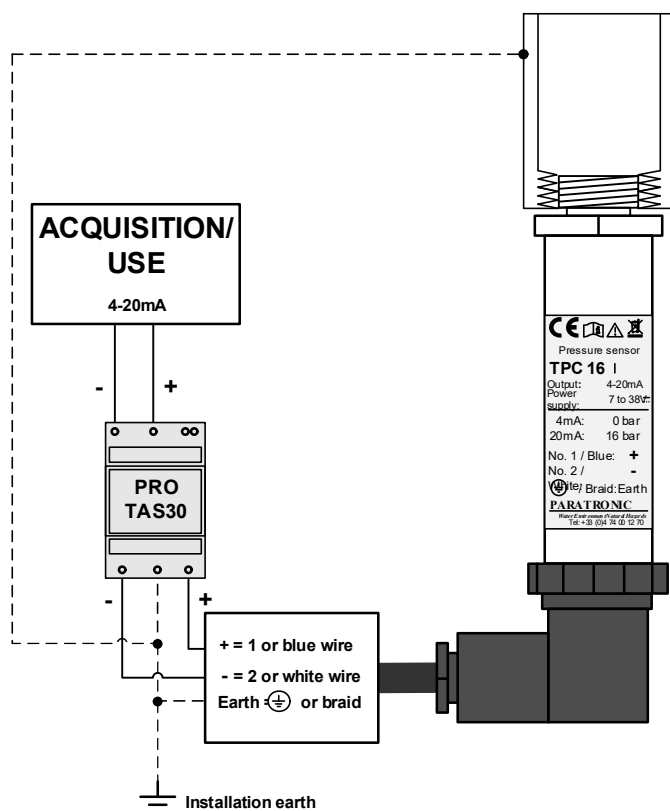
**5.2 HYDRAULIC CONNECTION**

- The hydraulic assembly of the pressure sensor must be carried out in the upright position with the connector facing downwards and the pressure sensor upwards, in order to prevent any air pockets.
- It is also recommended, during installation, to pressurise slowly and gradually.
- During its use, the pressure sensor must not be subjected to sudden pressure and temperature variations and to overshoots of these specification values.



### 5.3 GENERAL VIEW

#### ➤ Example of use



## 6 SENSOR CALIBRATION

#### ➤ Sensor No.:

CURRENT	mA	mA	mA
PRESSURE	0 bar	bar	bar
HEIGHT	0 M	M	M

## 7 SAFETY SYMBOLS AND MARKS

: Hazard risk. Important information. Refer to the instructions for use.

: Read the instructions for use.

: Compliant with European Union and EFTA directives.

: European Directive 2002/96/EC of 27 January 2003 on waste electrical and electronic equipment (WEEE Directive) was transposed in France by Decree No. 2005-829 of 20 July 2005. Electrical or electronic appliances, and their spare parts and consumables must never be disposed of in household waste.

**PARATRONIC** has undertaken to set up an Individual Collection System.

**PARATRONIC** waste electrical and electronic equipment should be returned by customers (End users) to the following address:

**PARATRONIC** - Zone Industrielle - Rue des Genêts, 01600 REYRIEUX, France  
**Service Recyclage DEEE**

The specifications described in this document are subject to change by the manufacturer without notice.