



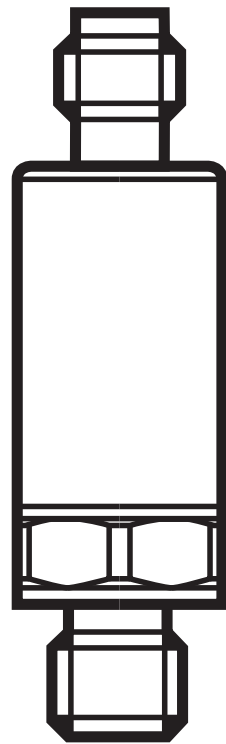
Installation instructions  
Electronic pressure sensor  
for mobile applications

**PU85xx**

**UK**

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## 1 Preliminary note

### Symbols used

- Instructions
- Cross-reference
-  Important note  
Non-compliance may result in malfunction or interference.
-  Information  
Supplementary note.

## 2 Safety instructions

- Please read this document prior to set-up of the unit. Ensure that the product is suitable for your application without any restrictions.
- If the operating instructions or the technical data are not adhered to, personal injury and/or damage to property can occur.
- Improper or non-intended use may lead to malfunctions of the unit or to unwanted effects in your application. That is why installation, electrical connection, set-up, operation and maintenance of the unit must be carried out only by qualified personnel authorised by the machine operator.
- In order to guarantee the correct operation of the unit, it is necessary to use the unit in media for which it is sufficiently resistant (→ 7).

- The responsibility as to whether the measurement devices are suitable for the respective application lies with the operator. The manufacturer assumes no liability for consequences of misuse by the operator. Improper installation and use of the devices result in a loss of the warranty claims.

## 3 Functions and features

The pressure sensor detects the system pressure and converts it into an analogue output signal.

### 3.1 Applications

- Type of pressure: relative pressure

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Order number	Final value of the measuring range (nominal pressure)		Static pressure resistance (max. permissible pressure)		Bursting pressure	
	bar	psi	bar	psi	bar	psi
PU8504	10	145	25	360	300	4350
PU8503	25	360	65	940	600	8700
PU8523	60	870	150	2175	900	13050
PU8502	100	1450	250	3625	1000	14500
PU8501	250	3625	625	9060	1200	17400
PU8500	400	5800	1000	14500	1700	24655
PU8560	600	8700	1500	21755	2500	36255

$$\text{MPa} = \text{bar} \div 10 \quad / \quad \text{kPa} = \text{bar} \times 100$$



Avoid static and dynamic overpressure exceeding the indicated pressure rating by taking appropriate measures. The indicated bursting pressure must not be exceeded. Even if the bursting pressure is exceeded only for a short time, the unit may be destroyed. ATTENTION: Risk of injury.



For units with a final value of the measuring range of 600 bar, the limits of the pressure cycles over the lifetime apply (→ 7).



Surge resistance

In order to achieve CE conformity, it must be ensured that the cable length used is restricted to max. 30 m.



**Pressure Equipment Directive (PED):**

The units with a final value of the measuring range of 10...400 bar comply with the Pressure Equipment Directive. They are designed for group 2 fluids and are manufactured in accordance with sound engineering practice.

Use of media from group 1 fluids on request.



**Pressure Equipment Directive (PED):**

The units with a final value of the measuring range of 600 bar comply with the Pressure Equipment Directive. They are designed for group 2 fluids and manufactured and tested according to Module A.

Use of group 1 fluids on request.



The units are vacuum resistant.

## **3.2 Use in hydraulic systems of mobile machines**

### **Restrictor in the process connection:**

In hydraulic systems of mobile machines, highly dynamic effects such as pressure peaks, cavitation etc. may arise depending on the operating conditions. To reduce these effects on the measuring element of the sensor, a diaphragm attachment is integrated into the process connection.

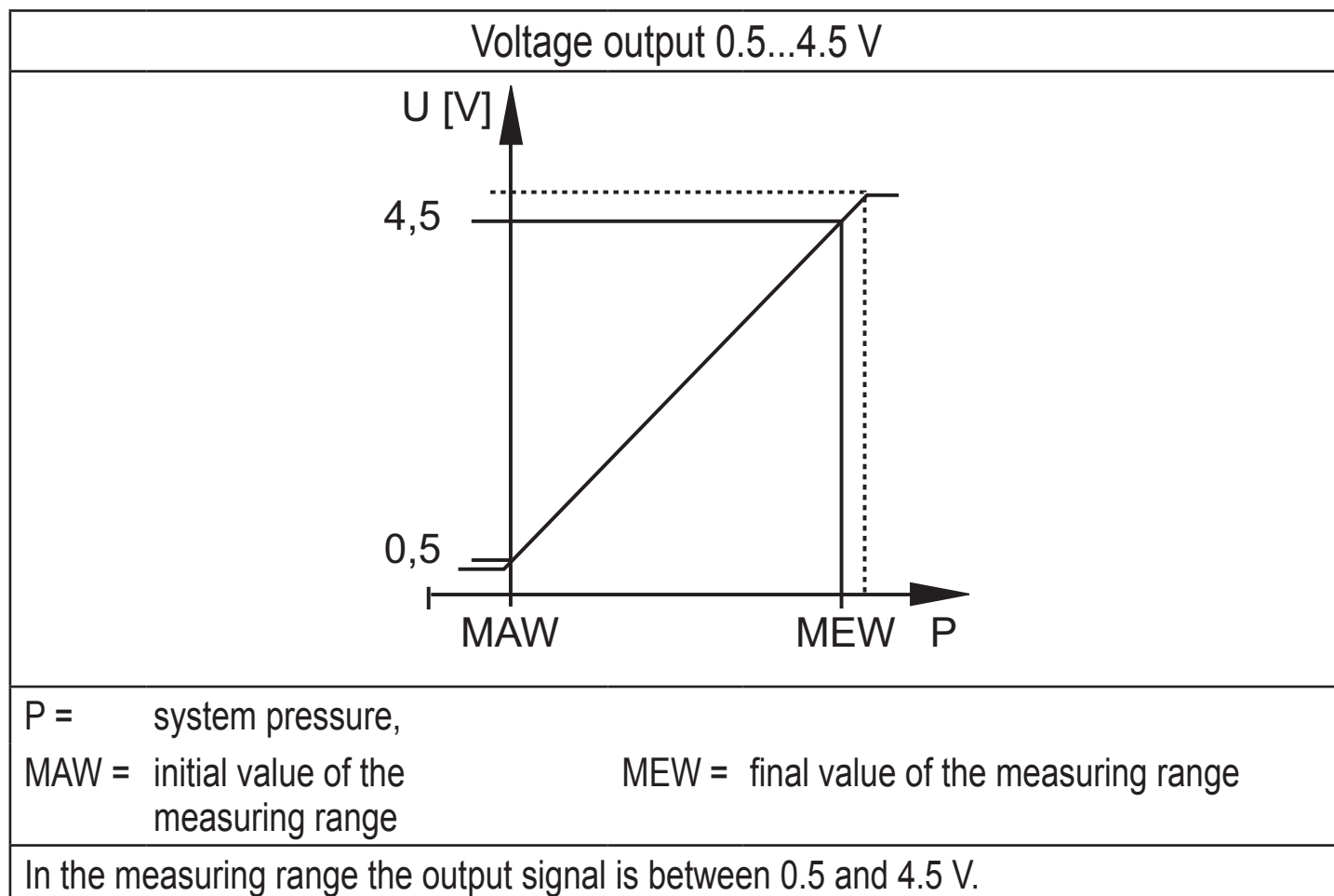
The specific thread pitch of the diaphragm attachment has the effect of a hole of 0.3 mm.



Please note:

High viscosity may reduce the response time by some milliseconds. Heavy soiling may affect the functionality.

## 4 Function



## 5 Installation



Before installing and removing the unit:

Make sure that no pressure is applied to the system.

- Insert the unit in a G $\frac{1}{4}$  process connection.
- Tighten firmly. Recommended tightening torque:

Final value of the measuring range in bar	Tightening torque in Nm
10...400	25...35
600	30...50
Depends on lubrication, seal and pressure load.	

# 6 Electrical connection



The unit must be connected by a qualified electrician.  
The national and international regulations for the installation of electrical equipment must be adhered to.  
Voltage supply to EN50178, SELV, PELV.

- ▶ Disconnect power.
- ▶ Connect the unit as follows:

**PU85xx** (0.5...4.5 V)

Core colours			
BN	brown		
WH	white		
BU	blue		
		OUT: Analogue output 0.5...4.5 V	
		Colours to DIN EN 60947-5-2	
Example circuits			

# 7 Technical data and scale drawing



The indication of the following technical data is required by the Pressure Equipment Directive(PED) for units with a final value of the measuring range of 600 bar.

PU8560	
Operating voltage [V].....	8...32 DC
Analogue output .....	0.5...4.5 V
Medium temperature [°C] .....	-40...125
Ambient temperature [°C] .....	-40...100
Storage temperature [°C].....	-40...100
Pressure cycles (min.) over lifetime.....	60 million for 1.2 x nominal pressure
Shock resistance [g] .....	500 (DIN EN 60068-2-27, 1 ms)
Vibration resistance [g] .....	20 (DIN EN 60068-2-6, 10...2000 Hz)

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Further technical data and scale drawing at [www.ifm.com](http://www.ifm.com).

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