

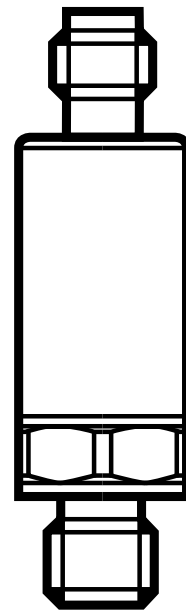
Operating instructions  
Electronic pressure sensor  
for industrial applications

**UK**

**PT54xx/PU54xx**

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## 1 Preliminary note

### Symbols used

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



### **CAUTION**

Warning of personal injury.  
Slight reversible injuries may result.

## 2 Safety instructions

- The device described is a subcomponent for integration into a system.
  - The manufacturer is responsible for the safety of the system.
  - The system manufacturer undertakes to perform a risk assessment and to create a documentation in accordance with legal and normative requirements to be provided to the operator and user of the system. This documentation must contain all necessary information and safety instructions for the operator, the user and, if applicable, for any service personnel authorised by the manufacturer of the system.
- Read this document before setting up the product and keep it during the entire service life.
- The product must be suitable for the corresponding applications and environmental conditions without any restrictions.
- Only use the product for its intended purpose (→ Functions and features).
- Only use the product for permissible media (→ Technical data).
- If the operating instructions or the technical data are not adhered to, personal injury and/or damage to property may occur.
- The manufacturer assumes no liability or warranty for any consequences caused by tampering with the product or incorrect use by the operator.
- Installation, electrical connection, set-up, programming, configuration, operation and maintenance of the product must be carried out by personnel qualified and authorised for the respective activity.
- Protect units and cables against damage.

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### **CAUTION**

For high medium temperatures, parts of the unit may heat up.

> Risk of burns

▶ Do not touch the unit

▶ Protect the housing against contact with flammable substances and unintentional contact.

## 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



Information on pressure rating and bursting pressure → data sheet.



Avoid static and dynamic overpressure exceeding the specified overload pressure 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 across the lifetime apply. (→ Technical data).



Pressure Equipment Directive (PED):

Units with a final value of the measuring range of 6...400 bar comply with the Pressure Equipment Directive and are designed and manufactured for group 2 fluids in accordance with the sound engineering practice.

Use of group 1 fluids on request!



The units are vacuum resistant.



Pressure Equipment Directive (PED):

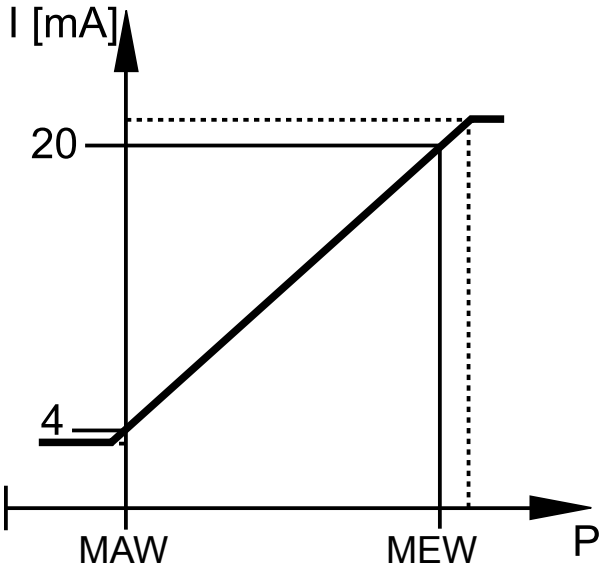
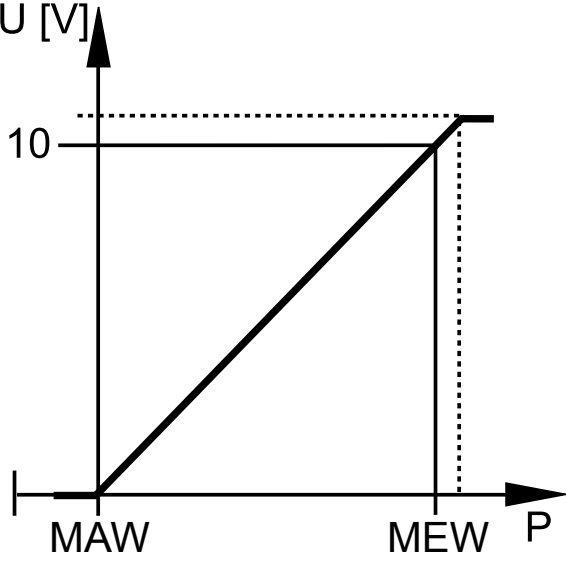
The units with a final value of the measuring range of 600 bar comply with the Pressure Equipment Directive. They are designed for group 2 fluids and manufactured and tested according to Module A.

Use of group 1 fluids on request!



If the cable length exceeds 30 m or if used outside buildings, there is a risk of overvoltage pulses from external sources. We recommend to use the unit in protected operating environments and to limit overvoltage pulses to max. 500 V.

## 4 Functions

Current output 4...20 mA (PT54xx)	Voltage output 0...10 V (PU54xx)
	
<p>P = system pressure, MAW = Initial value of the measuring range, MEW = final value of the measuring range</p>	
<p>In the measuring range the output signal is between 4 and 20 mA. If the system pressure is above or below the measuring range, the analogue output behaves, without achieving the accuracy, as follows:</p> <ul style="list-style-type: none"> <li>• System pressure above the measuring range: 20...25 mA.</li> <li>• System pressure below the measuring range: 4...3 mA.</li> </ul>	<p>In the measuring range the output signal is between 0 and 10 V. If the system pressure is above the measuring range, the analogue output behaves, without achieving the accuracy, as follows:</p> <ul style="list-style-type: none"> <li>• System pressure above the measuring range: 10...11.5 V.</li> </ul>

## 5 Installation



Before installing and removing the unit: make sure that no pressure is applied to the system.

- ▶ Insert the unit in a G 1/4 process connection.
- ▶ Tighten firmly. Recommended tightening torque:

Pressure range in bar	Tightening torque in Nm
6...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 SELV, PELV.

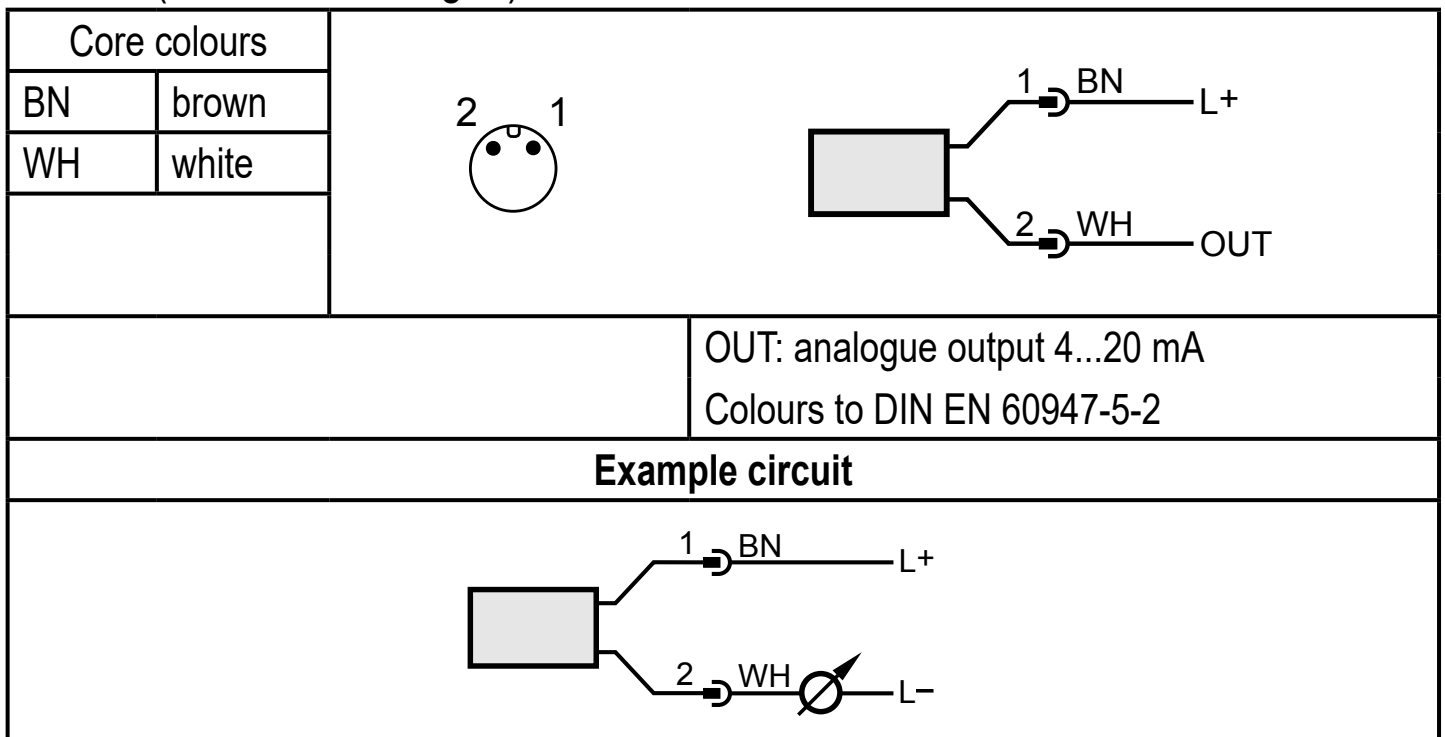


For marine applications (if approval available for the device), additional surge protection is required.

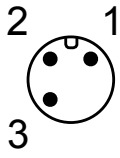
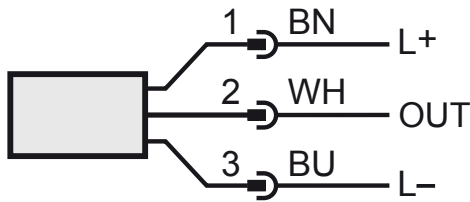
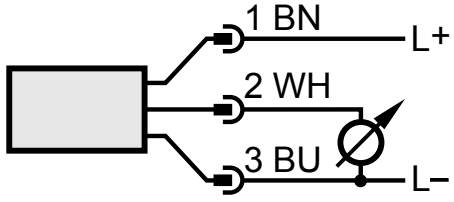
► Disconnect power.

► Connect the unit as follows:

**PT54xx** (4...20 mA analogue)



# PU54xx (0...10 V analogue)

Core colours			
BN	brown		
WH	white		
BU	blue		
		OUT: analogue output 0...10 V Colours to DIN EN 60947-5-2	
<b>Example circuit</b>			
			

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## 7 Technical data



Directive 97/23/EC (pressure equipment directive) stipulates that the following technical data must be provided for units with a final value of the measuring range of 600 bar.

PT5460	
Operating voltage [V].....	8.5...36 DC
Analogue output .....	4...20 mA
PU5460	
Operating voltage [V].....	16...36 DC
Analogue output .....	0...10 V
Medium temperature [°C] .....	-40...90
Ambient temperature [°C].....	-40...90
Storage temperature [°C].....	-40...100
Pressure cycles (min.) across lifetime .....	60 million for 1.2 x nominal pressure
Shock resistance [g].....	50 (DIN EN 60068-2-27, 11 ms)
Vibration resistance [g].....	20 (DIN EN 60068-2-6, 10...2000 Hz)

More information at [www.ifm.com](http://www.ifm.com)