



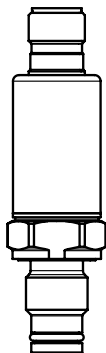
Operating instructions  
Electronic pressure sensor  
for industrial applications

**PL54**

**UK**

04 / 2021

80297950 / 00





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## 1 Preliminary note

### 1.1 Symbols used

- ▶ Instruction
- > Reaction, result
- [...] Designation of keys, buttons or indications
- Cross-reference
-  Important note  
Non-compliance may 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!**



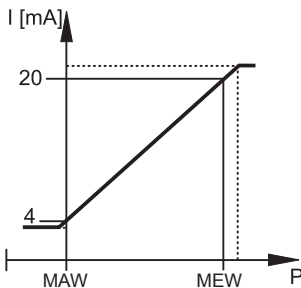
The units are vacuum resistant.



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



$P$  = system pressure,

MAW = Initial value of the measuring range, MEW = final value of the measuring range

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:

- System pressure above the measuring range: 20...25 mA.
- System pressure below the measuring range: 4...3 mA.

## 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.



Accessories welding adapter (order no. E30503) and welding aid (order no. E30508) at [www.ifm.com](http://www.ifm.com).



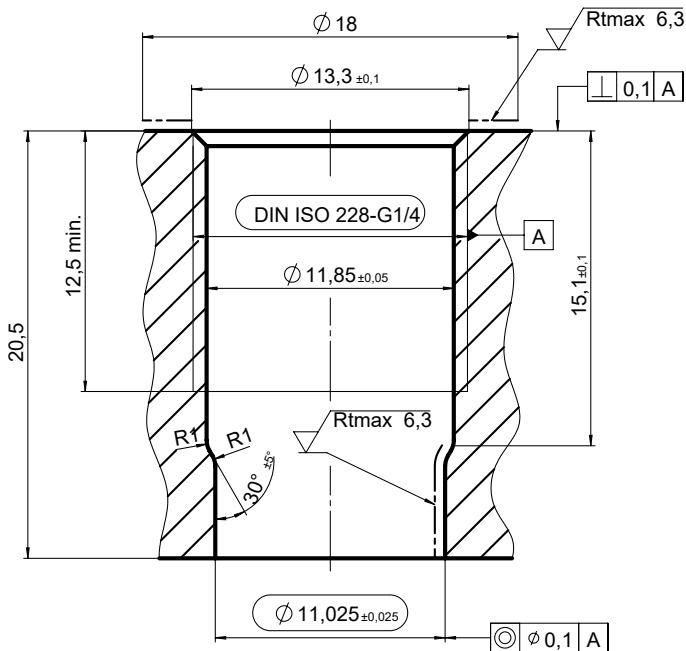
Observe when sealing exclusively with a sealing ring at the back:

- ▶ The sealing area on the flange/bush must be flush and have a surface characteristic of at least  $Rz = 6.3$  (observe DIN EN ISO 1179-).
- ▶ Tighten firmly. Recommended tightening torque: 25...35 Nm.  
Depends on the lubrication, the sealing and the pressure load!

## 5.1 Scale drawing threaded hole



Scale drawing to produce an appropriate threaded hole for radial sealing of the sensor by its sealing ring:

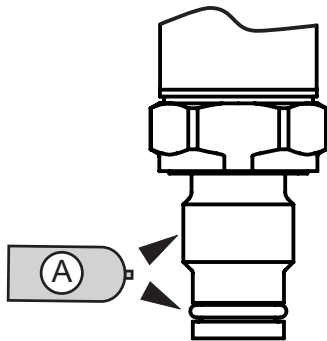


## 5.2 Mount sensor



A lubricating paste is required to install the sensor. It must be suitable and approved for the given application and compatible with the elastomers used (e.g. seal).

- ▶ Ensure cleanliness of the sealing areas.
- ▶ Use lubricating paste (A) sparingly and apply to threaded parts and the sealing ring.



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- ▶ Tighten firmly. Recommended tightening torque: 25...35 Nm.  
Depends on the lubrication, the seal and the pressure load!



Too much torque may impair the seal and lead to the sensor being damaged.



If the sealing area is damaged: replace the adapter.

## 6 Electrical connection



The unit must be connected by a qualified electrician.

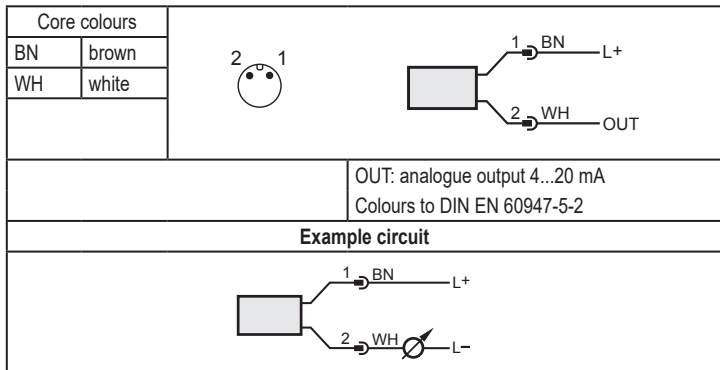
The national and international regulations for the installation of electrical equipment must be adhered to.

Voltage supply to EN 50178, SELV, PELV.



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

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



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



