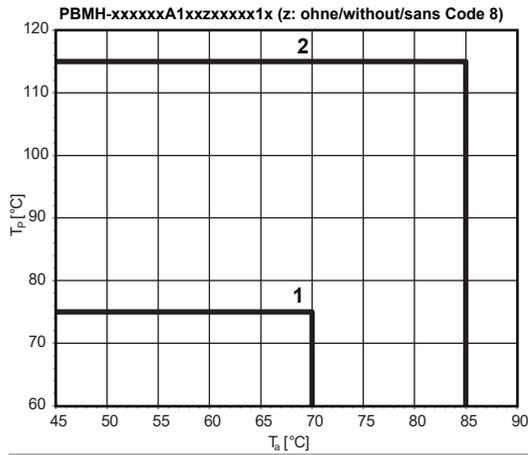


Quickstart

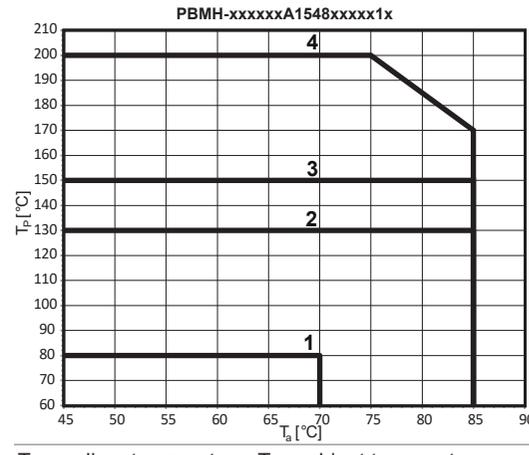


PBMH
Hygienic pressure transmitter



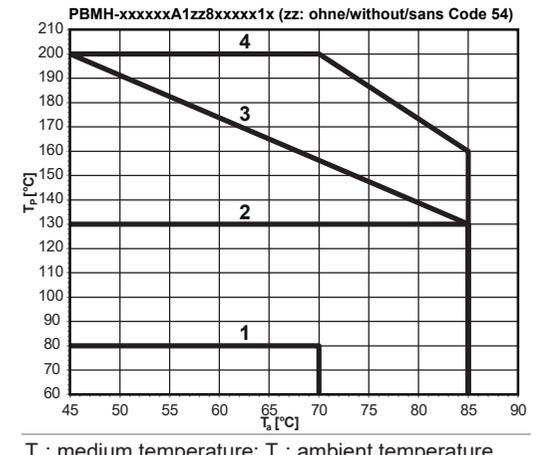
T_p: medium temperature; T_a: ambient temperature

- 1 T6 vertical or horizontal mount:
-40 °C ≤ T_a ≤ 70 °C, T_p ≤ 75 °C
- 2 T4 vertical or horizontal mount:
-40 °C ≤ T_a ≤ 85 °C, T_p ≤ 115 °C



T_p: medium temperature; T_a: ambient temperature

- 1 T6 vertical or horizontal mount:
-40 °C ≤ T_a ≤ 70 °C, T_p ≤ 80 °C
- 2 T4 vertical or horizontal mount:
-40 °C ≤ T_a ≤ 85 °C, T_p ≤ 130 °C
- 3 T3 vertical mount:
-40 °C ≤ T_a ≤ 85 °C, T_p ≤ 150 °C
- 4 T3 horizontal mount:
-40 °C ≤ T_a ≤ 85 °C, T_p ≤ 170 °C
-40 °C ≤ T_a ≤ 75 °C, T_p ≤ 200 °C



T_p: medium temperature; T_a: ambient temperature

- 1 T6 vertical or horizontal mount:
-40 °C ≤ T_a ≤ 70 °C, T_p ≤ 80 °C
- 2 T4 vertical or horizontal mount:
-40 °C ≤ T_a ≤ 85 °C, T_p ≤ 130 °C
- 3 T3 vertical mount:
-40 °C ≤ T_a ≤ 85 °C, T_p ≤ 130 °C
-40 °C ≤ T_a ≤ 45 °C, T_p ≤ 200 °C
- 4 T3 horizontal mount:
-40 °C ≤ T_a ≤ 85 °C, T_p ≤ 160 °C
-40 °C ≤ T_a ≤ 70 °C, T_p ≤ 200 °C

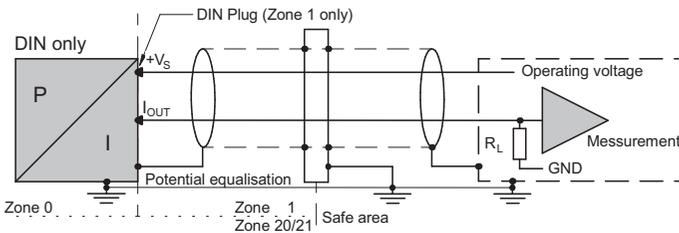
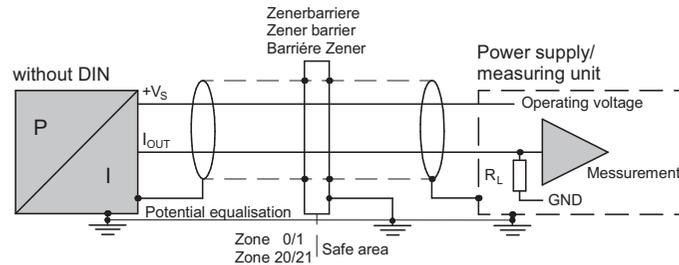
EN

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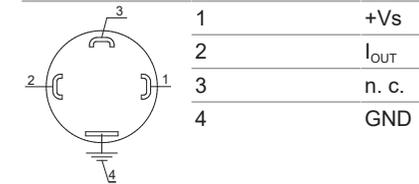
Connection diagram



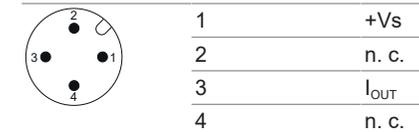
Operating voltage range: +Vs = 8 ... 30 VDC
Output signal: I_{OUT} = 4 ... 20 mA
Load resistor: R_L = <(Vs - 8) / 0.02 Ω

Type examination certificate:
SEV 11 ATEX 0129
IECEX SEV 22.0006

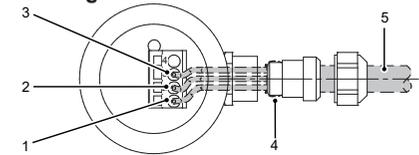
**Pin assignment
DIN 43650**



M12x 4 pins



Cable gland connection head



- 1 +Vs
- 2 I_{OUT}
- 3 n. c.
- 4 Shield
- 5 Clamp range (8 ... 10 mm; not included in the delivery)

Applicable documents

- Available for download at www.baumer.com:
 - Data sheet
 - EU Declaration of Conformity
- Attached to product:
 - General information sheet (11042373)

Scope of delivery

- Sensor
- Inspection certificate
- EU Declaration of Conformity

Function principle

The sensor is used for pressure measurement. The measured pressure is output as an electrical signal.

General information

- The sensor must not be exposed to strong impacts.
- Do not exceed the static or dynamic overload limits specified in the data sheet.
- Do not remove the protective cap until mounting the sensor.
- Retain the protective cap for any later storage or transport.
- Do not clean the membrane using abrasive agents.
- Do not touch the membrane with solid bodies (neither use finger).

Safety instructions

- This sensor has been assembled, tested and packed under technically safe conditions according to currently applicable EU directives. To maintain and ensure safe operation, observe the information and warnings in this manual.
- For installation observe and comply with the nationally applicable standards
- Sensor operation only by instructed and qualified personnel. Correct and safe deployment depends on proper transportation, storage, installation and operation of the product.
- Perform electrical connection in accordance with the regulations prevailing at the installation site. To prevent noise by interfering signals we recommend using shielded cables. Furthermore, supply cable routing should be away and distant from signal transmission cables. Wiring work and terminal assignment must comply with the electrical connection diagram.
- Prior to power off ensure that no other parts of the installation will be implicated.
- Make sure supply voltage and the ambient conditions comply with the product specifications.
- Prior to power off, check potential effects on other system components or installations.

DANGER

For electrical installation and commissioning of explosion-proof equipment, observe the specified data, EN 60079-14 requirements and locally applicable guidelines for the installation of electrical equipment in explosion-proof environments. Intrinsically safe product variants can be used in potentially explosive areas according to their specifications.

For the use of Category 1 (EPL Ga) Group IIC equipment, avoid dangerous electronic charges on the surface of the protective cap and along the cable sheath (e.g. due to rapid filling and emptying of containers or other processes with mechanical friction).

After installation and connection, ensure grounding is present at housing.

Sensor mount on boundary walls separating areas of category 1 (EPL Ga) (zone 0) from areas of category 2 (EPL Gb) (zone 1) is permitted. Sufficient tightness of the process connection in accordance with EN60079-26, section 4.6, has to be ensured, e.g. by IP67 rating according to EN60529.

Only use the measuring cell with substances the cell membrane is sufficiently chemically and corrosion resistant against.

The sensor is capable of being completely immersed in dust.

The sensor housing can heat up to over 50 °C during operation. Wear suitable protecting gloves when handling hot media.

Explosive gas atmosphere

Sensor operation must comply with the guidelines applicable to Zone 0 or 1 respectively Zone 20 or 21 using a certified, intrinsically safe Zener barrier.

Electrical connection

For:

- II 1G Ex ia IIC T4/T6 Ga
- II 1/2G Ex ia IIC T4/T6 Ga/Gb
- II 1D Ex ia IIIC T107 °C Da

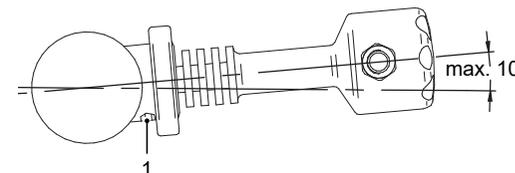
Ensure the following connection values, wiring diagrams and temperature ranges are observed at front:

Maximum value for selecting the barrier:	Ui: ≤ 30 VDC Ii: ≤ 100 mA Pi: ≤ 0.75 W
Internal capacity:	Ci: 58 nF
Internal inductivity:	Li: 0.22 µH
Dust:	-40 °C ≤ Ta ≤ 70 °C, max. surface temperature: T = 107 °C

- Ensure correct polarity and use shielded cables. Ground sensor housing and cable shield.
- Shield connection to the controller should be as short as possible for maximum protection against electromagnetic interference.
- For product variants with field housing, the cable shield should largely rest on the contact surface of the cable bushing.
- If possible, avoid any differences in the potential between sensor housing and controller.
- To meet the PELV requirements according to EN60204-1 §6.4.1, we recommend connecting 0 V (GND) to protective earth at one point in the system.

Installation instructions

- The sensor features connecting terminals for electrical connection. Only use clamps that are appropriate for both application and pressure.
- Depending on the product configuration, a seal is included in the delivery.
- Make sure that the seal's inner diameter is larger than the membrane's outer diameter. A too narrow opening will impair the sensor's measuring accuracy.
- Do not damage the seal during installation/replacement.
- Install variants with cooling section ($T_{\text{medium}} \leq 200$ °C) with max. angle of 10° to the horizontal line to ensure proper cooling (see following illustration).



1 Leakage hole

Hygiene

- To comply with the sensor-specific hygiene certificates, operate the sensor using the seal specified in the data sheet. Connecting part must provide the same certifications.
- Installation position, connection part and seal must ensure a completely self-draining system without cavities.
- The leakage hole must be visible and positioned at the lowest point.
- The sensor is appropriate for *Cleaning in Place* (CIP) and *Sterilization in Place* (SIP) ($T_{\text{max}} = 150$ °C/h).
- Sensor sterilization requires protective equipment.

Parameterizing the sensor

With the configuration tool *FlexProgrammer 9701* (not included in the delivery) you can set the following sensor parameters:

- Sensor name
- Scaling of pressure range
- Tare zero point
- Time measurement delay
- Alarm output signal

DANGER

Ex parameterization

Only connect *FlexProgrammer 9701* to the sensor outside hazardous environments.

Instruction:

- Detach sensor signal cable.
- Get the sensor in a safe environment and connect *FlexProgrammer 9701*.
- Proceed with sensor parameterization.
- Disconnect *FlexProgrammer 9701*.
- Reinstall the sensor in the hazardous zone again and connect the sensor signal cable.

Maintenance

The sensor is maintenance-free. No special preventive maintenance is required. Regular cleaning and regular checking of the plug connections are recommended.

The sensor does not contain any parts to exchange. In case of malfunction, return the sensor to Baumer for repair.