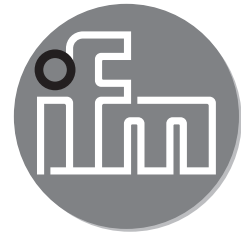


ifm electronic



Installation Instructions
Electronic pressure sensor

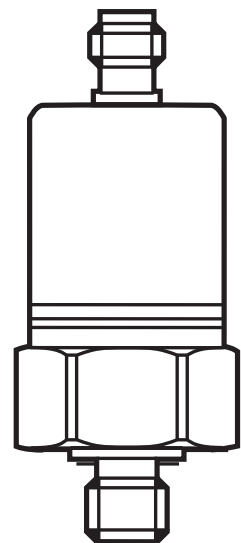
efector500[®]

PX3980 / PX3981

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1 Safety instructions

- Please read the product description prior to installing 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 may occur.
- Please check for all applications that the product materials (see Technical data) are compatible with the media to be measured.
- Use in gases at pressures > 25 bar only after contacting the manufacturer ifm.
- High-pressure units (400 bar) are supplied with an integrated damping device to avoid any risk of injury in case of bursting when bursting pressure is exceeded.



Any manipulation of the damping device is not permissible. When the damping device is removed, there is no damping function any more. ATTENTION: risk of injury!

2 Function and features

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

- 4 ... 20 mA

2.1 Applications

- Type of pressure: relative pressure


Order no.	Measuring range		Permissible overload pressure		Bursting pressure	
	bar	PSI	bar	PSI	bar	PSI
PX3980	0...400	0...5 800	600	8 700	1 000	14 500
PX3981	0...160	0...2 320	400	5 800	850	12 300

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




Static and dynamic overpressures exceeding the indicated overload pressure are to be avoided 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 can be destroyed. NOTE: Risk of injury! Use in gases at pressures > 25 bar only after contacting the manufacturer ifm.

3 Installation

 Before mounting and removing the sensor, make sure that no pressure is applied to the system.

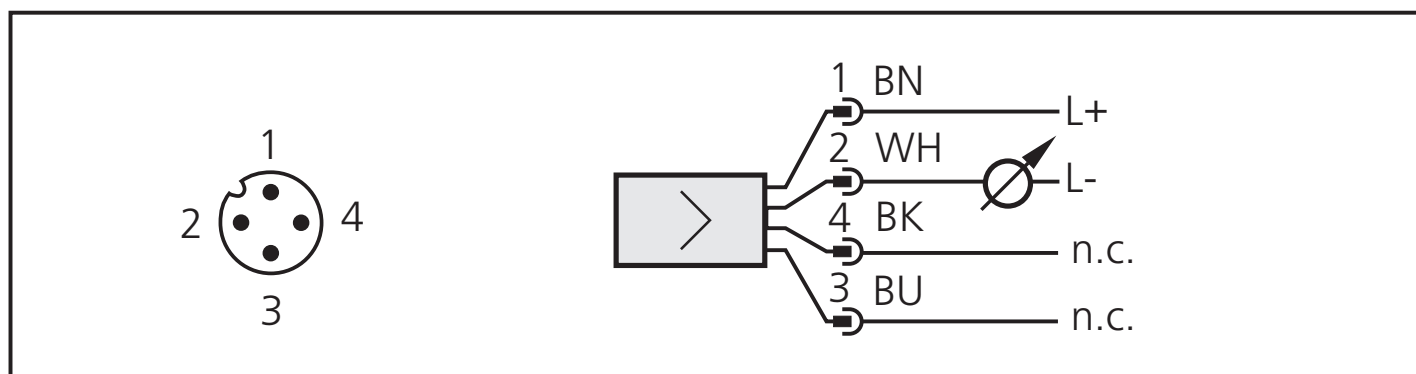
- ▶ Insert the unit in a suitable process connection (see type label “Port Size”).
- ▶ Tighten firmly.

4 Electrical connection

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

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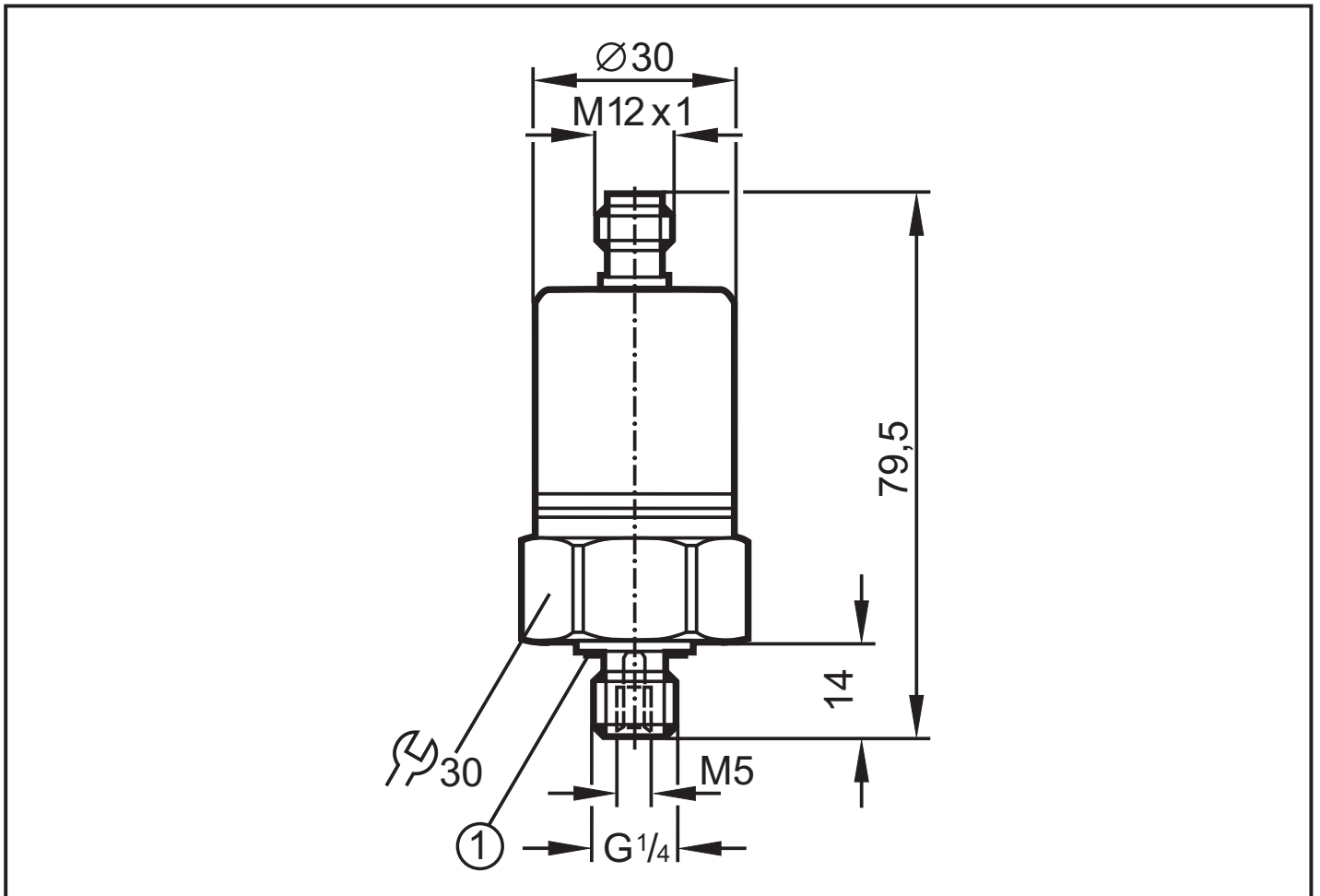
- ▶ Disconnect power.
- ▶ Connect the unit as follows:



Core colours of ifm sockets:

1 = BN (brown), 2 = WH (white), 3 = BU (blue), 4 = BK (black),
n.c. = not connected.

5 Scale drawing



Dimensions are in millimeters
1: Sealing FPM / DIN 3869-14

6 Technical data

Operating voltage [V].....	9,6 ... 32 DC ¹⁾
Analogue output	4 ... 20 mA
Load [Ω].....	max. (UB - 9.6) x 50; 720 at UB = 24 V
Step response time analogue output [ms].....	1
Characteristics deviation [% of the span]	< \pm 0.25 (BFSL) / < \pm 0.5 (LS)
Repeatability [% of the span].....	< 0.1
Long-term stability [% of value of measuring range / 6 months].....	< \pm 0.05
Temperature coefficients (TEMPCO) in the compensated temperature range 0 ... 80°C (in % of the span/10K) ²⁾	
- greatest TEMPCO of the zero point	0.1
- greatest TEMPCO of the span	0.2
Housing material.....	stainless steel (316S12); FPM (Viton); PA; EPDM/X (Santoprene)
Materials (wetted parts).....	stainless steel (303S22); ceramics; sealing: FPM (Viton); according to DIN 3869-14
Operating temperature [°C]	-25 ... +80
Medium temperature [°C]	-25 ... +90
Storage temperature [°C].....	-40 ... +100
Protection	IP 68 / IP 69K
Protection class	III
Insulation resistance [$M\Omega$].....	> 100 (500 V DC)
Shock resistance [g]	50 (DIN / IEC 68-2-27, 11 ms)
Vibration resistance [g].....	20 (DIN / IEC 68-2-6, 10 - 2000 Hz)
EMC	
EN 61000-4-2 ESD:.....	4 kV CD / 8 kV AD
EN 61000-4-3 HF radiated:	30 V/m
EN 61000-4-4 Burst:.....	2 kV
EN 61000-4-6 HF conducted:.....	10 V
radiation of interference	according to the automotive directive 2004/104/EC / CISPR25
noise immunity.....	according to the automotive directive 2004/104/EC / ISO 11452-2
HF radiated.....	100 V/m
pulse resistance.....	according to ISO7637-2 / severity level 3

¹⁾ to EN50178, SELV, PELV

BFSL = Best Fit Straight Line / LS = Limit Value Setting

More information at www.ifm.com

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