



Pressure transmitter for hygienic applications
Monitoring of absolute or relative pressure
in gases, vapors, liquids and dust

In brief



Application

- Hygienic and aseptic applications in
 - Food and beverage industry
 - Pharmaceutical industry
 - Biotechnology
 - Sterile process engineering

Your benefits

- Wide range of applications
- Finely graded measuring ranges from 100 mbar up to 25 bar
- Wide process temperature range -20°C to $+150^{\circ}\text{C}$
- Various hygienic and aseptic process connections
- High protection class IP69K/IP67
- Wide environmental temperature range -20°C to $+85^{\circ}\text{C}$
- Metallic front-flush EHEDG conformal diaphragm
- High accuracy – characteristic deviation to $\leq 0,5\%$ of measuring range
- Integrated evaluation electronic: current output 4...20mA / Voltage output 0...10V / connector plug M12 / connector plug EN 175-301-803-C / -A / connection cable with integrated reference air capillary

Description

The device is an electronic pressure transmitter for monitoring, control as well as continuous measurement of pressures in gases, vapors, liquids and dusts.

Due to the device construction with Measuring ranges from -1 bar to 25 bar, gauge measuring ranges from 0 bar to 25 bar (absolute), measuring spans from 100 mbar to 25 bar, process temperatures from -20°C to $+150^{\circ}\text{C}$, environmental temperatures from -40°C to $+85^{\circ}\text{C}$, process material CrNi-steel as well as the availability of a variety of hygienic EHEDG-conformal process connections like thread ISO 228-1 with front-flush O-ring gasket, dairy coupling DIN 11851 and Varivent® the device is especially suitable for the use for food and beverage industry, pharmaceutical industry, biotechnology and sterile process engineering.

The device is suitable for demanding measuring requirements. The device with front-flush diaphragm has been specifically designed for the

measurement of viscous, paste-like, adhesive, crystallizing, particle-laden and contaminated media, which

would clog the pressure channel of conventional process connections. Through its optimized design, the front-flush process connection enables the cleanability of the wetted diaphragm to be integrated into the process. The device is particularly suitable for the special conditions of CIP/SIP cleaning processes, such as chemical stability towards cleaning liquids and high temperatures. Low-maintenance and trouble-free pressure measurement is thus also guaranteed in critical applications with frequently changing media.

The front-flush diaphragm is completely welded with the process connection and supplied with a positive seal. A reliable, dead-space free sealing between the process connection and the process adapter resp. measuring medium is thus assured. The robust design and the



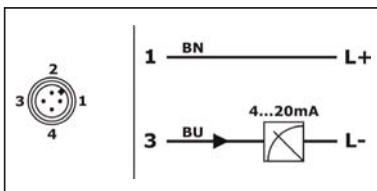
high-quality workmanship turns the device into a very high quality product, which even the most adverse environmental conditions cannot affect, whether the lowest temperatures when used outdoors, extreme shock and vibration stress or aggressive media.

A captive laser marking of the type label ensures the identifiability throughout the entire lifetime of the device. Obviously is the optional marking of a measurement point designation resp. TAG, a customer label or of a neutral type label, of course also per laser marking.

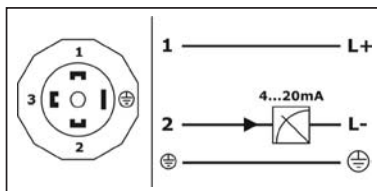
A LABS-free resp. silicone-free version, a factory calibration with calibration certificate and a customer specific configuration resp. preset is also optionally available like factory certifications for drink water resp. food suitability.

Technical data	
Power supply:	Type A – 2-wire, current 4...20mA: 10...30VDC, reverse polarity protected Type B – 3-wire, voltage 0...10V: 14...30VDC, reverse polarity protected
Supply current:	Type A – 2-wire, current 4...20mA: ≤ 30mA Type B – 3-wire, voltage 0...10V: ≤ 6mA
Measurement accuracy	
Characteristics deviation:	≤ ±0,5% FS
Long term drift:	≤ ±0,2% FS / year not cumulative
Temperature deviation:	Measuring range ≤ 250 mbar: ≤ ±0,04% FS / K (0...+80°C) / ≤ ±0,06% FS / K (-20...0°C / +80...+150°C) Measuring range ≥ 400 mbar: ≤ ±0,02% FS / K (0...+80°C) / ≤ ±0,03% FS / K (-20...0°C / +80...+150°C)
Material	
Membrane (medium contact):	Steel 1.4435/316L
Process connection (medium contact):	Steel 1.4435/316L
Terminal enclosure:	CrNi-steel
Gaskets: (medium contact)	FPM – fluorelastomere (e.g. Viton®), FDA-listed EPDM – ethylene-propylene-dienmonomere, FDA-listed
Electrical connection part:	Electrical connection type V – Plug M12: Device plug PUR Electrical connection type S/T – Plug EN 175-301-803: Device plug PA / Gasket NBR Electrical connection type K – Cable: Cable gland PA / Gasket CR / NBR / Cable sheath PE
Environmental conditions	
Ambient temperature:	– 40°C...+85°C
Process temperatures:	– 40°C...+150°C
Process pressure ranges:	– 1 bar ...25 bar (depending on type)
Protection:	Electrical connection type V – Plug M12: IP69K/IP67 (EN/IEC 60529) Electrical connection type S/T – Plug EN 175-301-803: IP65 (EN/IEC 60529) Electrical connection type K – Cable: IP69K (EN/IEC 60529) / IP68 [≤ 10 mwc] (EN/IEC 60529)
Process pressure ranges:	– 1 bar ...1000 bar (depending on type)
Protection:	Electrical connection type V – Plug M12: IP69K/IP67 (EN/IEC 60529) Electrical connection type S/T – Plug EN 175-301-803: IP65 (EN/IEC 60529) Electrical connection type K – Cable: IP69K (EN/IEC 60529) / IP68 [≤ 10 mwc] (EN/IEC 60529)

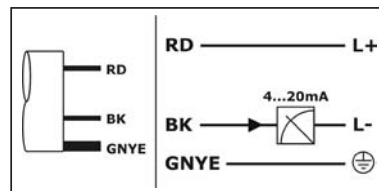
Electrical connection



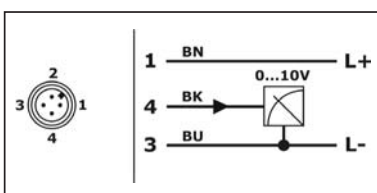
Electronic output – 2-wire, current 4...20mA
Plug M12: Conductor color standard connection cable M12 – A-coded: BN = brown, BU = blue



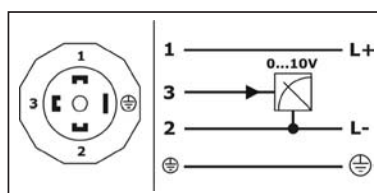
Electronic output – 2-wire, current 4...20mA
Plug EN 175-301-803



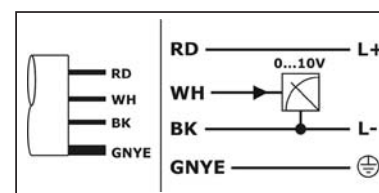
Electronic output – 2-wire, current 4...20mA
Cable
Conductor color cable: RD = red, BK = black, GNYE = greenyellow



Electronic output – 3-wire, voltage 0...10V
Plug M12
Conductor color standard connection cable M12 – A-coded: BN = brown, BU = blue, BK = black



Electronic output – 3-wire, voltage 0...10V
Plug EN 175-301-803



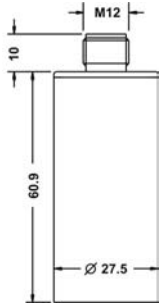
Electronic output – 3-wire, voltage 0...10V
Cable
Conductor color cable: RD = red, BK = black, WH = white, GNYE = greenyellow

Dimension drawings

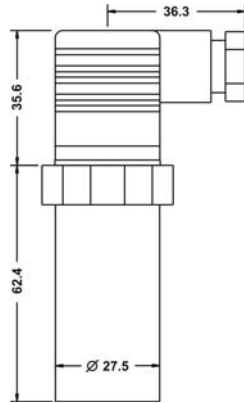


Type:
Precont® ML

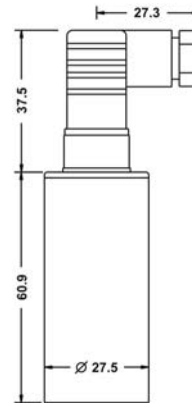
Terminal enclosure
Electrical connection type V -
Plug M12



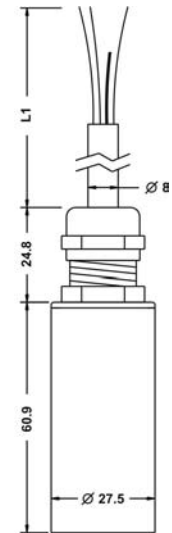
Terminal enclosure
Electrical connection type T -
Plug EN 175-301-803-A



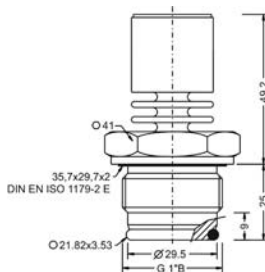
Terminal enclosure
Electrical connection type S -
Plug EN 175-301-803-C



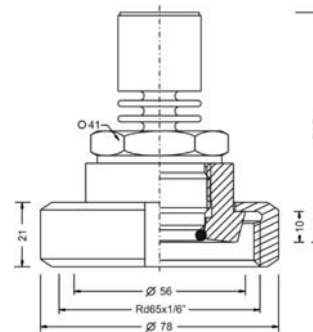
Terminal enclosure
Electrical connection type K -
Cable



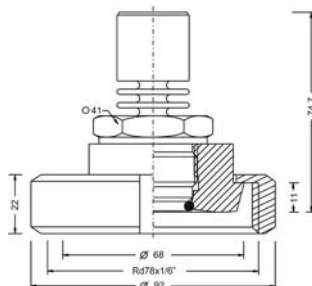
Proces connection
Type 5 – Thread ISO 228-1 –
G1" B, front-flush



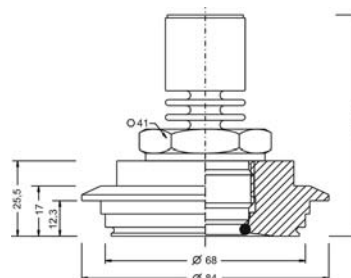
Proces connection
Type N – Dairy coupling DIN
11851 – DN40, PN25



Proces connection
Type M – Dairy coupling DIN 11851 –
DN50, PN25



Proces connection
Type P – Varivent® – Type N /
tube DN40-162 / 1 1/2"-6", PN40



<p>Type</p> <p>0 Standard</p>	<p>Measuring system – material diaphragm (process wetted) / sensor type</p> <p>ML CrNi-steel / strain gauge</p>
<p>Process connection</p> <p>5 Thread ISO 228-1 – G1”B, front-flush, O-ring gasket, EHEDG conformal, for welding socket BEFVE10</p> <p>N Dairy coupling DIN 11851 – DN40, PN25</p> <p>M Dairy coupling DIN 11851 – DN50, PN25</p> <p>P Varivent® – Type N / tube DN40-162 / 1½”-6”, PN40</p> <p>Y others</p>	<p>Material process gaskets (process wetted)</p> <p>1 FPM – fluorelastomere (e.g. Viton®), FDA-listed</p> <p>3 EPDM – ethylene-propylene-dienmonomere, FDA-listed</p> <p>Y others</p>
<p>Material process connection (process wetted)</p> <p>V CrNi-steel</p>	<p>Material terminal enclosure</p> <p>C CrNi-steel</p>
<p>Measuring range</p> <p>01 0...100 mbar</p> <p>02 0...250 mbar</p> <p>03 0...400 mbar</p> <p>04 0...600 mbar</p> <p>05 0...1 bar</p> <p>06 0...1,6 bar</p> <p>07 0...2,5 bar</p> <p>08 0...4 bar</p> <p>09 0...6 bar</p> <p>10 0...10 bar</p> <p>11 0...16 bar</p> <p>12 0...25 bar</p> <p>16 –1...0 bar</p> <p>17 –1...+1 bar</p> <p>YY Special measuring range</p>	<p>Electronic – output</p> <p>A 2-wire, current 4...20mA</p> <p>B 3-wire, voltage 0...10V</p>
<p>Process temperature</p> <p>0 Standard –40°C...+100°C</p>	<p>Pressure type</p> <p>R Gauge pressure</p> <p>A Absolute pressure (≤ 25 bar)</p>
<p>Measuring system – accuracy</p> <p>4 0,5%</p>	<p>Electrical connection</p> <p>V Plug M12x1</p> <p>S Plug EN 175-301-803-C (DIN 43650-C)</p> <p>T Plug EN 175-301-803-A (DIN 43650-A)</p> <p>K Kabel, L1 ≥ 2m</p>

Order code

Precont®	0	ML	V	C	0	4
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Equipment

Order information
 BKZ0412-VA
 LKZ0405PUR-AS
 LKZ0410PUR-AS

Model
 Matching cable socket, VA-nut
 Connection cable 5 m, 4-pole, shielded
 Connection cable 10 m, 4-pole