

Pressure transducers DMU 04 for hygienic processes



Clamp connection



High temperature version (optional)



Application

For applications requiring hygienic process connections, materials or processing, especially in food technology, pharmaceutical and biotech applications.

Description

The DMU 04 pressure transducers use piezo-resistive measuring cells and feature calibrated, amplified sensor signals which are available as standardised voltage or current outputs.

DMU 04 is available in the following versions:

- Flush diaphragm
- Various process connections
- Ex version (DMU 04Ex)
- High temperature version up to 300 °C (DMU 04HT)
- Weatherproof housing version
- Weatherproof housing version with display

Accuracy of measurement

Deviation characteristics according to IEC 60770 - limit point setting (non-linearity, hysteresis, repeatability): $< \pm 0.35 \% \text{ FSO}$ (ranges $\leq 0/400 \text{ mbar}$ $< \pm 0.5 \% \text{ FSO}$)

Measuring ranges

Relative: 0/100 mbar to 0/400 bar
Absolute: 0/600 mbar to 0/400 bar

Overpressure safety

$\leq 250 \text{ bar min. } 2 \times \text{FS}$
 $> 250 \text{ bar min. } 1.5 \times \text{FS}$
(burst pressure min. $3 \times \text{FS}$)

Operating temperature range

Medium: $-25 \text{ }^{\circ}\text{C}/+125 \text{ }^{\circ}\text{C}$
Ambient: $-25 \text{ }^{\circ}\text{C}/+85 \text{ }^{\circ}\text{C}$
Storage: $-40 \text{ }^{\circ}\text{C}/+100 \text{ }^{\circ}\text{C}$

Temperature error band

In compensated range
 $0-70 \text{ }^{\circ}\text{C} \leq 1 \% \text{ FSO}$
($\leq 0.25 \text{ bar} \leq 2 \% \text{ FSO}$)

Dynamic characteristics

Response time $< 10 \text{ ms}$

Process connections

$G1/2\text{B}$ DIN 3852 with flush diaphragm ($\geq 0/2.5 \text{ bar}$), $G1\text{B}$ DIN 3852 with flush mounting diaphragm, clamp $1''/1\frac{1}{2}''/2''$ ISO 2852, conical dairy fitting DIN 11851 DN 25/40/50 (without union nut)

Materials

Housing: stainless steel 304
Pressure-connection: stainless steel 1.4435
Diaphragm: stainless steel 1.4435

Pressure transmission liquid

Food quality oil

Output signal/supply voltage

4–20 mA DC 12–36 V
2-wire
Ex version DC 14–28 V
0–20 mA DC 14–36 V
3-wire
0–10 V DC 14–36 V
3-wire

Load

$4-20 \text{ mA} \leq \frac{U_B - U_{Bmin}}{0.02 \text{ A}}$
 $0-20 \text{ mA} \leq 500 \text{ Ohm}$
 $0-10 \text{ V} > 10 \text{ kOhm}$

Current input

$4-20 \text{ mA} < 25 \text{ mA}$
 $0-20 \text{ mA} < 25 \text{ mA}$
 $0-10 \text{ V} < 7 \text{ mA}$

Protective electrical measures

Short circuit proof and polarity protected

Electrical connection (protection)

Plug and junction box
DIN 43650-A (IP 65)

CE conformity (EMC)

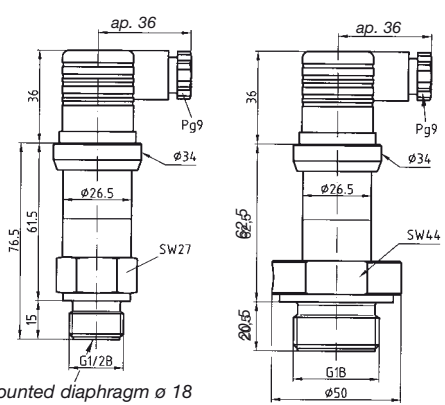
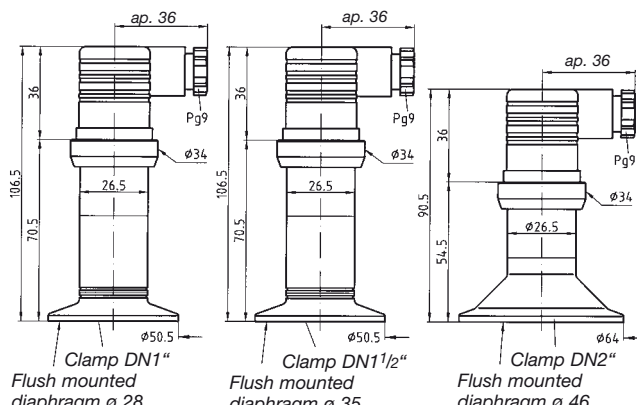
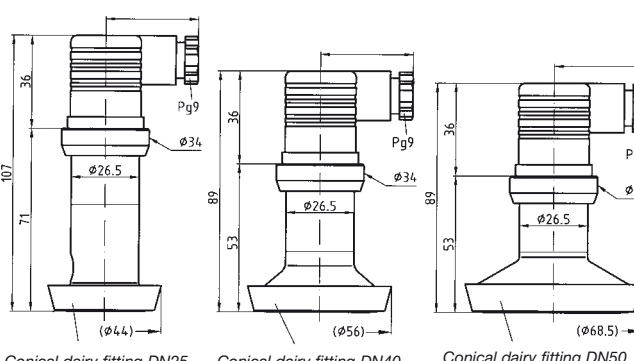
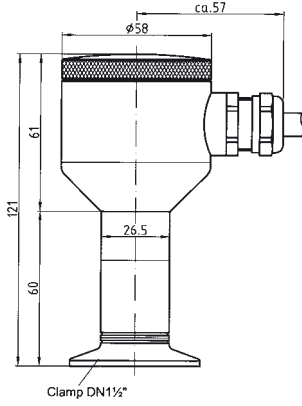

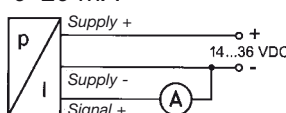
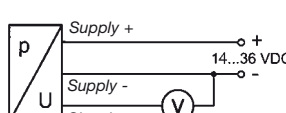
EN 61326

Options

- Ex version (II 1 G EEx ia IIC T4)
- Other process connections
- Other electrical connections
- Weatherproof housing
- Weatherproof housing with display
- High temperature version
- Higher accuracy
- Union nut DN 25/40/50

Pressure transducers DMU 04

Dimensions (in mm) and electrical connections

<p>Threaded connections with flush diaphragm</p>  <p>Flush mounted diaphragm \varnothing 18</p> <p>The Ex version is 26.5 mm longer.</p>	<p>Clamp connections ISO 2852</p>  <p>Flush mounted diaphragm \varnothing 28</p> <p>Flush mounted diaphragm \varnothing 35</p> <p>Flush mounted diaphragm \varnothing 46</p>																																								
<p>Conical dairy fitting DIN 11851</p>  <p>Conical dairy fitting DN25</p> <p>Conical dairy fitting DN40</p> <p>Conical dairy fitting DN50</p>	<p>Weatherproof housing</p>  <p>Clamp DN1½"</p>																																								
<p>Wiring diagram</p> <p>2-wire</p> <p>4–20 mA</p>  <p>3-wire</p> <p>0–20 mA</p>  <p>0–10 V</p> 	<p>Pin assignment table</p> <table><tr><th></th><th></th><th></th><th>Plug DIN 43650</th><th>Cable colours (DIN 47100)</th></tr><tr><td>2-wire system:</td><td>Supply</td><td>+</td><td>1</td><td>white</td></tr><tr><td></td><td>(4–20 mA) Supply</td><td>–</td><td>2</td><td>brown</td></tr><tr><td></td><td>Earth</td><td></td><td>Earth pin</td><td>Screen</td></tr><tr><td>3-wire system:</td><td>Supply</td><td>+</td><td>1</td><td>white</td></tr><tr><td></td><td>(0–10 V, Supply</td><td>–</td><td>2</td><td>brown</td></tr><tr><td></td><td>0–20 mA) Signal</td><td>+</td><td>3</td><td>green</td></tr><tr><td></td><td>Earth</td><td></td><td>Earth pin</td><td>Screen</td></tr></table>				Plug DIN 43650	Cable colours (DIN 47100)	2-wire system:	Supply	+	1	white		(4–20 mA) Supply	–	2	brown		Earth		Earth pin	Screen	3-wire system:	Supply	+	1	white		(0–10 V, Supply	–	2	brown		0–20 mA) Signal	+	3	green		Earth		Earth pin	Screen
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The units are supplied with a detailed wiring diagram