

Pressure transducers DMU 03

Industrial version



Flush mounted diaphragm



Weatherproof housing version (optional)



Application

For electronic pressure measurement in machine and plant construction applications as well as in chemical and process technology applications. With flush mounted diaphragm, the units are suitable for use with sticky, highly viscous or crystallising media.

Description

The DMU 03 pressure transducers use piezo-resistive stainless steel measuring cells and feature calibrated, amplified sensor signals which are available as standardised voltage or current outputs.

DMU 03 is available in the following versions:

- Threaded connection
- Flush mounted diaphragm
- Ex version (DMU 03Ex)
- Weatherproof housing version
- Weatherproof housing version with display

Accuracy of measurement

Deviation characteristic according to IEC 60770 - limit point setting (non-linearity, hysteresis, repeatability): $< \pm 0.35 \% \text{ FSO}$
(measuring ranges 0/40 mbar to 0/400 mbar $< \pm 0.5 \% \text{ FSO}$)

Long-term stability

$\leq \pm 0.1 \% \text{ FSO/year}$

Measuring ranges

Relative: 0/40 mbar to 0/600 bar
Absolute: 0/100 mbar to 0/600 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: $-25^\circ\text{C}/+125^\circ\text{C}$
Ambient: $-25^\circ\text{C}/+85^\circ\text{C}$
Storage: $-40^\circ\text{C}/+100^\circ\text{C}$

Temperature error band

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

Dynamic characteristics

Response time $< 10 \text{ ms}$

Process connection

$G\frac{1}{2}B$ (EN 837-1/7.3) or
 $G\frac{1}{2}B$ DIN 3852 with flush mounted diaphragm (0/100 mbar to 0/40 bar)

Materials

Housing: stainless steel 1.4301
Pressure-connection: stainless steel 1.4571
Diaphragm: stainless steel 1.4435
Seal: FKM (Viton), NBR for 60 bar and above

Pressure transmission liquid

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

Current input

4–20 mA	$< 25 \text{ mA}$
0–20 mA	$< 25 \text{ mA}$
0–10 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)

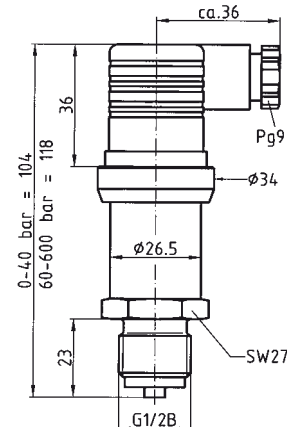
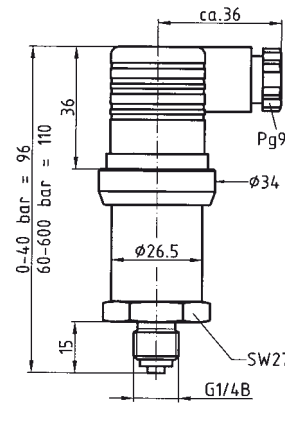
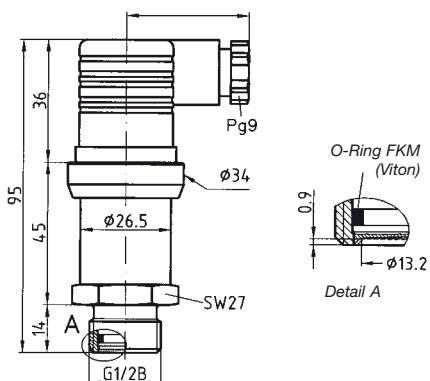
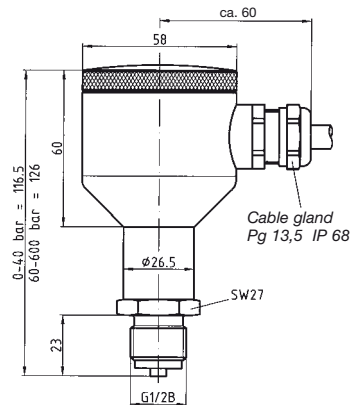
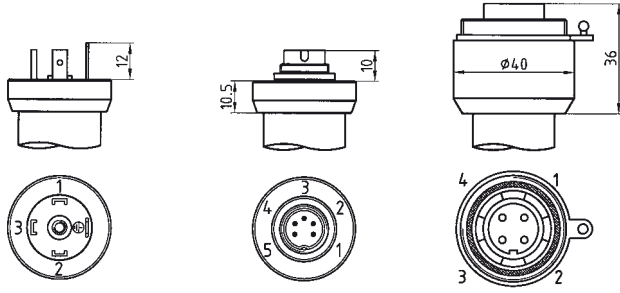
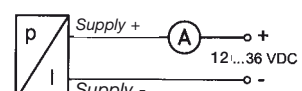
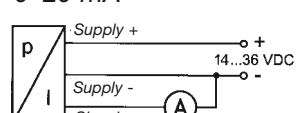
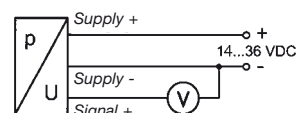
EN 61326

Options

- Ex version (II 1 G EEx ia IIC T4)
- Other process connections
- Other electrical connections
- Weatherproof housing (stainless steel 1.4305)
- Weatherproof housing with display
- Other seal materials
- Higher accuracy
- Greater overpressure safety
- Diaphragm seal mounting

Pressure transducers DMU 03

Dimensions (in mm) and electrical connections

<p>Connection G1/2B EN 837</p>  <p>Connection G1/4B EN 837</p>  <p>The Ex version is 20 mm longer.</p>	<p>Connection G1/2B DIN 3852 with flush mounted diaphragm</p>  <p>The Ex version is 20 mm longer.</p>																																			
<p>Weatherproof housing</p>  <p>The Ex version is 26.5 mm longer.</p>	<p>Electrical connections</p> <p>DIN 43650 „Binder“ plug 723 „Buccaneer“ plug</p> 																																			
<p>Wiring diagram</p> <p>2-wire 4–20 mA</p>  <p>3-wire 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 rowspan="3">2-wire system:</td><td>Supply</td><td>+</td><td>1</td><td>white</td></tr><tr><td>(4-20 mA) Supply</td><td>-</td><td>2</td><td>brown</td></tr><tr><td>Earth</td><td></td><td>Earth pin</td><td>Screen</td></tr><tr><td rowspan="4">3-wire system:</td><td>Supply</td><td>+</td><td>1</td><td>white</td></tr><tr><td>(0-10 V, Supply</td><td>-</td><td>2</td><td>brown</td></tr><tr><td>0-20 mA) Signal</td><td>+</td><td>3</td><td>green</td></tr><tr><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
			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																																

The units are supplied with a detailed wiring diagram.