

# Pressure transducers DMU 01

## Standard version



Flush mounted diaphragm



DMU 01 with DA 06 plug-in local display



### Application

For electronic pressure measurement in industrial applications (such as hydraulic and pneumatic applications as well as machine and plant construction).

### Description

The DMU 01 pressure transducers use proven ceramic measurement cell technology and feature calibrated, amplified sensor signals which are available as standardised voltage or current outputs.

### DMU 01 features:

- High temperature resistance
- No mechanical ageing
- No transmission liquid

### Accuracy of measurement

Deviation characteristics according to IEC 60770 – limit point setting (non-linearity, hysteresis, repeatability):  $< \pm 0,5 \% \text{ FSO}$   
(meas. ranges  $-1/0 \text{ bar} < \pm 1 \% \text{ FSO}$ )

### Measuring ranges

Relative pressure:  $-1/0$  to  $0/400 \text{ bar}$   
Absolute pressure:  $0/1$  to  $0/400 \text{ bar}$

### 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:  $-40 \text{ }^\circ\text{C}/ +85 \text{ }^\circ\text{C}$

### Temperature error band

In compensated range  
 $-25/+85 \text{ }^\circ\text{C} \leq \pm 0.3 \% \text{ FSO}/10 \text{ K}$

### Dynamic characteristics

Response time  
2-wire  $< 10 \text{ ms}$   
3-wire  $< 3 \text{ ms}$

### Process connection

$G^{1/2}B$  (EN 837-1/7.3) or  
 $G^{1/2}B$  DIN 3852 with flush mounted diaphragm (up to  $0/25 \text{ bar max.}$ )

### Materials

Housing: stainless steel 1.4301  
Pressure-connection: stainless steel 1.4571  
Diaphragm: ceramic  $\text{Al}_2\text{O}_3$  96 %  
Seal: FKM (Viton)

### Output signal/supply voltage

4–20 mA DC 8–36 V  
2-wire  
0–10 V DC 14–30 V  
3-wire

### Load

4–20 mA  $\leq \frac{U_B - U_{Bmin}}{0,02 \text{ A}}$   
0–10 V  $> 10 \text{ kOhm}$

### Current input

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

### Protective electrical measures

Short circuit proof and polarity protected

### Electrical connection (protection)

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

### CE conformity (EMC)

EMC directive 2004 / 108 / EG

### Options

- Other connection threads
- Fixed cable connection
- Other plug-in connectors
- Fitting of diaphragm seals (measuring range  $\geq 0/10 \text{ bar}$ )

# Pressure transducers DMU 01

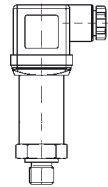
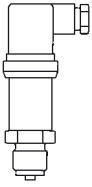
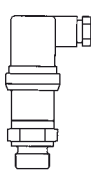
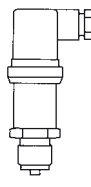
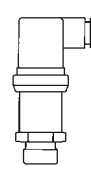
## Dimensions (in mm) and electrical connections

<p>Connection G1/2B EN 837</p>	<p>Connection G1/4B EN 837</p>	<p>Connection G1/2B DIN 3852 with flush mounted diaphragm</p>																			
<p>With diaphragm seal MD 80 – flange connection EN 1092-1</p>	<p>With diaphragm seal MD 30 – connection G1/2B</p>																				
<p>Wiring diagrams</p> <p>2-wire</p> <p>4–20 mA</p> <p>3-wire</p> <p>0–10 V</p>	<p>Pin assignment table</p> <table border="1"> <thead> <tr> <th></th> <th>Plug DIN 43650</th> <th>Cable colours (DIN 47100)</th> </tr> </thead> <tbody> <tr> <td rowspan="3">2-wire system: (4–20 mA)</td> <td>Supply +</td> <td>1 white</td> </tr> <tr> <td>Supply -</td> <td>2 brown</td> </tr> <tr> <td>Earth</td> <td>Earth pin Screen</td> </tr> <tr> <td rowspan="3">3-wire system: (0–10 V)</td> <td>Supply +</td> <td>1 white</td> </tr> <tr> <td>Supply -</td> <td>2 brown</td> </tr> <tr> <td>Signal +</td> <td>3 green</td> </tr> <tr> <td>Earth</td> <td>Earth pin Screen</td> <td></td> </tr> </tbody> </table>		Plug DIN 43650	Cable colours (DIN 47100)	2-wire system: (4–20 mA)	Supply +	1 white	Supply -	2 brown	Earth	Earth pin Screen	3-wire system: (0–10 V)	Supply +	1 white	Supply -	2 brown	Signal +	3 green	Earth	Earth pin Screen	
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The units are shipped with a detailed wiring diagram.

# Pressure transducers

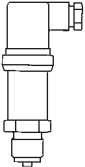
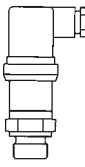
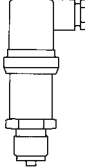
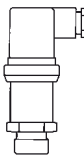
DG: H

Type	DMU 01 K*	DMU 01	DMU 01 VM	DMU 03	DMU 03 VM
Version					
Measuring principle	Piezo-resistive ceramic measuring cell			Piezo-resistive stainless steel meas. cell	
Accuracy (IEC 60770)	1 % FSO (≥ 100 bar 2 % FSO)	0.5 % FSO (-1/0 bar 1 % FSO)	0.5 % FSO	0.35 % FSO (≤ 0.4 bar 0.5 % FSO)	0.35 % FSO (≤ 0.4 bar 0.5 % FSO)
Wetted parts	Ceramic/stainless steel 1.4571			Stainless steel 1.4571/1.4435	
Connection	G <sup>1</sup> / <sub>4</sub> B DIN 3852	G <sup>1</sup> / <sub>2</sub> B EN 837	G <sup>1</sup> / <sub>2</sub> B DIN 3852 <i>with flush mounted diaphragm</i>	G <sup>1</sup> / <sub>2</sub> B EN 837	G <sup>1</sup> / <sub>2</sub> B <i>with flush mounted diaphragm</i>
Supply voltage	DC 8–36 V	DC 8–36 V	DC 8–36 V	DC 12–36 V	DC 12–36 V
Output	4–20 mA	4–20 mA	4–20 mA	4–20 mA	4–20 mA
System	2-wire	2-wire	2-wire	2-wire	2-wire
Electrical Connection	Plug DIN 43650-A	Plug DIN 43650-A	Plug DIN 43650-A	Plug DIN 43650-A	Plug DIN 43650-A
Measuring range	Part no.	Part no.	Part no.	Part no.	Part no.
<b>Price €</b>					
-1/0 bar	---	<b>31114</b>	31619	31634	---
-1/+1,5 bar	31608	31616	31620	31635	---
-1/+3 bar	31609	31617	31621	31636	---
-1/+5 bar	31610	31618	31622	31637	---
<b>Price €</b>					
0/40 mbar	---	---	---	32024	---
0/60 mbar	---	---	---	32025	---
0/100 mbar	---	---	---	31638	31643
0/160 mbar	---	---	---	31639	31644
0/250 mbar	---	---	---	31145	31165
0/400 mbar	---	---	---	31146	31166
0/600 mbar	---	---	---	31147	31167
<b>Price €</b>					
0/1 bar	---	<b>31115</b>	31623	31148	31168
0/1.6 bar	31511	31116	31624	31149	31169
0/2.5 bar	31512	<b>31117</b>	31625	31150	31170
0/4 bar	31513	<b>31118</b>	31626	31151	31171
0/6 bar	31514	<b>31119</b>	31627	31152	31172
0/10 bar	31515	<b>31120</b>	31628	31153	31173
0/16 bar	31516	<b>31121</b>	31629	31154	31174
0/25 bar	31517	<b>31122</b>	31630	31155	31175
0/40 bar	31518	31123	---	31156	32026
0/60 bar	31611	31124	---	31157	---
0/100 bar	31612	31125	---	31158	---
<b>Price €</b>					
0/160 bar	---	<b>31126</b>	---	31159	---
0/250 bar	---	<b>31127</b>	---	31160	---
0/400 bar	---	<b>31128</b>	---	31161	---
0/600 bar	---	---	---	31162	---

\* Delivery only in packing units of 10 pieces per measuring range

# Additional costs for pressure transducers

RK: H

Type	DMU 01	DMU 01 VM	DMU 03	DMU 03 VM	
Version					
	<b>Price €</b>	<b>Price €</b>	<b>Price €</b>	<b>Price €</b>	
Ex protection II 1 G EEx ia IIC T4	---	---			
Connection G1/4 DIN 3852	---	---		---	
Connection G1/2 DIN 3852	---	<b>standard</b>	<b>no add. cost</b>	<b>standard</b>	
Connection G1/4B EN 837		---		---	
Connection 1/4 NPT		---		---	
Connection 1/2 NPT		---		---	
Other connections	<b>on request</b>	<b>on request</b>	<b>on request</b>	<b>on request</b>	
Suitable for oxygen			---	---	
Weatherpr. housing (stainl. steel 1.4305)	---	---			
Weatherproof housing with display (as DA 06)	---	---			
„Binder“ plug 723	---	---			
Fixed cable connection 2 metres					
Cable extension per metre					
Output 0–20 mA, 3 wires	---	---			
Output 0–10 V, 3 wires					
Other output signals	<b>on request</b>	<b>on request</b>	<b>on request</b>	<b>on request</b>	
Absolute pressure (measuring ranges according to data sheet)					
Accuracy of measurement 0.25 % FSO	---	---			
Calibration certificate (for accuracy of measurement 0.25 % FSO)	---	---			
Fitting of diaphragm seal	for measuring range 0/10 bar		All measuring ranges, minimum range depends on design of diaphragm seal		

Refer to chapter 14 for digital display units and signal processing

