

# 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):  $< \pm 0,5 \% \text{ FSO}$

### Measuring ranges

Relative pressure:  $-1/0$  to  $0/400$  bar  
Absolute pressure:  $0/1$  to  $0/400$  bar

### Overpressure safety

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

### Operating temperature range

Medium:  $-25$  °C/ $+125$  °C  
Ambient:  $-25$  °C/  $+85$  °C  
Storage:  $-40$  °C/ $+100$  °C

### Temperature error band

In compensated range  
 $\leq \pm 0.3 \% \text{ FSO}/10 \text{ K}$

### Dynamic characteristics

Response time  $< 10 \text{ ms}$

### Process connection

$G1/2B$  (EN 837-1/7.3) or  
 $G1/2B$  DIN 3852 with flush mounted diaphragm (up to  $0/25$  bar max.)

### Materials

Housing: stainless steel 1.4305  
Pressure-connection: stainless steel 1.4305  
Diaphragm: ceramic  $\text{Al}_2\text{O}_3$  96 %  
Seal: FKM (Viton), NBR for 100 bar and above

### Output signal/supply voltage

4-20 mA DC 12-36 V  
2-wire  
0-10 V DC 14-36 V  
3-wire

### Load

4-20 mA  $\leq \frac{U_B (V) - 12 \text{ V}}{0.02 \text{ A}}$  [Ohm]  
0-10 V  $> 10 \text{ kOhm}$

### Current input

4-20 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

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

# Pressure transducers DMU 01

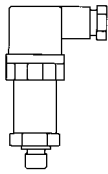
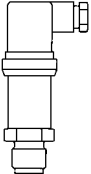
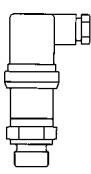
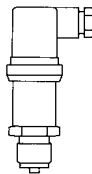
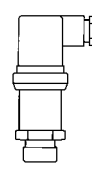
## Dimensions (in mm) and electrical connections

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

# Pressure transducers

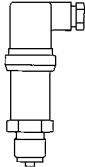
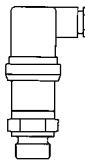
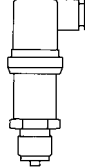
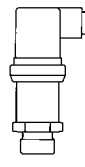
DG: H

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	0.5 % 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 1.4305			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 with flush mounted diaphragm	G <sup>1</sup> / <sub>2</sub> B EN 837	G <sup>1</sup> / <sub>2</sub> B with flush mounted diaphragm
Supply voltage	DC 12-36 V	DC 12-36 V	DC 12-36 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

DG: 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 G <sup>1</sup> / <sub>4</sub> DIN 3852	---	---		---	
Connection G <sup>1</sup> / <sub>2</sub> DIN 3852	---	<b>standard</b>	<b>no add. cost</b>	<b>standard</b>	
Connection G <sup>1</sup> / <sub>4</sub> B EN 837		---		---	
Connection <sup>1</sup> / <sub>4</sub> NPT		---		---	
Connection <sup>1</sup> / <sub>2</sub> 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.**

