

Pressure transducers DeltaFox® DMU 11 D

Version for differential pressure measurement



- Compact design
- High overload safety
- Mechanically robust and reliable, suitable for applications involving dynamic pressure changes as well as shock and vibration



Application For electronic differential pressure measurement in industrial applications. For corrosive gaseous and liquid media which are not highly viscous and do not crystallise.

Description The DeltaFox® DMU 11 D pressure transducers feature two oil-immersed piezo-resistive stainless steel measuring cells. When pressure is applied, the pressure difference between the positive side and the negative side is converted into a current or voltage signal which is proportional to the differential pressure.

Technical specifications

Measuring accuracy

Deviation from the characteristic curve according to IEC 60770 – limit point calibration (non-linearity, hysteresis, repeatability): $< \pm 0.5\%$ FSO

Measuring ranges/overload safety

Nominal pressure (bar)	Differential pressure measuring range (bar)	Max. static pressure at one end (bar)
0.2	0/0.02 to 0/0.2	0.5
0.4	0/0.04 to 0/0.4	1
1.0	0/0.1 to 0/1.0	3
2.5	0/0.25 to 0/2.5	6
6.0	0/0.6 to 0/6.0	20
16	0/1.6 to 0/16	60

Operating temperature range

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

Temperature error band

In compensated range
 $0-70\text{ }^{\circ}\text{C} \leq 1.5\%$ FSO
 at nominal pressure $0.4\text{ bar} \leq 2\%$ FSO&10 K

Dynamic characteristics

Response time $< 5\text{ ms}$

Process connection

$2 \times G\frac{1}{2}B$ (837-1/7.3)

Options

- Other process connections
- Other electrical connections
- Other seal materials
- Other output signals
- Fitting of chemical seal



See page 557 for prices.

Materials

Housing: Aluminium, black, anodised
 Pressure connection: Stainless steel 316 Ti
 Diaphragm: Stainless steel 316 Ti
 Seal: FKM (Viton)

Output signal/ supply voltage

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

Load

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

Current input

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

Electrical protection

Short circuit proof and protected against reverse polarity

Electrical connection/degree of protection

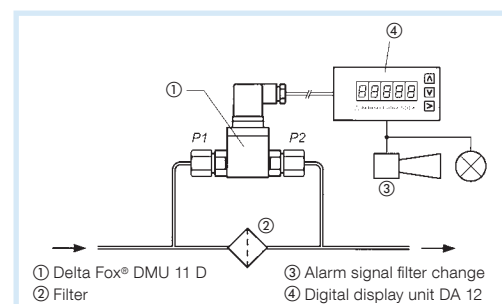
Connector and junction box as per ISO 4400 (DIN 43650-A), IP 65

CE conformity (EMC)

EMC Directive 2004/108/EC

Scope of delivery

Pressure measuring instrument with mounting bracket



Pressure transducers DeltaFox® DMU 11 D

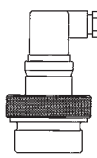
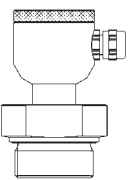

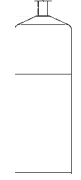
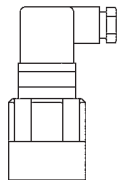
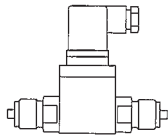
Dimensions (mm) and electrical connections

<p>Connection 2 x G$\frac{1}{2}$B (EN 837)</p> <p>① Connector</p>	<p>Connection 2 x G$\frac{1}{2}$B (EN 837)</p> <p>① Screw</p>																
<p>Connection 2 x 7/16 UNF</p> <p>① Connector</p>	<p>Connection 2 x G$\frac{1}{4}$ female thread</p> <p>① Connector ② Pressure connection (female thread)</p>																
<p>Wiring diagram</p> <p>2-wire 4–20 mA</p>	<p>Pin assignment table</p> <table border="1"> <thead> <tr> <th>Pin assignment</th> <th>ISO 4400 (DIN 43650)</th> </tr> </thead> <tbody> <tr> <td>2-wire system: Supply + (4–20 mA)</td> <td>1</td> </tr> <tr> <td>Supply –</td> <td>2</td> </tr> <tr> <td>Earth</td> <td>Earth pin</td> </tr> <tr> <td>3-wire system: Supply +</td> <td>1</td> </tr> <tr> <td>Supply –</td> <td>2</td> </tr> <tr> <td>(0...10 V) Signal +</td> <td>3</td> </tr> <tr> <td>Earth</td> <td>Earth pin</td> </tr> </tbody> </table>	Pin assignment	ISO 4400 (DIN 43650)	2-wire system: Supply + (4–20 mA)	1	Supply –	2	Earth	Earth pin	3-wire system: Supply +	1	Supply –	2	(0...10 V) Signal +	3	Earth	Earth pin
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The units are shipped with a detailed connection diagram.

Pressure transducers DMU 07 – DMU 11 D

DG: H

Type	DMU 07	DMU 07 FG	DMU 08	DMU 09	DMU 10 D	DMU 11 D*
Version						
Measuring principle	Capacitance ceramic measuring cell		Piezo-resistive stainless steel measuring cell	Piezo-resistive ceramic measuring cell	Piezo-resistive silicon measuring cell	Piezo-resistive stainless steel measuring cell
Measuring accuracy (IEC 60770)	0.35 % FSO	0.35 % FSO	0.35 % FSO (≤ 0.4 bar 0.5 % FSO)	0.35 % FSO	> 160 mbar = 0.35 % FSO 40–160 mbar = 1 % FSO < 40 mbar = 2 % FSO	0.5 % FSO (with ref. to nominal pressure)
Wetted parts	Ceramic/FKM Stainless steel 316 L	Ceramic/FKM Stainless steel 316 L	Stainless steel/ FKM 316 L	PP/ceramic/FKM	Aluminium/silicon/glass RTV/ceramic, nickel/PUR (glued)	Stainless steel/ FKM 316 Ti
Connection	G1½B with flush diaphragm	G1½B with flush diaphragm	---	---	2 x G1/8B female thread	2 x G1/2B EN 837
Supply voltage	DC 9–36 V	DC 9–36 V	DC 8–32 V	DC 9–32 V	DC 8–32 V	DC 12–36 V
Output	4–20 mA	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	2-wire
Electrical connection	Connector ISO 4400 (43650-A)	Field housing M12 x 1.5	5 m PUR cable	5 m FEP cable	Connector ISO 4400 (43650-A)	
Measuring range	Part no.	Part no.	Part no.	Part no.	Part no.	Part no.
Price €						
0/6 mbar	---	---	---	---	31861	---
0/10 mbar	---	---	---	---	31862	---
0/25 mbar	---	---	---	---	31863	---
0/40 mbar	31789	31821	---	31767	31864	31830
0/60 mbar	31790	31805	---	31768	31865	31831
0/100 mbar	31791	31547	31555	31571	31866	31813
0/160 mbar	31792	31806	31556	31572	31867	31814
0/200 mbar	31793	31548	31557	31573	---	---
0/250 mbar	31794	31807	31558	31574	31868	31815
0/300 mbar	---	---	31519	31812	---	---
0/400 mbar	31795	31549	31559	31575	31869	31832
0/600 mbar	31796	31808	31560	31576	31870	31833
0/1 bar	31797	31550	31561	31577	31871	31816
0/1.6 bar	31798	31809	31562	31578	---	31834
0/2 bar	31799	31551	31563	31579	---	---
0/2.5 bar	---	---	31564	31580	---	31817
0/4 bar	31800	31552	31565	31581	---	31835
0/6 bar	31801	31810	31566	31582	---	31818
0/10 bar	31802	31553	31567	31583	---	31836
0/16 bar	---	---	31568	---	---	31837
0/20 bar	---	---	31569	---	---	---
0/25 bar	---	---	31570	---	---	---

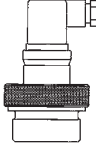
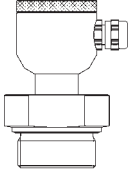


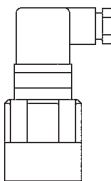
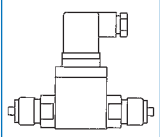
* Please specify required nominal pressure/maximum static pressure when ordering.



See page 558 for extra charges for and accessories.

Extra charges/accessories for DMU 07 – DMU 11 D

DG: H

Type	DMU 07	DMU 07 FG	DMU 08	DMU 09	DMU 10 D	DMU 11 D
Version						
	Price €	Price €	Price €	Price €	Price €	Price €
EX protection II 1 G EEx ia IIC T4				---	---	---
2 x G $\frac{1}{4}$ female thread	---	---	---	---	---	
2 x hose connection 6 mm	---	---	---	---		On request
2 x $\frac{7}{16}$ UNF	---	---	---	---	---	
Other connections	On request	On request	---	---	On request	On request
Cable connection per metre PUR cable	---	---		---	---	---
Cable connection per metre FEP cable	---	---			---	---
Binder connector		---	---	---	---	---
Fixed cable connection 2 metres		---	---	---		---
Cable extension per metre		---	---	---		---
Output 0–20 mA, 3-wire	---	---		---	---	---
Output 0–10 V, 3-wire						
Other output signals	On request	On request	On request	On request	On request	On request
Measuring accuracy 0.25 % FSO			---	---	---	---
5-point calibration report (for measuring accuracy up to 0.25 % FSO)			---	---	---	---
SIL 2 (4–20 mA only)	---	---		---	---	---

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Accessories for DMU 08/ DMU 09

DG: H	Part no.	Price €
Screw connector kit G2" – 1½" – 1"	52125	
Screw connector kit stainless steel G1"	31822	
Junction box with pressure relief port (IP 65)	31824	
Anchor clamp	31825	

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See chapter 16 for digital display units and signal processing.

