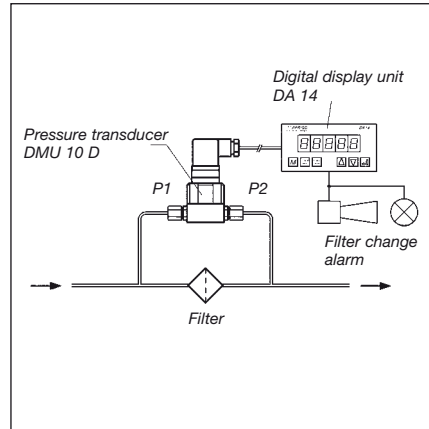


Pressure transducers DMU 10 D

Differential pressure version



Application

For electronic differential pressure measurements at very low differential pressure. For non-corrosive gaseous media. Particularly suitable for monitoring filters and fans in air moving and air conditioning equipment.

Description

The DMU 10 D pressure transducers feature piezo-resistive silicon 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.

DMU 10 features:

- Robust aluminium housing
- Compact design
- Long service life
- Excellent long-term stability
- High overpressure safety
- Plug-in display DA 06 for local indication on site and switching output (optional)

Accuracy of measurement

Deviation characteristics according to IEC 60770 – limit point setting (non-linearity, hysteresis, repeatability):

> 0/160 mbar: $\leq \pm 0.35\%$ FSO
 0/40–0/160 mbar: $\leq \pm 1\%$ FSO
 < 0/40 mbar: $\leq \pm 2\%$ FSO

Long-term stability

$\leq \pm 0.2\%$ FSO/year

Measuring ranges/overpressure safety

Differential pressure range	Max. static pressure
0/6 mbar bis 0/10 mbar	100 mbar
0/25 mbar	200 mbar
0/40 mbar bis 0/60 mbar	350 mbar
0/100 mbar bis 0/400 mbar	1000 mbar
0/600 mbar bis 0/1000 mbar	3000 mbar

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

Differential pressure range	In compensated range 0/60 °C
$\leq 0/10\text{ mbar}$	$\leq \pm 2\%$ FSO
$\leq 0/25\text{ mbar}$	$\leq \pm 1,5\%$ FSO
$\leq 0/250\text{ mbar}$	$\leq \pm 1\%$ FSO
$> 0/250\text{ mbar}$	$\leq \pm 0,5\%$ FSO

Dynamic characteristics

Response time < 5 ms

Process connection

2 x G1/8 female thread

Materials

Housing: aluminium
 Process-connection: aluminium
 Sensor: silicon, glass, RTV, ceramic, Al₂O₃, nickel
 Seal: PUR glued

Output signal/supply voltage

4–20 mA DC 12–36 V
 2-wire
 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 = 500 Ohm
 0–10 V = 10 kOhm

Current input

0/4–20 mA max. 25 mA
 0–10 V max. 7 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

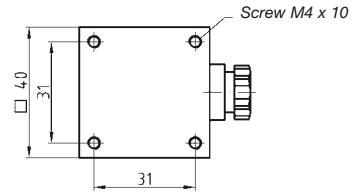
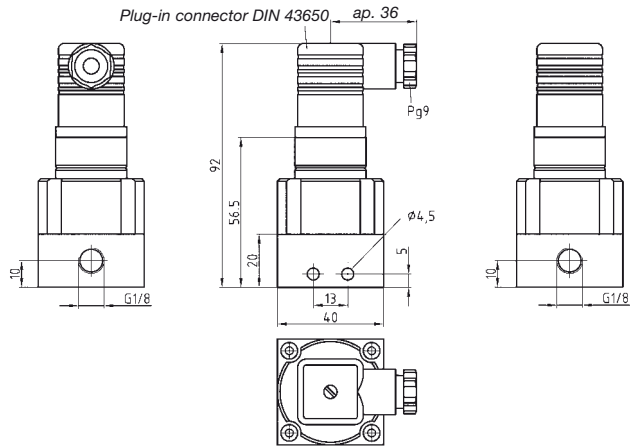
Options

- Other process connections
- Other electrical connections
- Digital plug-in display DA 06

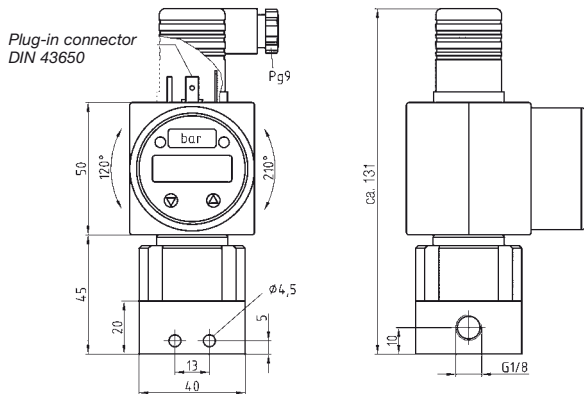
Pressure transducers DMU 10 D

Dimensions (in mm) and electrical connections

Connection 2 x G1/8 female thread



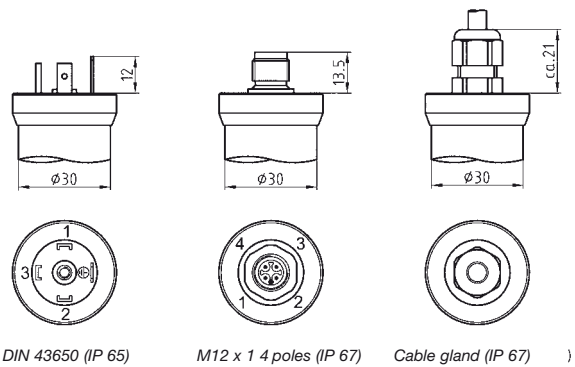
DMU 10 D with plug-in display DA 06



Electrical connections

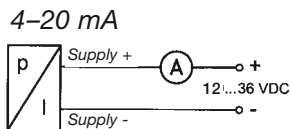
Standard

Optional

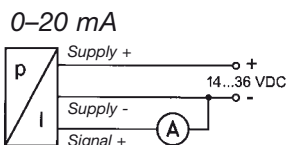


Wiring diagram

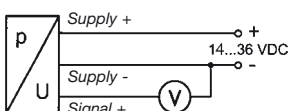
2-wire



3-wire



0-10 V



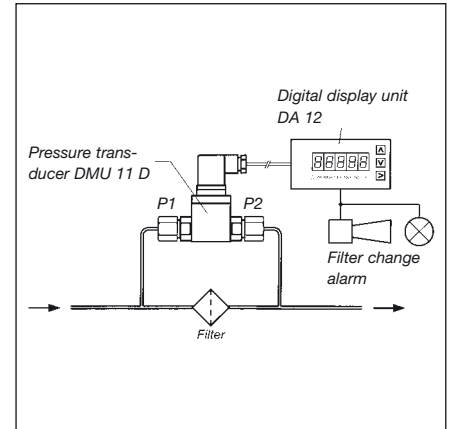
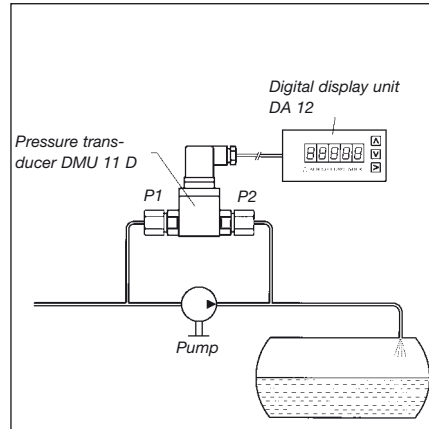
Pin assignment table

Assignment	DIN 43650
2-wire system: Supply +	1
(4-20 mA) Supply -	2
Earth	Earth contact

The units are supplied with a detailed wiring diagram.

Pressure transducers DMU 11 D

Differential pressure version



Application

For electronic differential pressure measurement in industrial applications. For aggressive gaseous and liquid media, which are not highly viscous and do not crystallize.

Description

The DMU 11 D pressure transducers feature two 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 signal, which is proportional to the differential pressure.

Features:

- High overload safety
- Compact design
- Overvoltage protection
- Mechanically robust and reliable, suitable for use in applications where vibration or shocks occur

Accuracy of measurement

Deviation characteristics according to IEC 60770 - limit point setting (non-linearity, hysteresis, repeatability): < +0.5 % FSO

Measuring ranges/overload safety

Nominal pressure (bar)	Diff. pressure range (bar)	Max. static pressure on one side (bar)
0.4	0/0.04 up to 0/0.4	1
1.0	0/0.1 up to 0/1.0	3
2.5	0/0.25 up to 0/2.5	6
6.0	0/0.6 up to 0/6.0	20
16	0/1.6 up to 0/16	60

Operating temperature range

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

Temperature error band

In compensated range
0–70 °C ≤ 1.5 % FSO
Nominal pressure 0.4 bar ≤ 2 % FSO

Dynamic characteristics

Response time < 5 ms

Process connection

2 x G¹/₂B (EN 837-1/7.3)

Materials

Housing: aluminium
Pressure-connection: stainless steel 1.4571
Diaphragm: stainless steel 1.4435
Seal: FKM (Viton)

Output signal/supply voltage

4–20 mA DC 12–36 V
2-wire

Load

4–20 mA ≤ $\frac{U_B - U_{Bmin}}{0,02 A}$

Current input

4–20 mA < 25 mA

Protective electrical measures

Short circuit proof and polarity protected

Electrical connections (protection)

Plug and DIN 43650-A (IP 65)

CE conformity (EMC)

EN 61326

Accessories

- Fixing bracket (included)

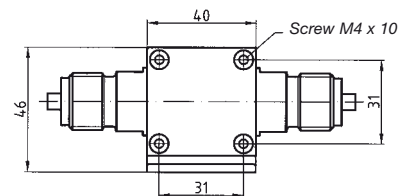
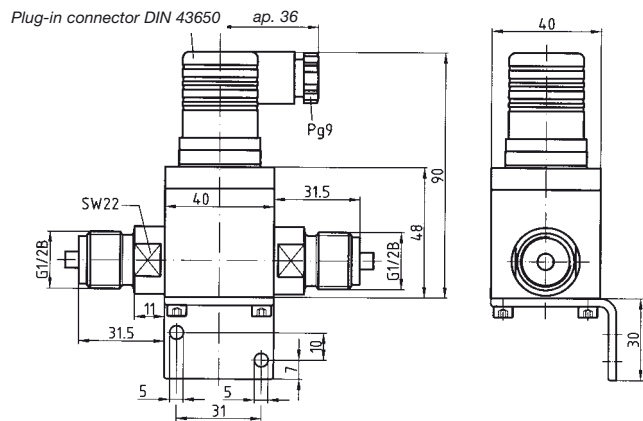
Options

- Other process connections
- Other electrical connections
- Other seal materials
- Fitting of diaphragm seal

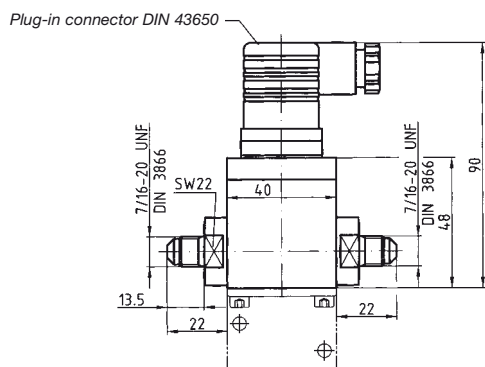
Pressure transducers DMU 11 D

Dimensions (in mm) and electrical connections

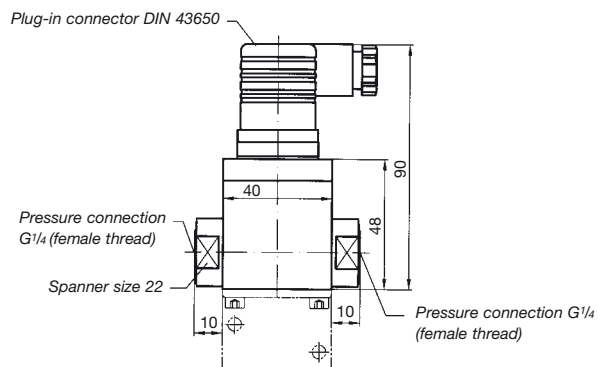
Connection 2 x G¹/₂B EN 837



Connection 2 x 7/16 UNF

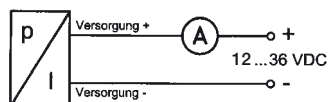


Connection 2 x G¹/₄ female thread



Wiring diagram

2-wire 4-20 mA

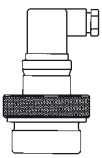
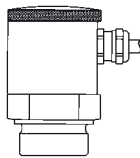


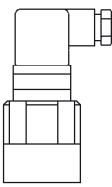
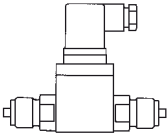


Pin assignment table

Assignment	DIN 43650
2-wire system: Supply +	1
(4-20 mA) Supply -	2
Earth	Earth contact

Pressure transducers

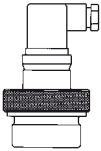
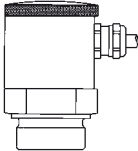


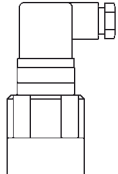
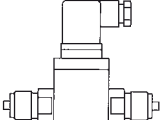
DG: H

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 stainl. steel measuring cell	Capacitance ceramic measuring cell	Piezo-resistive silicon measuring cell	Piezo-resistive stainl. steel measuring cell
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 nom. pressure)
Wetted parts	Ceramic/stainless steel 1.4571	Ceramic/stainless steel 1.4571	Stainless steel 1.4571/1.4404	PVC/ceramic	Alu/silicon/glass RTV/ceramic, nickel/PUR (glued)	Stainless steel 1.4571/1.4435
Connection	G1½B with flush mounted diaphragm	G1½B with flush mounted diaphragm			2 x G1/8 female thread	2 x G1½B EN 837
Supply voltage	DC 9–36 V	DC 9–36 V	DC 12–36 V	DC 9–36 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	4–20 mA
System	2-wire	2-wire	2-wire	2-wire	2-wire	2-wire
Electrical connection	plug DIN 43650-A	Weatherpr. housing PG 13.5	5 m PUR cable	5 m FEP cable	plug DIN 43650-A	plug DIN 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	---	---	---
0/40 bar	---	---	31766	---	---	---

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

Additional costs for pressure transducers accessories

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 G1/4 female thread	---	---	---	---	---	on request
2 x capillary connection 6 mm	---	---	---	---	---	on request
2 x 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	---	---	---	---	---	---
Extension for weight	---	---	on request	---	---	---
Weatherproof housing with display (DA 06)	---	---	---	---	---	---
„Binder“ plug	---	---	---	---	---	---
Fixed cable connection 2 metres	---	---	---	---	---	---
Cable extension per metre	---	---	---	---	---	---
Output 0–20 mA, 3 wires	---	---	---	---	---	---
Output 0–10 V, 3 wires	on request	on request	---	---	---	---
Other output signals	on request	on request	on request	on request	on request	on request
Absolute pressure	---	---	---	---	---	---
Accuracy of measurement 0.25 % FSO	---	---	---	---	---	---
Calibration certificate (for accuracy of measurement 0.25 % FSO)	---	---	---	---	---	---

Accessories for DMU 08/09

DG: H

	Part no.	Price €
Screw connector set plastic G2" – 1 1/2" – 1"	52125	
Screw connector set stainless steel G1"	31822	
Adapter stainless steel G1" to G1 1/2"	31823	
Junction box with pressure relief port (IP 65)	31824	
Tensioning clamp	31825	