

Pressure transducers HydroFox® DMU 07 for level measurement



- Flush diaphragm
- Without transmission liquid
- Mechanically insensitive ceramic sensor
- Small temperature error
- High overpressure safety



Application For continuous electronic level measurement of liquids and for pressure measurement of liquids and gases in plant engineering.

Description Pressure transducers convert physical pressure into an electrical signal proportional to the pressure. HydroFox® DMU 07 uses a capacitance ceramic measuring cell.

Technical specifications

Measuring accuracy

Deviation from the characteristic curve according to IEC 60770 – limit point calibration (non-linearity, hysteresis, repeatability): $<\pm 0.35\%$ FSO

Measuring ranges

Relative pressure: 0/40 mbar to 0/20 bar

Overpressure safety

≤ 400 mbar at least 5 x FS
 > 400 mbar at least 3 x FS
 ≥ 16 bar at least 2 x FS

Operating temperature range

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

Temperature error band

In compensated range
 $-20/+80$ °C $\leq 0.1\%$ FSO/10 K

Dynamic characteristics

Response time ≤ 200 ms

Process connection

G1½B flush diaphragm

Materials

Housing: Stainless steel 316 L
 Pressure connection: Stainless steel 316 L
 Diaphragm: Ceramic (Al₂O₃ 96 %)
 Seal: FKM (Viton)

Output signal/supply voltage

4–20 mA DC 9–32 V
 2-wire

Load

4–20 mA: $R_{\max} = [(U_B - U_{B\min}) / 0.02 \text{ A}] \Omega$
 0–10 V $R_{\min} = 10 \text{ k}\Omega$

Current input

4–20 mA < 21 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 2014/30/EU

- Options**
- Pressure connection made of PVDF
 - Other seal materials
 - Field housing (stainless steel 303)
 - Higher accuracy
 - Other output signals

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See chapter 5 for the complete "Level Measurement" range.

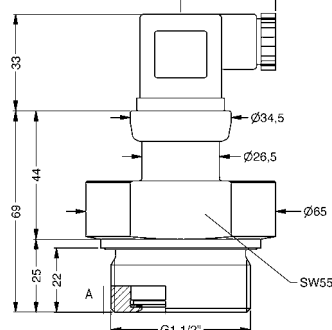
See page 239 for prices.

Pressure transducers HydroFox® DMU 07

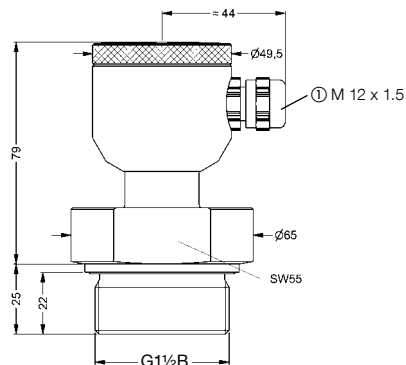
Dimensions (mm) and electrical connections

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Connection G1½B DIN 3852 type E –
Connector and junction box ISO 4400
Pressure connection made of stainless steel

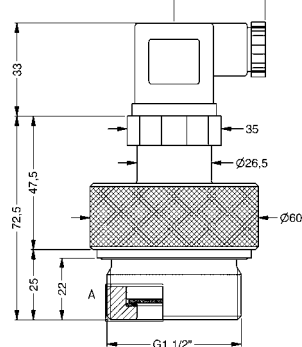


Connection G1½B – field housing

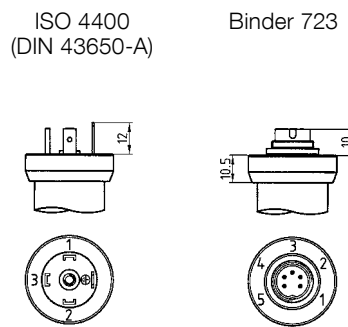


① Cable outlet

Connection G1½B DIN 3852 type E –
Connector and junction box ISO 4400
Pressure connection made of PVDF



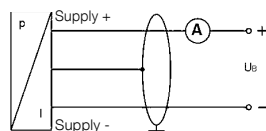
Electrical connections



Wiring diagram

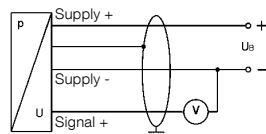
2-wire

4–20 mA



3-wire

0–10 V



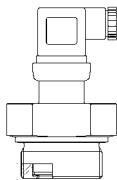
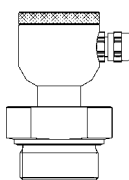



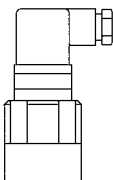
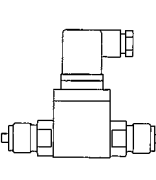
Pin assignment table

	Electrical connections		
	Connector ISO 4400	Binder 723 5-pin	Cable colours (DIN 47100)
2-wire system:			
Supply + (4–20 mA)	1	3	White
Supply -	2	4	Brown
Earth	Earth pin	5	Yellow/green
3-wire system:			
Supply + (0–10 V)	1	3	White
Supply -	2	4	Brown
Signal + (0–20 mA)	3	1	Green
Earth	Earth pin	5	Yellow/green

The units are shipped with a detailed connection diagram.

Pressure transducers DMU 07 – DMU 11 D

DG: H, PG: 4

Type	DMU 07	DMU 07 FG	DMU 08	DMU 08 T**	DMU 09	DMU 10 D	DMU 11 D*
Version							
Measuring principle	Capacitance ceramic measuring cell		Piezo-resistive stainless steel 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 (≤ 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	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 9–32 V	DC 9–32 V	DC 8–32 V	DC 10–30 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	4–20 mA
System	2-wire	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 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.	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	31555T0070	31571	31866	31813
0/160 mbar	31792	31806	31556	31556T0070	31572	31867	31814
0/200 mbar	31793	31548	31557	31557T0070	31573	---	---
0/250 mbar	31794	31807	31558	31558T0070	31574	31868	31815
0/300 mbar	---	---	31519	31519T0070	31812	---	---
0/400 mbar	31795	31549	31559	31559T0070	31575	31869	31832
0/600 mbar	31796	31808	31560	31560T0070	31576	31870	31833
0/1 bar	31797	31550	31561***	31561T0070	31577	31871	31816
0/1.6 bar	31798	31809	31562	31562T0070	31578	---	31834
0/2 bar	31799	31551	31563	31563T0070	31579	---	---
0/2.5 bar	---	---	31564	31564T0070	31580	---	31817
0/4 bar	31800	31552	31565	31565T0070	31581	---	31835
0/6 bar	31801	31810	31566	31566T0070	31582	---	31818
0/10 bar	31802	31553	31567	31567T0070	31583	---	31836
0/16 bar	---	---	31568	31568T0070	---	---	31837
0/20 bar	---	---	31569	31569T0070	---	---	---
0/25 bar	---	---	31570	31570T0070	---	---	---

* Please specify required nominal pressure/maximum static pressure when ordering. Standard temperature range: 0–70 °C Replace the designation of the part number, if necessary ** 0–30 °C, designation: 0030 / 0–50 °C, designation: 0050 / 0–70 °C, designation: 0070 *** Electrical connection 15 m PUR cable, price €

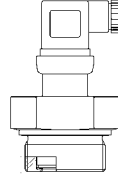
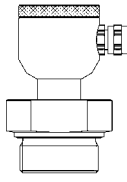



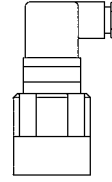
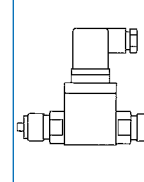
Blue part no. = in-stock items



See page 240 for extra charges for and accessories.

Extra charges/accessories for DMU 07 – DMU 11 D

DG: H, PG: 4

Type	DMU 07	DMU 07 FG	DMU 08	DMU 08 T	DMU 09	DMU 10 D	DMU 11 D
Version							
	Price €	Price €	Price €	Price €	Price €	Price €	Price €
EX protection II 1G 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)	---	---		---	---	---	---

Accessories for DMU 08/ DMU 09

DG: H	PG	Part no.	Price €
Screw connector kit G2" – 1½" – 1"	1	52125	
Screw connector kit stainless steel G1"	3	31822	
Junction box with pressure relief port (IP 65)	1	31824	
Anchor clamp	3	31825	

Blue part no. = in-stock items

i See chapter 8 for digital display units and signal processing.

