



DMD 331

Differential Pressure Transmitter

- ▶ 2 piezoresistive stainless steel sensors
- ▶ media separation with 1.4435 (316L) stainless steel diaphragms
- ▶ accuracy:
0.25 % FSO BFSL
(0.5 % FSO IEC 60770)
- ▶ differential pressure from 0 ... 20 mbar up to 0 ... 16 bar

The DMD 331 is a differential pressure transmitter for industrial use. Pressure can be applied on both sides with fluids and gases compatible with stainless steel 1.4571 (316Ti) or 1.4435 (316L) and FKM. On request seals are available also from other materials than FKM.

When pressure is applied the DMD 331 determines the pressure difference between positive and negative sides and transforms this into a proportional electrical signal. Available output signals are 4 ... 20 mA / 2-wire and 0 ... 10 V / 3-wire.

Preferred areas of use are:

- ▶ flow measurement
- ▶ filter monitoring

- ▶ differential pressure wet / wet
- ▶ permissible static pressure – one sided – up to 30 times of differential pressure range
- ▶ excellent long term stability
- ▶ compact design
- ▶ mechanically robust and reliable at dynamic pressures as well as shock and vibration exposure

Characteristics

CE

DMD 331
Differential Pressure Transmitter

Pressure - Temperature - Level - Flow - Analytical - Control - Indication - Logging

Input pressure range

Nominal range [bar]	0.20	0.4	1	2.5	6	16
Differential pressure range [bar]	0.02 up to 0.2	0.04 up to 0.4	0.1 up to 1	0.25 up to 2.5	0.6 up to 6	1.6 up to 16
permissible static pressure one-sided [bar]	1	1	3	6	20	60

Output signal / Supply

Standard	2-wire: 4 ... 20 mA / $V_S = 12 \dots 36 V_{DC}$
Optional	3-wire: 0 ... 10 V / $V_S = 14 \dots 36 V_{DC}$

Performance

Accuracy ¹	$\leq \pm 0.5 \% \text{ FSO}$ (BFSL: $\leq \pm 0.25 \% \text{ FSO}$)
Permissible load	current 2-wire: $R_{\max} = [(V_S - V_{S \min}) / 0.02] \Omega$ voltage 3-wire: $R_{\min} = 10 \text{ k}\Omega$
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / k Ω
Long term stability	$\leq \pm 0.2 \% \text{ FSO} / \text{year}$

Thermal errors (Offset and Span)

Tolerance band	$\leq \pm 1.5 \% \text{ FSO}$
TC, average	$\pm 0.2 \% \text{ FSO} / 10 \text{ K}$
in compensated range	0 ... 70 °C

Electrical Protection

Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Electromagnetic compatibility	emission and immunity according to EN 61326

Mechanical stability

Vibration	10 g RMS (20 ... 2000 Hz)
Shock	100 g / 11 ms

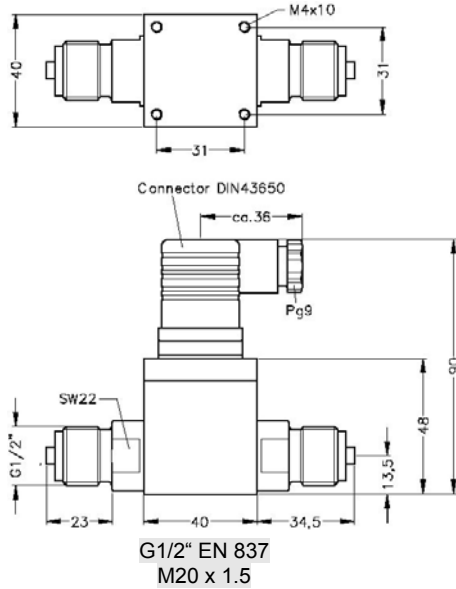
Permissible temperatures

Media	-25 ... 125 °C
Electronics / environment	-25 ... 85 °C
Storage	-40 ... 125 °C

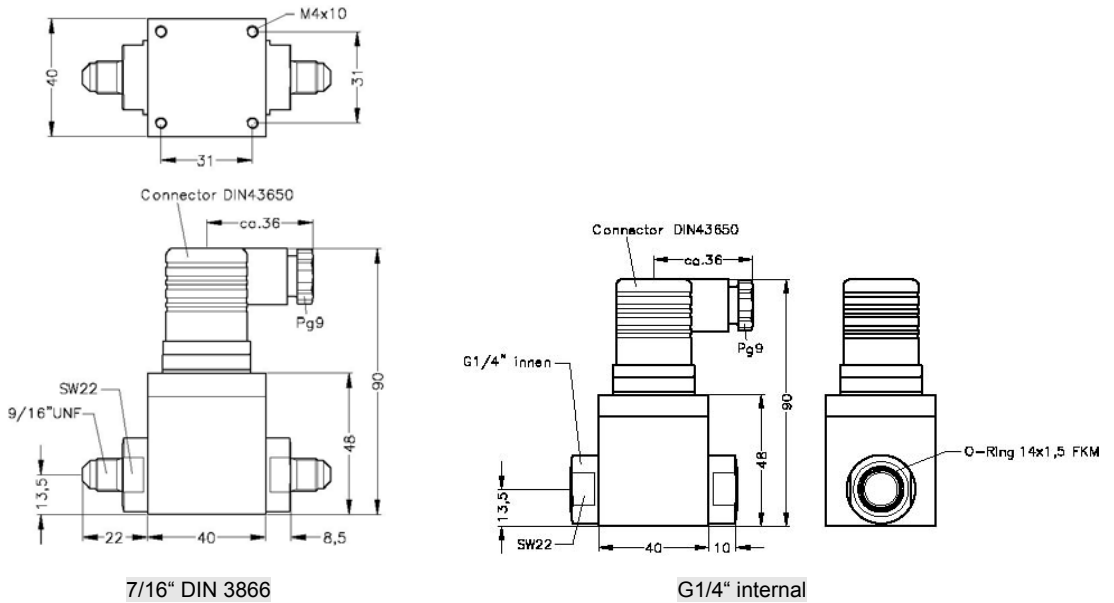
¹ accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)

Mechanical connection

Standard



Optional



Electrical connection

Standard	IP 65	male and female plug DIN 43650
Optional	IP 67	Brad Harrison Mini Chance
others		on request

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Materials

Pressure port	stainless steel 1.4571 (316Ti)
Housing	aluminium, black anodised
Seals (media wetted)	FKM, others on request
Diaphragm	stainless steel 1.4435 (316L)
Media wetted parts	pressure port, seals, diaphragm

Miscellaneous

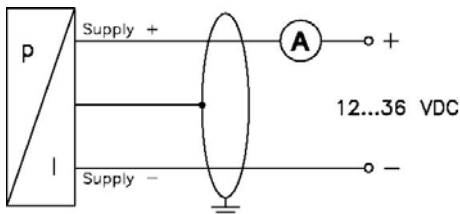
Current consumption	signal output current: max. 25 mA signal output voltage: max. 6 mA
Weight	approx. 250 g
Operational life	> 100 x 10 ⁶ cycles

Pin configuration

Electrical connection		DIN 43650	Brad Harrison	cable colours (DIN 47100)
2-wire-system	Supply +	1	A	white
	Supply -	2	B	brown
	Ground	ground pin	C	yellow / black
3-wire-system	Supply +	1	-	white
	Supply -	2	-	brown
	Signal +	3	-	green
	Ground	ground pin	-	yellow / black

Wiring diagrams

2-wire-system (current)



3-wire-system (voltage)

