

HYDAC INTERNATIONAL

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Pressure Transmitter HDA 4400

Relative pressure

Accuracy 0.5 %



Flush membrane

Description:

Pressure Transmitter HDA 4400 with a flush membrane was designed specifically for applications in which a standard pressure port could become blocked, clogged or frozen by the particular medium used. Further applications include processes where the medium changes regularly and any residues could cause mixing or contamination of the media.

Like the standard model, the HDA 4400 with flush membrane has a pressure measurement cell with a thin-film strain gauge on a stainless steel membrane for relative pressure measurement in the high pressure range.

The pressure port is achieved with a fully-sealed stainless steel front membrane filled internally with a pressure transfer fluid. The process pressure is transmitted hydrostatically to the measurement cell via the pressure transfer fluid.

The 4 .. 20 mA or 0 .. 10 V output signals permit connection to all HYDAC measuring and control devices, as well as connection to standard evaluation systems (e.g. PLC controls).

Technical data:

Input data													
Measuring ranges	bar	2.5	4	6	10	16	25	40	100	250	400	600	-1 .. 3
Overload pressures	bar	8	8	12	20	32	50	80	200	500	800	1000	8
Burst pressure ¹⁾	bar	20	20	30	50	80	125	200	500	1000	2000	2000	20
Mechanical connection													
G1/2 A ISO 1179-2													
G1/4 A ISO 1179-2													
G1/2 with additional front O-ring seal													
G1/4 with additional front O-ring seal													
G1/2 with add. front O-ring seal and cooling body													
Pressure transfer fluid													
Silicone-free oil													
Tightening torque, recommended													
45 Nm for G1/2, G1/2 A													
20 Nm for G1/4													
Parts in contact with fluid ²⁾													
Mech. connection: Stainless steel													
Seal: FKM													
O-ring: FKM													
Output data													
Output signal, permitted load resistance													
4 .. 20 mA, 2-conductor; $R_{L,max} = (U_0 - 8 \text{ V}) / 20 \text{ mA}$ [kΩ]													
0 .. 10 V, 3-conductor; $R_{L,min} = 2 \text{ kΩ}$													
Accuracy acc. to DIN 16086, terminal based													
$\leq \pm 0.5 \% \text{ FS typ.}$													
$\leq \pm 1 \% \text{ FS max.}$													
Accuracy, B.F.S.L.													
$\leq \pm 0.25 \% \text{ FS typ.}$													
$\leq \pm 0.5 \% \text{ FS max.}$													
Temperature compensation													
Zero point													
$\leq \pm 0.015 \% \text{ FS} / ^\circ\text{C typ.}$													
$\leq \pm 0.025 \% \text{ FS} / ^\circ\text{C max.}$													
Temperature compensation													
Span													
$\leq \pm 0.015 \% \text{ FS} / ^\circ\text{C typ.}$													
$\leq \pm 0.025 \% \text{ FS} / ^\circ\text{C max.}$													
Non-linearity acc. to DIN 16086, terminal based													
$\leq \pm 0.3 \% \text{ FS max.}$													
Hysteresis													
$\leq \pm 0.4 \% \text{ FS max.}$													
Repeatability													
$\leq \pm 0.1 \% \text{ FS max.}$													
Rise time													
$\leq 1 \text{ ms}$													
Long-term drift													
$\leq \pm 0.3 \% \text{ FS} / \text{year typ.}$													
Environmental conditions													
Compensated temperature range													
-25 .. +85 °C													
Operating temperature range													
-25 .. +85 °C													
Storage temperature range													
-40 .. +100 °C													
Fluid temperature range ³⁾													
-30 .. +100 °C / -25 .. +100 °C													
-30 .. +150 °C / -25 .. +150 °C for G1/2													
with cooling section													
CE mark													
EN 61000-6-1 / 2 / 3 / 4													
e mark ⁴⁾													
Certificate no.: E318391													
Vibration resistance acc. to DIN EN 60068-2-6 at 10 .. 500 Hz													
$\leq 20 \text{ g}$													
Protection class acc. to DIN EN 60529 ⁵⁾													
IP 65 (male connector EN175301-803)													
IP 67 (M12x1 male connector)													
Other data													
Supply voltage													
8 .. 30 V DC 2-conductor													
12 .. 30 V DC 3-conductor													
when applied acc. to UL specifications													
- limited energy - acc. to 9.3 UL 61010; Class 2;													
UL 1310/1585; LPS UL 60950													
Residual ripple of supply voltage													
$\leq 5 \%$													
Current consumption													
$\leq 25 \text{ mA}$													
Life expectancy													
$> 10 \text{ million cycles (0 .. 100 \% FS)}$													
Weight													
$\sim 150 \text{ g}$													

Note: Reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection are provided.

FS (Full Scale) = relative to complete measuring range, **B.F.S.L.** = Best Fit Straight Line

¹⁾ For G1/2 with

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Model code:

HDA 4 4 Z X - X - XXXX - XXX - 000

Mechanical process connection

Z = flush membrane

Electrical connection

5 = male, EN175301-803, 3 pole + PE
(mating connector supplied)

6 = male M12x1, 4 pole
(mating connector not supplied)

Output signal

A = 4 .. 20 mA, 2-conductor

B = 0 .. 10 V, 3 conductor

Measuring ranges in bar

02.5; 0004; 0006; 0010; 0016; 0025; 0040; 0100; 0250; 0400; 0600; -1 .. 3

Mechanical connection

G01 = G1/2 A, ISO 1179-2

G02 = G1/2 with additional front O-ring seal

G04 = G1/4 with additional front O-ring seal (only for measuring ranges ≥ 40 bar)

G05 = G1/4 A ISO 1179-2 (only for measuring ranges ≥ 40 bar)

G12 = G1/2 with additional front O-ring seal and cooling section

Modification number

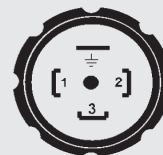
000 = standard

Accessories:

Appropriate accessories, such as mating connectors, can be found in the Accessories brochure.

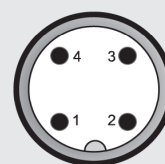
Pin connections:

EN175301-803



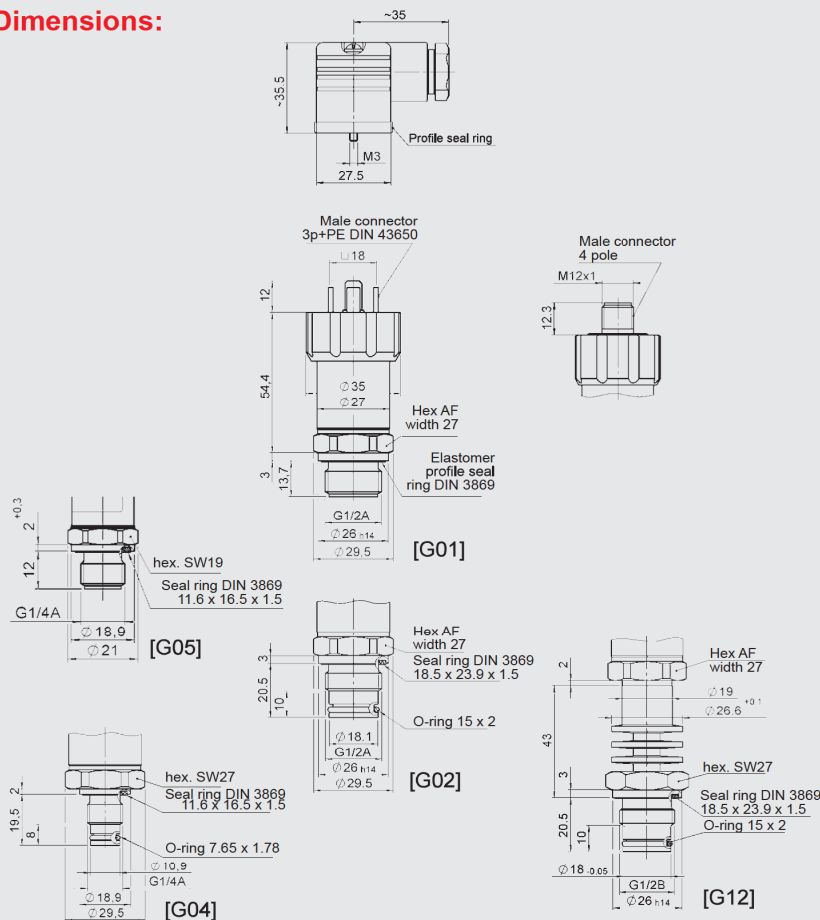
Pin	HDA 44Z5-A	HDA 44Z5-B
1	Signal +	+U _B
2	Signal -	0 V
3	n.c.	Signal
^	Housing	Housing

M12x1



Pin	HDA 44Z6-A	HDA 44Z6-B
1	Signal +	+U _B
2	n.c.	n.c.
3	Signal -	0 V
4	n.c.	Signal

Dimensions:



Note:

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

EN 18.375.2/02.18

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HYDAC

Knowledge is POWER – Motion Force Control is our Business

HYQUIP Limited New Brunswick Street Horwich Bolton Lancashire BL6 7JB UK