Electronic Pressure Transmitter
HDA 4300
with Flush Membrane

Description:

Pressure transmitter HDA 4300 with a flush membrane was designed specifically for applications in which a standard pressure connection 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 4300 with a flush membrane has a ceramic measurement cell with a thick film strain gauge for relative pressure measurement in the low pressure range.

The pressure connection 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 enable connection to all HYDAC measurement and control devices as well as connection to standard evaluation systems (e.g PLC controls).

Special features:

- Pressure connection has a flush membrane
- Accuracy ≤ 0.5 % FS typ.
- Highly robust sensor cell
- Very small temperature error
- Excellent EMC characteristics
- Very compact design

Technical data:

Input data	
Measuring ranges	-1..1; -1..9; 1; 2.5; 4; 6; 10; 16; 25 bar
Overload pressures	3; 32; 3; 8; 12; 20; 32; 50; 80 bar
Burst pressures	5; 48; 5; 12; 18; 30; 48; 75; 120 bar
Mechanical connection	G1/2 A DIN 3852 G1/2 with add. front O-ring seal G1/4 with add. front O-ring seal G1/2 with add. front O-ring seal and cooling section
Pressure transfer fluid	Silicone-free oil
Torque value	45 Nm for G1/2, G1/2 A 20 Nm for G1/4
Parts in contact with medium [1]	Mech. conn.: Stainless steel Seal: FPM O-ring: FPM
Output data	
Output signal, permitted load resistance	4 .. 20 mA, 2 conductor $R_{Lmax.} = (U_B - 8\ V) / 20\ mA\ [k\Omega]$ 0 .. 10 V, 3 conductor $R_{Lmin.} = 2\ k\Omega$
Accuracy to DIN 16086 Max. setting	≤ ± 0.5 % FS typ. ≤ ± 1 % FS max.
Accuracy at min. setting (B.F.S.L)	≤ ± 0.25 % FS typ. ≤ ± 0.5 % FS max.
Temperature compensation Zero point	≤ ± 0.02 % FS / °C typ. ≤ ± 0.03 % FS / °C max.
Temperature compensation Over range	≤ ± 0.02 % FS / °C typ. ≤ ± 0.03 % FS / °C max.
Non-linearity at max. setting to DIN 16086	≤ ± 0.5 % FS max.
Hysteresis	≤ ± 0.4 % FS max.
Repeatability	≤ ± 0.1 % FS max.
Rise time	≤ 1 ms
Long-term drift	≤ ± 0.3 % FS typ. / year
Environmental conditions	
Compensated temperature range	-25 .. +85 °C
Operating temperature range	-25 .. +85°C
Storage temperature range	-40 .. +100 °C
Fluid temperature range[2]	-40 .. +100 °C / -25 .. +100 °C -40 .. +150 °C / -25 .. +150 °C for G1/2 with cooling section
CE mark	EN 61000-6-1 / 2 / 3 / 4
cULus mark[3]	Certificate No. E318391
Vibration resistance to DIN EN 60068-2-6 at 10 .. 500 Hz	≤ 20 g
Protection class to IEC 60529	IP 65 (for EN175301-803 (DIN 43650)) IP 67 (for M12x1, providing an IP 67 female connector is used)
Other data	
Supply voltage for use acc. to UL spec.	8 .. 30 V DC 2 conductor 12 .. 30 V DC 3 conductor - limited energy - according to 9.3 UL 61010; Class 2; UL 1310/1585; LPS UL 60950
Residual ripple of supply voltage	≤ 5 %
Current consumption	≤ 25 mA
Life expectancy	> 10 million cycles (0 .. 100 % FS)
Weight	~ 150 g

Note: Reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection are provided.
FS (**F**ull **S**cale) = relative to complete measuring range, **B.F.S.L.** = **B**est **F**it **S**traight **L**ine

[1] Other seal materials on request
[2] -25 °C with FPM seal, -40 °C on request
[3] Environmental conditions according to 1.4.2 UL 61010-1; C22.2 No. 61010-1

Model code:

HDA 4 3 Z X – X – XXXX – XXX – 000

Mechanical process connection
Z = Flush membrane

Electrical connection
5 = Male, 3 pole + PE, EN 175301-803 (DIN 43650)
(female connector supplied)
6 = Male M12x1, 4 pole
(female connector not supplied)

Signal
A = 4 .. 20 mA, 2 conductor
B = 0 .. 10 V, 3 conductor

Pressure ranges in bar
01.0; 02.5; 04.0; 06.0; 0010; 0016; 0025;
0001 (-1..1); 0009 (-1..9)

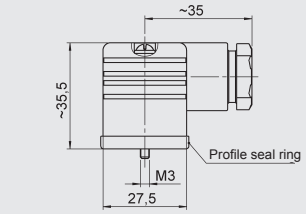
Mechanical connection
G01 = G1/2 A DIN 3852
G02 = G1/2 with additional front O-ring seal
G04 = G1/4 with additional front O-ring seal
G12 = G1/2 with additional front O-ring seal and cooling section

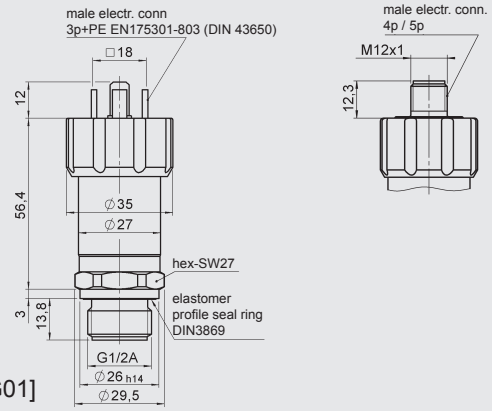
Modification number
000 = Standard

Note:
Special models on request.
On instruments with a different modification number, please read the label or the technical amendment details supplied with the instrument.

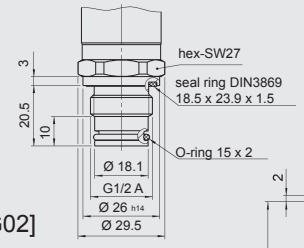
Accessories:
Appropriate accessories such as female electrical connectors can be found in the Accessories brochure.

Dimensions:

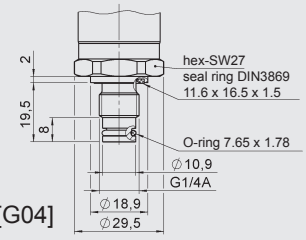




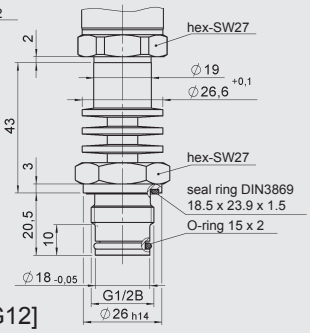
[G01]



[G02]



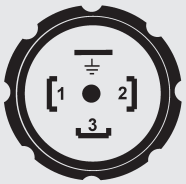
[G04]



[G12]

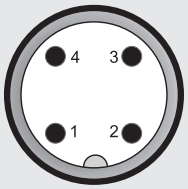
Pin connections:

EN175301-803 (DIN 43650)



Pin	HDA 43Z5-A	HDA 43Z5-B
1	Signal+	$+U_B$
2	Signal-	0V
3	n.c.	Signal
⊥	Housing	Housing

M12x1



Pin	HDA 43Z6-A	HDA 43Z6-B
1	Signal+	$+U_B$
2	n.c.	n.c.
3	Signal-	0V
4	n.c.	Signal

Note:

The information in this brochure relates to the operating conditions and applications described.
For applications and operating conditions not described, please contact the relevant technical department.
Subject to technical modifications.

HYDAC ELECTRONIC GMBH
Hauptstraße 27, D-66128 Saarbrücken
Telephone +49 (0)6897 509-01
Fax +49 (0)6897 509-1726
E-mail: electronic@hydac.com
Internet: www.hydac.com