

## HYDAC INTERNATIONAL



### 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 output signals 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  $\leq 0.5\%$  FS typ.
- Highly robust sensor cell
- Very small temperature error
- Excellent EMC characteristics
- Very compact design

#### Technical specifications:

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	G1/2A DIN 3852 G1/2 with additional front O-ring seal
Pressure transfer fluid	Silicone-free oil
Torque value	45 Nm
Parts in contact with medium <sup>1)</sup>	Mech. conn.: Stainless steel Seal: FPM O-ring: NBR
Output data	
Output signal, permitted resistance	4 .. 20 mA, 2 conductor $R_{Lmax} = (U_B - 10 V) / 20 \text{ mA}$ [k $\Omega$ ] 0 .. 10 V, 3 conductor $R_{Lmin} = 2 \text{ k}\Omega$
Accuracy to DIN 16086	$\leq \pm 0.5\%$ FS typ.
Max. setting	$\leq \pm 1\%$ FS max.
Accuracy at min. setting (B.F.S.L.)	$\leq \pm 0.25\%$ FS typ. $\leq \pm 0.5\%$ FS max.
Temperature compensation	$\leq \pm 0.02\%$ FS / °C typ.
Zero point	$\leq \pm 0.03\%$ FS / °C max.
Temperature compensation	$\leq \pm 0.02\%$ FS / °C typ.
Over range	$\leq \pm 0.03\%$ FS / °C max.
Non-linearity at max. setting to DIN 16086	$\leq \pm 0.5\%$ FS max.
Hysteresis	$\leq \pm 0.4\%$ FS max.
Repeatability	$\leq \pm 0.1\%$ FS max.
Rise time	$\leq 1 \text{ ms}$
Long-term drift	$\leq \pm 0.3\%$ FS typ. / year
Environmental conditions	
Compensated temperature range	0 .. +80 °C
Operating temperature range <sup>2)</sup>	-40 .. +85 °C
Storage temperature range	-40 .. +100 °C
Fluid temperature range	-40 .. +100 °C
CE mark	EN 61000-6-1 / 2 / 3 / 4
Vibration resistance to DIN EN 60068-2-6 at 10 .. 500 Hz	$\leq 20 \text{ g}$
Protection class to DIN 40050	IP 65 (connector to DIN 43650) IP 67 (M12x1, when an IP 67 connector is used)
Other data	
Supply voltage 2 conductor	10 .. 30 V DC
Supply voltage 3 conductor	12 .. 30 V DC
Residual ripple of supply voltage	$\leq 5\%$
Current consumption 3 conductor	approx. 25 mA
Life expectancy	> 10 million cycles (0 .. 100 % FS)
Weight	approx. 150 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) Other seal materials on request

2) G1/2 with additional front O-ring seal -10 .. +85 °C

### Model code:

**HDA 4 3 Z X - X - XXXX - XXX - 000**

#### Mechanical process connection

Z = flush membrane

#### Electrical connection

5 = 3 pole + PE, DIN 43650, male  
(connector supplied)

6 = M12x1, 4 pole, male  
(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

#### Modification number

000 = standard

#### Note:

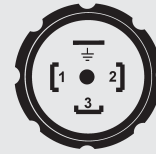
On instruments with a different modification number, please read the label or the technical amendment details supplied with the instrument.

#### Accessories:

Appropriate accessories, such as electrical connectors can be found in the Accessories section.

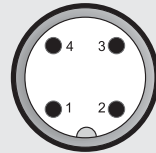
### Pin connections:

DIN 43650



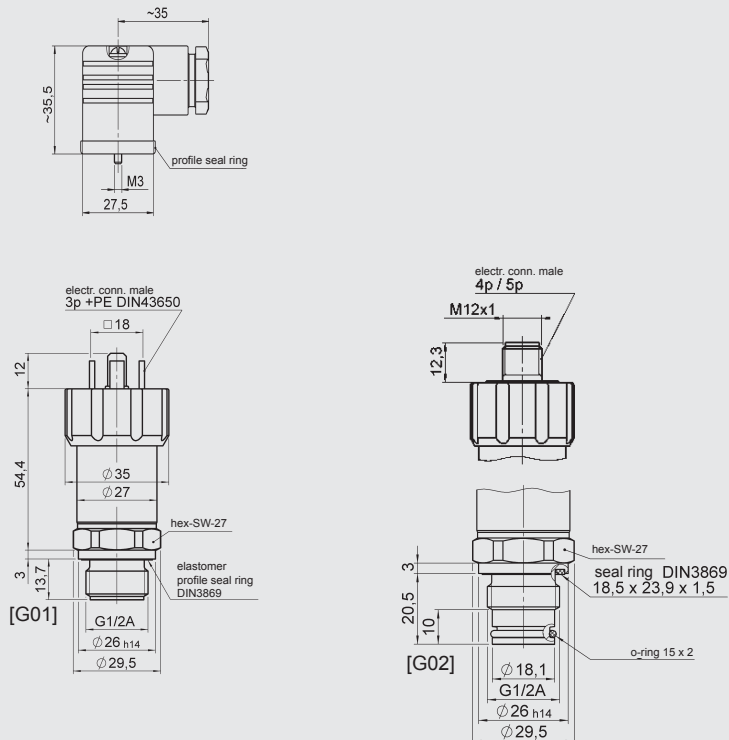
Pin	HDA 43Z5-A	HDA 43Z5-B
1	Signal+	+U <sub>B</sub>
2	Signal-	0V
3	n.c.	Signal
⊥	PE	PE

M12x1



Pin	HDA 43Z6-A	HDA 43Z6-B
1	Signal+	+U <sub>B</sub>
2	n.c.	n.c.
3	Signal-	0V
4	n.c.	Signal

### Dimensions:



### 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.