



## Electronic Absolute Pressure Transmitter HDA 4100

### Description:

The pressure transmitter series HDA 4100 has a ceramic pressure measurement cell with thick-film strain gauge which has been specially developed for measuring absolute pressure in the low-pressure range.

The 4 .. 20 mA or 0 .. 10 V output signals enable connection to all HYDAC ELECTRONIC GMBH measurement and control devices as well as standard control and evaluation systems.

The main areas of application are low-pressure applications in hydraulics and pneumatics, particularly in refrigeration and air-conditioning technology, the food and pharmaceutical industries.

### Special features:

- Accuracy  $\leq \pm 0.5\%$  FS B.F.S.L.
- Very small temperature error
- Excellent EMC characteristics
- Very compact design
- Competitive price / performance ratio

### Technical data:

Input data	
Measuring ranges	15, 50 psia
Overload pressures	45, 100 psia
Burst pressures	70, 150 psia
Mechanical connection	1/4-18 NPT male
Torque value	30 lb-ft(40Nm)
Parts in contact with medium	Mech. connection: Stainless steel Sensor cell: Ceramic Seal: FPM / EPDM (as per model code)
Output data	
Output signal, permitted load resistance	4 .. 20 mA, 2 conductor $R_{L,max.} = (U_B - 8 V) / 20 \text{ mA} [\text{k}\Omega]$ 0 .. 10 V, 3 conductor $R_{L,min.} = 2 \text{ k}\Omega$
Accuracy to DIN 16086, Max. setting	$\leq \pm 0.5\%$ FS typ. $\leq \pm 1.0\%$ FS max.
Accuracy at min. setting (B.F.S.L.)	$\leq \pm 0.25\%$ FS typ. $\leq \pm 0.5\%$ FS max.
Temperature compensation	$\leq \pm 0.012\%$ FS/°F typ.
Zero point	$\leq \pm 0.017\%$ FS/°F max.
Temperature compensation Over range	$\leq \pm 0.012\%$ FS/°F typ. $\leq \pm 0.017\%$ FS/°F 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
Rise time	$\leq 1 \text{ ms}$
Long-term drift	$\leq \pm 0.3\%$ FS typ. / year
Environmental conditions	
Compensated temperature range	-13..+185°F
Operating temperature range	-13..+185°F
Storage temperature range	-40..+212°F
Fluid temperature range <sup>1)</sup>	-40..+212°F/-13..+212°F
CE mark	EN 61000-6-1 / 2 / 3 / 4
UL mark <sup>2)</sup>	Certificate No. E318391
Vibration resistance to DIN EN 60068-2-6 at 10 .. 500 Hz	$\leq 20 \text{ g}$
Protection class to IEC 60529	IP 65 (for male EN175301-803 (DIN 43650)) IP 67 (for M12x1, when an IP 67 connector is used)
Other data	
Supply voltage	8 .. 30 V DC 2 conductor 12 .. 30 V DC 3 conductor
for use acc. to UL spec.	- limited energy - according 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 million cycles 0 .. 100 % FS
Weight	~ 145 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

<sup>1)</sup> -13 °F with FPM seal, -40 °F on request

<sup>2)</sup> Environmental conditions according to 1.4.2 UL 61010-1; C22.2 No 61010-1

## Model code:

HDA 4 1 8 X - X - XXXX - 000 - X 1 (PSI)

### Mechanical connection

8 = 1/4-18 NPT male

### Electrical connection

5 = Male, 3 pole + PE,  
EN175301-803 (DIN 43650)  
(connector supplied)

6 = Male M12x1, 4 pole  
(connector not supplied)

### Signal

A = 4 .. 20 mA, 2 conductor

B = 0 .. 10 V, 3 conductor

### Pressure ranges in psia

0015, 0050

### Modification number

000 = Standard

### Seal material (in contact with fluid)

F = FPM seal (e.g.: for hydraulic oils)

E = EPDM seal (e.g.: for refrigerants)

### Material of connection (in contact with fluid)

1 = Stainless steel

### Version

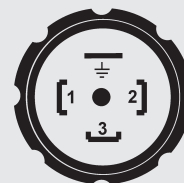
PSI = Pounds per square inch

### Accessories:

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

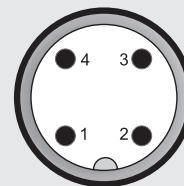
## Pin connections:

EN175301-803 (DIN 43650)



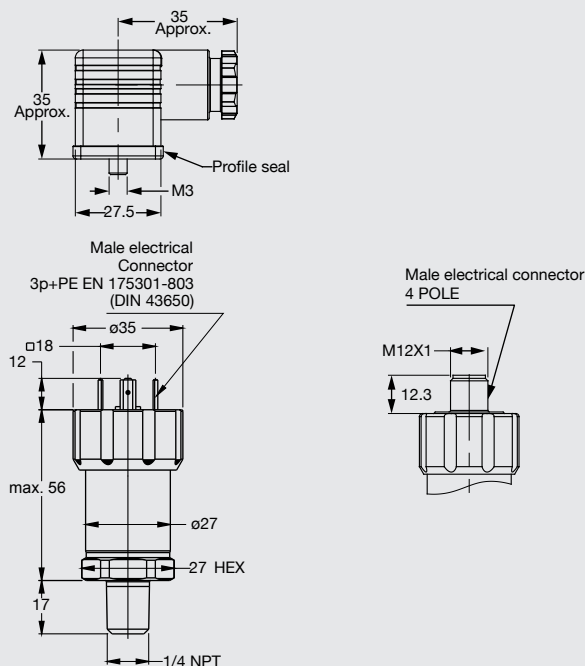
Pin	HDA 41X5-A	HDA 41X5-B
1	Signal+	+U <sub>B</sub>
2	Signal-	0 V
3	n.c.	Signal
⊥	Housing	Housing

M12x1



Pin	HDA 41X6-A	HDA 41X6-B
1	Signal+	+U <sub>B</sub>
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.

For European mechanical connection and bar ranges see European Catalog

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