



Pressure Transmitter HDA 4100

Absolute pressure

Accuracy 0.5 %



Description:

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

The output signals 4 .. 20 mA or 0 .. 10 V allow connection of all HYDAC ELECTRONIC GMBH measurement and control devices as well as industry standard open- and closed-loop control instruments.

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

Technical data:

Input data

Measuring ranges	bar	1	2.5
Overload pressures	bar	3	8
Burst pressure	bar	5	12
Mechanical connection	G1/4 A ISO 1179-2 G1/2 B DIN EN 837		
Tightening torque, recommended	20 Nm (G1/4); 45 Nm (G1/2)		
Parts in contact with fluid	Mech. connection: Stainless steel Sensor cell: Ceramic Seal: Copper (G1/2) / FKM / EPDM (as per model code)		

Output data

Output signal, permitted load resistance	4 .. 20 mA, 2-conductor $R_{Lmax} = (U_B - 8 V) / 20 \text{ mA}$ [k Ω] 0 .. 10 V, 3-conductor $R_{Lmin} = 2 \text{ k}\Omega$		
Accuracy acc. to DIN 16086, terminal based	$\leq \pm 0.5 \%$ FS typ. $\leq \pm 1.0 \%$ FS max.		
Accuracy, 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. $\leq \pm 0.03 \%$ FS / °C max.		
Zero point	$\leq \pm 0.02 \%$ FS / °C typ. $\leq \pm 0.03 \%$ FS / °C max.		
Temperature compensation	$\leq \pm 0.02 \%$ FS / °C typ. $\leq \pm 0.03 \%$ FS / °C max.		
Span	$\leq \pm 0.02 \%$ FS / °C typ. $\leq \pm 0.03 \%$ FS / °C max.		
Non-linearity acc. to DIN 16086, terminal based	$\leq \pm 0.5 \%$ 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	-25 .. +85 °C
Operating temperature range ¹⁾	-40 .. +85 °C / -25 .. +85 °C
Storage temperature range	-40 .. +100 °C
Fluid temperature range ¹⁾	-40 .. +100 °C / -25 .. +100 °C
CE mark	EN 61000-6-1 / 2 / 3 / 4
UL mark ²⁾	Certificate no.: E318391
Vibration resistance acc. to DIN EN 60068-2-6 at 10 .. 500 Hz	$\leq 20 \text{ g}$
Shock resistance acc. to DIN EN 60068-2-27	$\leq 100 \text{ g} / 6 \text{ ms}$
Protection class acc. to DIN EN 60529 ³⁾	IP 65 (Binder 714 M18) IP 67 - M12x1 male connector - Male connector EN175301-803

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 million cycles (0 .. 100 % FS)
Weight	~ 150 g

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

FS (Full Scale) = relative to complete measuring range

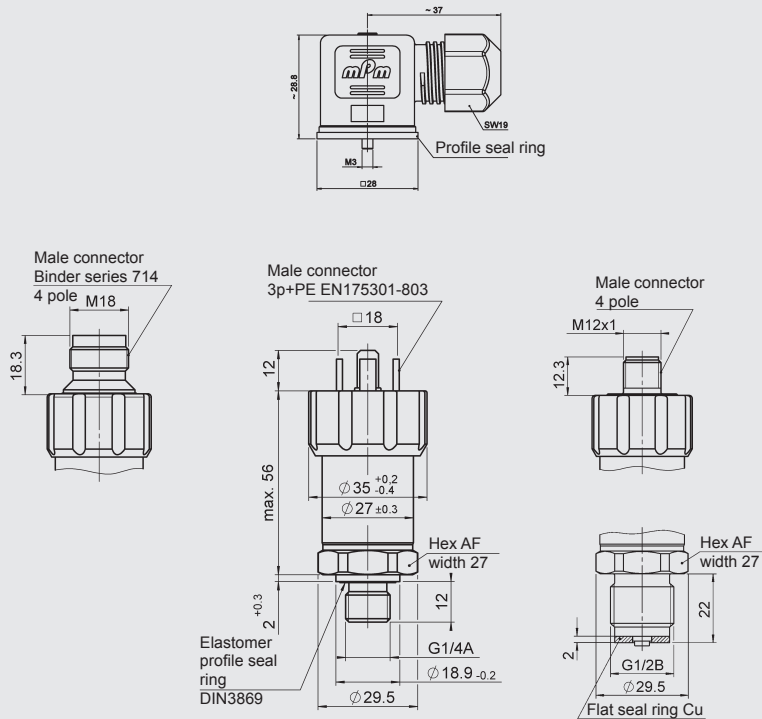
B.F.S.L. = Best Fit Straight Line

¹⁾ -25 °C with FKM or EPDM seal, -40 °C on request

²⁾ Environmental conditions acc. to 1.4.2 UL 61010-1; C22.2 No 61010-1

³⁾ With mounted mating connector in corresponding protection class

Dimensions:



Model code:

HDA 4 1 X X - X - XXXX - 000 - X 1

Mechanical connection

- 1 = G1/2 B DIN EN 837
- 4 = G1/4 A ISO 1179-2

Electrical connection

- 4 = male, Binder series 714 M18, 4 pole (mating connector not supplied)
- 5 = male, EN175301-803, 3 pole +PE (IP 67 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

01.0; 02.5

Modification number

000 = standard

Sealing material (in contact with fluid)

- F = FKM seal (e.g. for hydraulic oils)
- E = EPDM seal (e.g. for refrigerants)

Connection material (in contact with fluid)

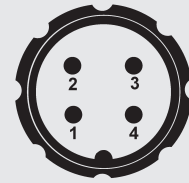
- 1 = stainless steel

Accessories:

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

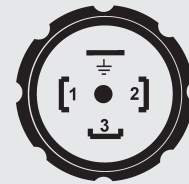
Pin connections:

Binder series 714 M18



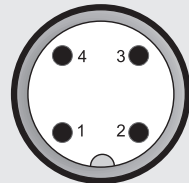
Pin	HDA 41X4-A	HDA 41X4-B
1	n.c.	+U _B
2	Signal +	Signal
3	Signal -	0 V
4	n.c.	n.c.

EN175301-803



Pin	HDA 41X5-A	HDA 41X5-B
1	Signal +	+U _B
2	Signal -	0 V
3	n.c.	Signal
L	Housing	Housing

M12x1



Pin	HDA 41X6-A	HDA 41X6-B
1	Signal +	+U _B
2	n.c.	n.c.
3	Signal -	0 V
4	n.c.	Signal

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.

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