



Pressure Transmitter HDA 4100

Absolute pressure

Accuracy 0.5 %



Features

- Accuracy $\leq \pm 0.5 \%$ FS typ.
- Measuring ranges in the low-pressure range

Description

The pressure transmitter series HDA 4100 have a ceramic thick layer pressure measurement cell, which has been specially developed for the measurement of relative pressures in the low-pressure range.

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

Fields of application

The main application fields are in the low-pressure ranges of hydraulics and pneumatics, particularly in industrial cooling and air conditioning applications as well as in pharmaceutical industry.

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	Connector: Stainless steel Sensor cell: Ceramic Seal ring: Copper (G1/2) / FKM / EPDM (acc. to model code)		
Output data			
Output signal, permitted load resistance	4 .. 20 mA, 2 conductor $R_{Lmax} = (U_B - 8 \text{ V}) / 20 \text{ mA [k}\Omega\text{]}$ 0 .. 10 V, 3 conductor $R_{Lmin} = 2 \text{ k}\Omega$		
Accuracy acc. to DIN 16086, Terminal based ¹⁾	$\leq \pm 0.5 \text{ \% FS typ.}$ $\leq \pm 1.0 \text{ \% FS max.}$		
Accuracy acc. to minimum value setting (B.F.S.L.)	$\leq \pm 0.25 \text{ \% FS typ.}$ $\leq \pm 0.5 \text{ \% FS max.}$		
Temperature compensation Zero point	$\leq \pm 0.02 \text{ \% FS / } ^\circ\text{C typ.}$ $\leq \pm 0.03 \text{ \% FS / } ^\circ\text{C max.}$		
Temperature compensation Span	$\leq \pm 0.02 \text{ \% FS / } ^\circ\text{C typ.}$ $\leq \pm 0.03 \text{ \% FS / } ^\circ\text{C max.}$		
Rise time	$\leq 1 \text{ ms}$		
Long-term drift	$\leq \pm 0.3 \text{ \% FS typ. / year}$		
Environmental conditions / Approvals / Tests			
Compensated temperature range	-25 .. +85 °C		
Operating temperature range ²⁾	-40 .. +85 °C / -25 .. +85 °C		
Storage temperature range	-40 .. +100 °C		
Fluid temperature range ²⁾	-40 .. +100 °C / -25 .. +100 °C		
EMC	2014/30/EC EN 61006-6-1 / 2 / 3 / 4		
Vibration resistance	DIN EN 60068-2-6	$\leq 200 \text{ m/s}^2$ (10 .. 500 Hz)	
Shock resistance	DIN EN 60068-2-27	$\leq 100 \text{ g / 6 ms}$	
Protection type ³⁾	DIN EN 60529	IP 65 (Binder 714 M18) IP 67 (plug M12x1; plug EN 175301-803)	
  conformity	Provided		
 approval ⁴⁾	Provided		
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	$\leq 5 \text{ \%}$		
Current consumption	$\leq 25 \text{ mA}$		
Life expectancy	> 10 million load cycles (0 .. 100 % FS)		
Weight	~ 150 g		

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

FS (Full Scale) = relative to complete measuring range

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

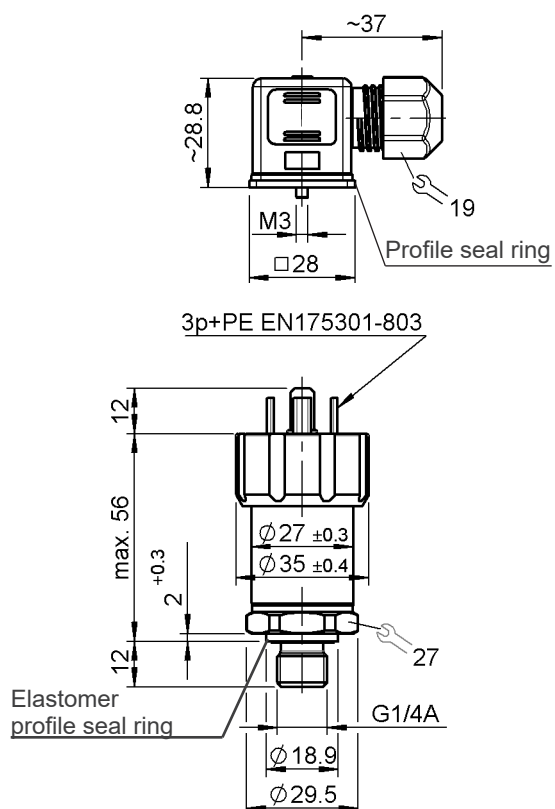
¹⁾ Including non-linearity, hysteresis, offset and final value deviation

²⁾ In the standard up to -25 °C with FKM seal or EPDM seal, -40 °C on request

³⁾ With mounted mating connector in corresponding protection type

⁴⁾ Environmental conditions acc. to 1.4.2 UL 61010-1; C22.2 no. 61010-1

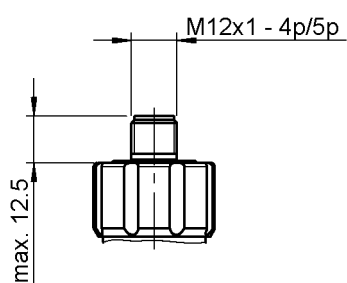
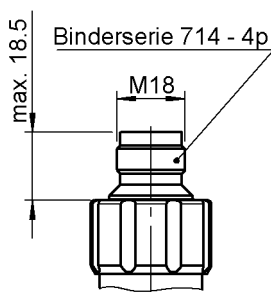
Dimensions



Electrical connection variants

Plug connector Binder series 714 M18, 4 pole

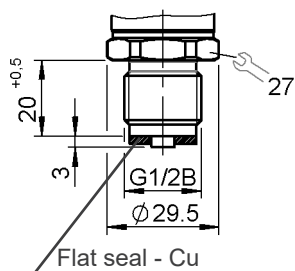
Plug connector M12x1, 4 pole



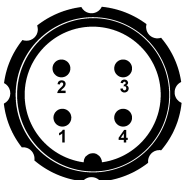
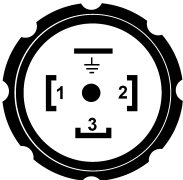
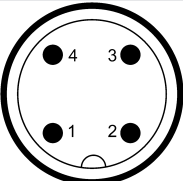
Mechanical connection variants

G1/2 B DIN EN 837 / external

Tightening torque, recommended: 45 Nm



Pin connections

Binder series 714 M18, 4 pole	Pin	Output signal: A	Output signal: B
	1	n.c.	+U _B
	2	Signal +	Signal
	3	Signal -	0 V
	4	n.c.	n.c.
EN 175301-803, 3 pole + PE	Pin	Output signal: A	Output signal B
	1	Signal +	+U _B
	2	Signal -	0 V
	3	n.c.	Signal
	⊥	Housing	Housing
M12x1, 4 pole	Pin	Output signal A	Output signal B
	1	Signal +	+U _B
	2	n.c.	n.c.
	3	Signal -	0 V
	4	n.c.	Signal

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 = Plug Binder series 714 M18, 4 pole (without mating connector)
5 = Plug connector EN175301-803, 3 pole + PE (with mating connector IP67)
6 = Plug connector M12x1, 4 pole (without mating connector)

Output signal

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

Measuring ranges in bar

01.0; 0.25

Modification number

000 = Standard

Sealing material (in contact with fluid)

E = EPDM seal (e.g. for cooling liquids)
F = FKM seal (e.g. for hydraulic oils)

Connection material (in contact with fluid)

1 = Stainless steel

Accessories:

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

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.

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