

HYDAC INTERNATIONAL



Pressure Transmitter HDA 4300

Relative pressure

Accuracy 0.5 %



Features

- Accuracy $\leq \pm 0.5 \%$ FS typ.
- Measurement in the low-pressure range
- Minor temperature error
- Excellent EMC characteristics

Description





The pressure transmitter series HDA 4300 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.

Fields of application

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

Technical data

Input data									
Measuring ranges	bar	1	2.5	4	6	10	16	25	40
	bar	-1 .. 1	-1 .. 5	-1 .. 9					
Overload pressures	bar	3	8	12	20	32	50	80	120
	bar	3	20	32					
Burst pressure	bar	5	12	18	30	48	75	120	180
	bar	5	30	48					
Mechanical connection	G1/4 A ISO 1179-2 G1/2 B DIN EN 837								
Tightening torque, recommended	20 Nm (G1/4 A); 45 Nm (G1/2 B)								
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 $R_{Lmax} = (U_B - 8 \text{ V}) / 20 \text{ mA}$ [kΩ] 0 .. 10 V, 3 conductor $R_{Lmin} = 2 \text{ kΩ}$								
Accuracy acc. to DIN 16086, Terminal based ¹⁾	≤ ± 0.5 % FS typ. ≤ ± 1.0 % FS max.								
Accuracy acc. to minimum value 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 Span	≤ ± 0.02 % FS / °C typ. ≤ ± 0.03 % FS / °C max.								
Rise time	≤ 1 ms								
Long-term drift	≤ ± 0.3 % 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/EU EN 61006-6-1 / 2 / 3 / 4								
Vibration resistance	DIN EN 60068-2-6					≤ 200 m/s² (10 .. 500 Hz)			
Shock resistance	DIN EN 60068-2-27					≤ 100 g / 6 ms			
Protection type ³⁾	DIN EN ISO 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	≤ 5 %								
Current consumption	≤ 25 mA								
Life expectancy	> 10 million load cycles (0 .. 100 % FS)								
Weight	~ 150 g								

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

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

FS (Full Scale) = relative to complete measuring range

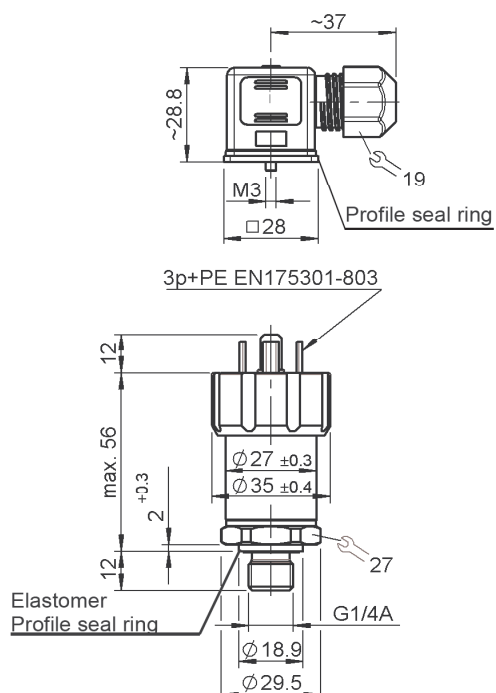
¹⁾ Including non-linearity, hysteresis, offset and final value deviation

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

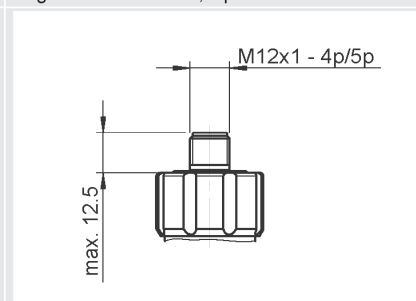
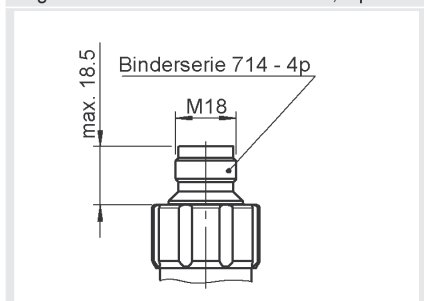
Dimensions



Electrical connection variants

Plug connector Binder series 714 M18, 4 pole

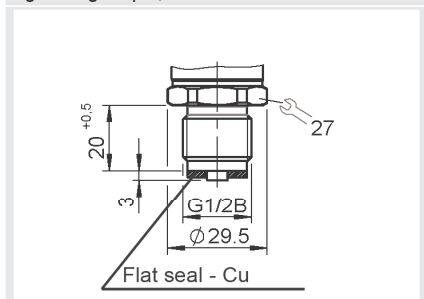
Plug connector M12x1, 4 pole



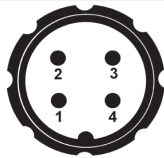
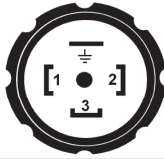
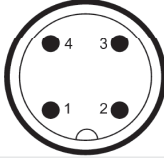
Mechanical connection variants

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

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; 02.5; 04.0; 06.0; 0010; 0016; 0025; 0040
0001 (-1 .. 1); 0005 (-1 .. 5); 0009 (-1 .. 9)

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/or operating conditions not described please contact the relevant technical department.
Subject to technical modifications.

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