



## Pressure Transmitter HDA 4700

Relative pressure

Accuracy 0.25 %



### Features

- Accuracy  $\leq \pm 0.25$  % FS typ.
- Excellent EMC characteristics

### Description

The pressure transmitter series HDA 4700 have a highly precise and robust sensor cell with a thin-film strain gauge on a stainless steel membrane.

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

Applications are mainly found in the mobile or industrial sector in hydraulics and pneumatics.

## Technical data

Input data												
Measuring ranges	bar	6	16	40	60	100	250	400	600	1000	1600	2000
Overload pressures	bar	12	32	80	120	200	500	800	1000	1600	2400	3000
Burst pressure	bar	100	100	200	300	500	1250	2000	2000	3000	3000	4000
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 Seal ring: FKM											
Output data												
Output signal, permitted load resistance	4 .. 20 mA, 2 conductor $R_{L,max} = (U_B / 8 V) / 20 \text{ mA [k}\Omega\text{]}$ 0 .. 10 V, 3 conductor $R_{L,min} = 2 \text{ k}\Omega$											
Accuracy acc. to DIN 16086, Terminal based <sup>1)</sup>	$\leq \pm 0.25 \%$ FS typ. $\leq \pm 0.5 \%$ FS max.											
Accuracy acc. to minimum value setting (B.F.S.L.)	$\leq \pm 0.15 \%$ FS typ. $\leq \pm 0.25 \%$ FS max.											
Temperature compensation Zero point	$\leq \pm 0.008 \%$ FS / °C typ. $\leq \pm 0.015 \%$ FS / °C max.											
Temperature compensation Span	$\leq \pm 0.008 \%$ FS / °C typ. $\leq \pm 0.015 \%$ FS / °C max.											
Rise time	$\leq 1 \text{ ms}$											
Long-term drift	$\leq \pm 0.1 \%$ FS typ. / year											
Environmental conditions / Approvals / Tests												
Compensated temperature range	-25 .. +85 °C											
Operating temperature range <sup>2)</sup>	-40 .. +85 °C / -25 .. +85 °C											
Storage temperature range	-40 .. +100 °C											
Fluid temperature range <sup>2)</sup>	-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 <sup>3)</sup>	DIN EN 60529								IP 65 (Binder 714 M18) IP 67 (plug M12x1; plug EN 175301-803)			
CE / UKCA conformity	Provided											
eUL approval <sup>4)</sup>	Provided											
Other data												
Supply voltage	8 .. 30 V DC, 2 conductor 12 .. 30 V DC, 3 conductor											
Supply voltage 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 <sup>5)</sup>	> 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

<sup>1)</sup> Including non-linearity, hysteresis, offset and final value deviation

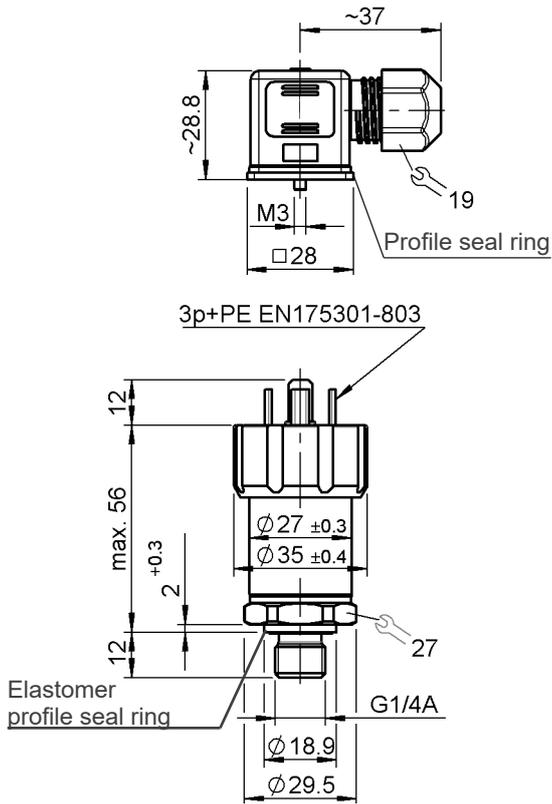
<sup>2)</sup> In the standard up to -25 °C with FKM seal, -40 °C on request

<sup>3)</sup> With mounted mating connector in corresponding protection type

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

<sup>5)</sup> Measuring ranges  $\geq 1000 \text{ bar}$ : > 1 million load cycles (0 .. 100 % FS)

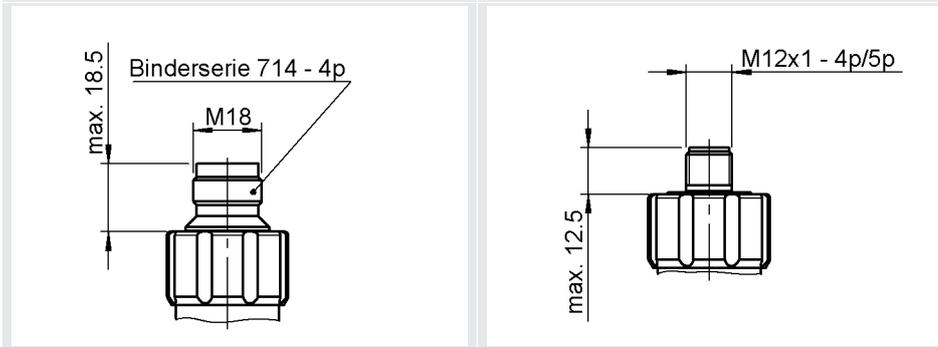
## Dimensions



## Electrical connection variants

Plug connector Binder series 714 M18, 4 pole

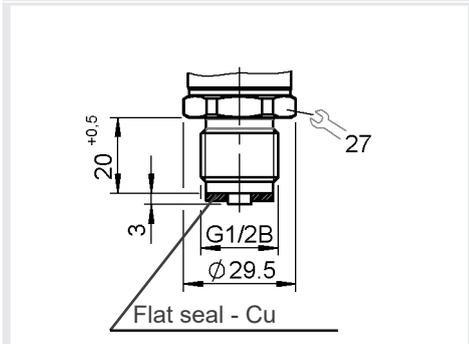
Plug connector M12x1, 4 pole



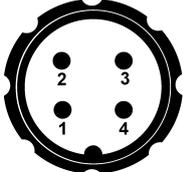
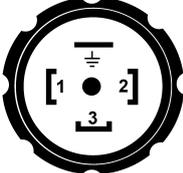
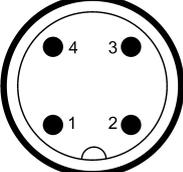
## Mechanical connection variants

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 <sub>B</sub>
	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 <sub>B</sub>
	2	Signal -	0 V
	3	n.c.	Signal
	⊥	Housing	Housing
M12x1, 4 pole	Pin	Output signal: A	Output signal: B
	1	Signal +	+U <sub>B</sub>
	2	n.c.	n.c.
	3	Signal -	0 V
	4	n.c.	Signal

## Model code

HDA 4 7 X X - X - XXX - 000

### Mechanical connection

1 = G1/2 B DIN EN 837 (only for pressure ranges "1600 and 2000 bar")  
4 = G1/4 A ISO 1179-2

### Electrical connection

4 = Plug Binder series 714M18, 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

006; 016; 040; 060; 100; 250; 400; 600; 1000  
1600; 2000 bar (only with mech. connection type "1")

### Modification number

000 = Standard

### 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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