



Pressure Transmitter HDA 4700

Relative pressure

Accuracy 0.25 %



Description:

The pressure transmitter series HDA 4700 has a very accurate 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 enable connection to all measurement and control devices of HYDAC ELECTRONIC GMBH as well as standard evaluation systems (e.g. PLC controls).

The main fields of application are in mobile and industrial hydraulics and pneumatics.

Technical data:

Input data

Measuring ranges	bar	6	16	40	60	100	250	400	600	1000	1600	2000
Overload pressures	bar	15	32	80	120	200	500	800	1000	1600	2400	3000
Burst pressure	bar	100	200	200	300	500	1000	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

Mech. connection: Stainless steel
Seal: FKM

Output data

Output signal, permitted load resistance	4 .. 20 mA, 2-conductor $R_{Lmax} = (U_B - 8 V) / 20 \text{ mA}$ [kΩ] 0 .. 10 V, 3-conductor $R_{Lmin} = 2 \text{ kΩ}$
Accuracy acc. to DIN 16086, terminal based	$\leq \pm 0.25 \%$ FS typ. $\leq \pm 0.5 \%$ FS max.
Accuracy, B.F.S.L.	$\leq \pm 0.15 \%$ FS typ. $\leq \pm 0.25 \%$ FS max.
Temperature compensation	$\leq \pm 0.008 \%$ FS / °C typ.
Zero point	$\leq \pm 0.015 \%$ FS / °C max.
Temperature compensation	$\leq \pm 0.008 \%$ FS / °C typ.
Span	$\leq \pm 0.015 \%$ FS / °C max.
Non-linearity acc. to DIN 16086, terminal based	$\leq \pm 0.3 \%$ FS max.
Hysteresis	$\leq \pm 0.1 \%$ FS max.
Repeatability	$\leq \pm 0.05 \%$ FS
Rise time	$\leq 1 \text{ ms}$
Long-term drift	$\leq \pm 0.1 \%$ 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
Medium temperature range ¹⁾	-40 .. +100 °C / -25 .. +100 °C
CE mark	EN 61000-6-1 / 2 / 3 / 4
cULus 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 60068-2-29	$\leq 100 \text{ g} / 6 \text{ ms}$
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 ⁴⁾	> 10 million cycles, 0 .. 100 % FS
Weight	~ 150 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

¹⁾ -25 °C with FKM 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

⁴⁾ Measuring ranges $\geq 1000 \text{ bar}$: > 1 million cycles (0 .. 100 % FS)

Model code:

HDA 4 7 X X - X - XXX - 000

Mechanical connection

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

Electrical connection

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

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

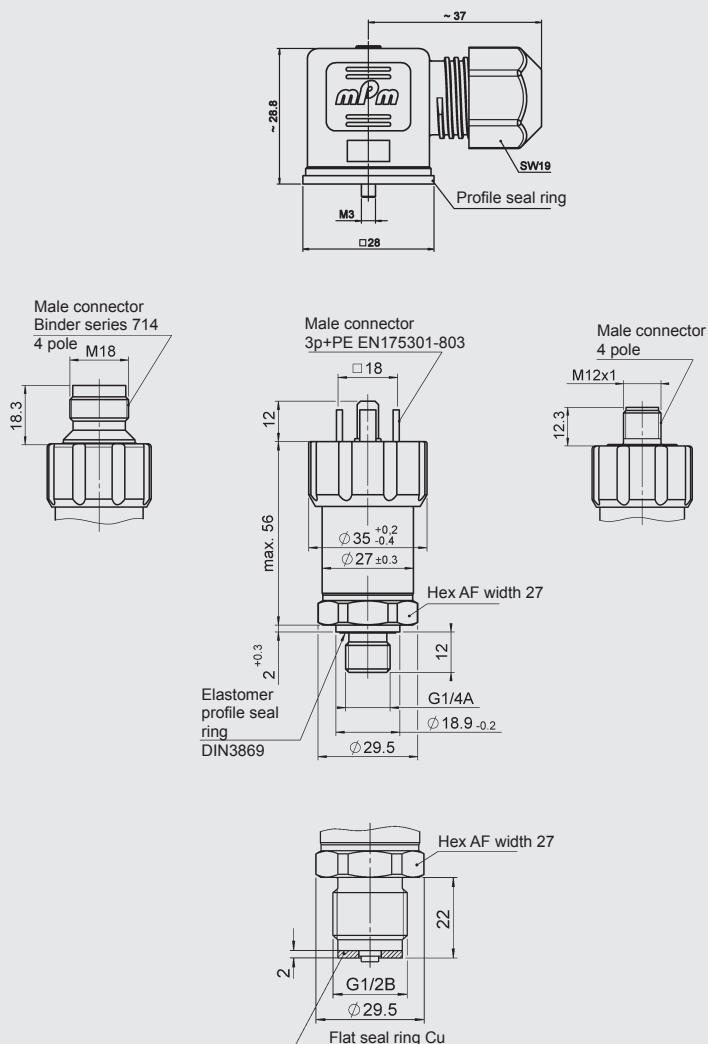
Modification number

000 = standard

Accessories:

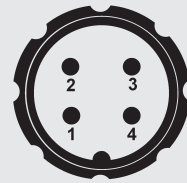
Appropriate accessories, such as mating connectors, can be found in the Accessories brochure.

Dimensions:



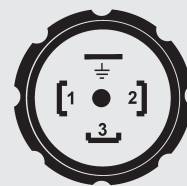
Pin connections:

Binder series 714 M18



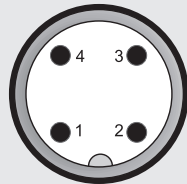
Pin	HDA 47X4-A	HDA 47X4-B
1	n.c.	+U _B
2	Signal +	Signal
3	Signal -	0 V
4	n.c.	n.c.

EN175301-803



Pin	HDA 47X5-A	HDA 47X5-B
1	Signal +	+U _B
2	Signal -	0 V
3	n.c.	Signal
⊥	Housing	Housing

M12x1



Pin	HDA 47X6-A	HDA 47X6-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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