

HDA 4700 Series High Pressure Transducer, High Accuracy



Applications



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 to 20 mA or 0 to 10 V allow for all HYDAC ELECTRONIC measurement and control devices as well as standard evaluation systems (e.g. PLC controls) to be connected.

The main areas of application are in the mobile or industrial sectors of hydraulics and pneumatics, particularly in applications with restricted installation space.

Special Features

- Accuracy $\leq \pm 0.25\%$ BFSL
- Highly robust sensor cell
- Very small temperature error
- Excellent EMC characteristics
- Very compact design
- Excellent price / performance ratio

Approvals



CE mark is a mandatory conformity mark on many products placed on the single market in the European Economic Area

Technical Details

Sensor Specifications	
Measuring ranges - psi	150, 500, 750, 1000, 1500, 3000, 6000, 9000
Overload pressure - psi	290, 1160, 1160, 2900, 2900, 7250, 11600, 14500
Burst pressure - psi	1450, 2900, 2900, 7250, 7250, 14500, 29000, 29000
Mechanical connection	G1/4A DIN 3852 male (bar ranges only) SAE 6 9/16-18 UNF 2A (psi ranges only) other connection upon request
Tightening torque	15 lb-ft (20 Nm)
Parts in contact with media	Stainless Steel, FPM seal
Accuracy (B.F.S.L.) including linearity, hysteresis, and repeatability	$\leq \pm 0.25\%$ BFSL
Temperature compensation zero point	$\leq \pm 0.0045\%$ FS / °F typ. $\leq \pm 0.0085\%$ FS / °F max.
Temperature compensation over range	$\leq \pm 0.0045\%$ FS / °F typ. $\leq \pm 0.0085\%$ FS / °F max.
Rise time	≤ 1 ms
Long-term drift	$\leq \pm 0.1\%$ FS typ. / year
Life expectancy	10 million load cycles (0 to 100% FS)
Weight	Approximately 145 g
Output signal	4 to 20 mA, 2 wire, $R_{Lmax} = (UB - 10V) / 20 \text{ mA}$ [k Ω] 0 to 10 V, 3 wire, $R_{Lmin} = 2 \text{ k}\Omega$
Environmental Condition	
Compensated temperature range	-13° to 185°F (-25° to 85°C)
Operating temperature range	-40° to 185°F (-40° to 85°C)
Storage temperature range	-40° to 212°F (-40° to 100°C)
Media temperature range	-40° to 212°F (-40° to 100°C)
CE mark	EN 61000-6-1 / 2 / 3 / 4
Vibration resistance to DIN EN 60068-2-6 at 10 to 500 Hz	$\leq 20g$
Environmental protection	IP 65 (DIN 43650 and M18x1 connectors) IP 67 (ZBE 06 molded cable)
Electrical Specifications	
Supply voltage, 2-wire	10 to 30 VDC
Supply voltage, 3-wire	12 to 30 VDC
Residual ripple supply voltage	$\leq 5\%$
Max supply current, 3-wire	approximately 25 mA
Reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection	Standard

Model Code

HDA 4 7 X X - X - XXXX - 000 (PSI)

Mechanical Connection*

- 4 = G 1/4 A DIN 3852, male (*bar ranges only*)
 7 = SAE 6, 9/16-18 UNF 2A male (*psi ranges only*)

Electrical Connection*

- 4 = 4 pole plug M18x1 (*connector not included*)
 5 = DIN 43650/ISO 4400 plug, 3 pole + ground (*connector ZBE 01 included*)
 6 = M12x1 plug, 4-pole (*connector not included*)

Output Signal*

- A = 2 conductor, 4-20 mA
 B = 3 conductor, 0-10 VDC

Pressure Range

For HDA 477X only (SAE 6 9/16-18 UNF2A male)
 0150, 0500, 0750, 1000, 1500, 3000, 5000, 6000, 9000 psi

Modification Number

000 = Standard

(psi)

psi version (*Leave blank for bar version*)

*Other options available upon request

Pin Connections

Binder Series 714 M18



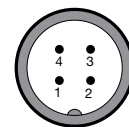
Pin	HDA 47x4-A	HDA 47x4-B
1	nc	+U _B
2	Signal +	Signal
3	Signal -	0 V
4	nc	nc

DIN 43650



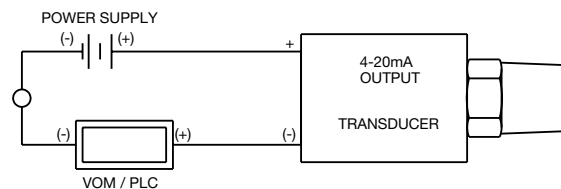
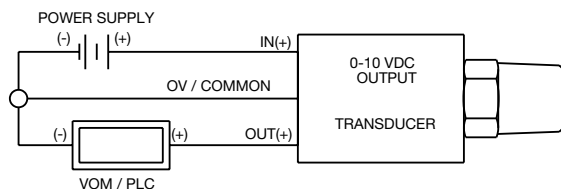
Pin	HDA 47x5-A	HDA 47x5-B
1	Signal +	+U _B
2	Signal -	0 V
3	nc	Signal
4	PE	PE

M12x1



Pin	HDA 47x6-A	HDA 47x6-B
1	Signal +	+U _B
2	nc	nc
3	Signal -	0 V
4	nc	Signal

Circuit Diagram



Dimensions

