HDA 4100 Series Absolute Pressure Transducer





Description

The pressure transmitter series HDA 4100 has a ceramic pressure measurement cell *(with a thickfilm strain gauge)* which has been specially developed for measuring absolute pressure in the low pressure range.

The output signals 4 to 20 mA or 0 to 10 V allow for all HYDAC electronic measurement and control devices to be connected, as well as industry standard control and monitoring instruments.

The main areas of application are low pressure applications in hydraulics and pneumatics, particularly in refrigeration and air conditioning technology, the food and pharmaceutical industries.

Special Features

- Accuracy $\leq \pm 0.5\%$ BFSL
- Very small temperature error
- Excellent EMC characteristics
- Very compact design
- Excelent price / performance ratio

Approvals



Technical Details

Sensor Specifications				
Measuring ranges - psi	15, 50			
Overload pressure - psi	45, 100			
Burst pressure - psi	70, 150			
Mechanical connection	G1/4A DIN 3852 male (<i>bar ranges only</i>) 1/4"-18 NPT male (<i>psi ranges only</i>) other connections upon request			
Tightening torque	G1/4: 15 lb-ft (20 Nm) 1/4" NPT: 30 lb-ft (40 Nm)			
Parts in contact with media	Ceramic, FPM or EPDM seal, stainless steel			
Accuracy (B.F.S.L.) including linearity, hysteresis, and repeatability	≤ ±0.5% BFSL			
Temperature compensation zero point	$\leq \pm 0.012\%$ / °F typ. $\leq \pm 0.017\%$ / °F max.			
Temperature compensation over range	$\leq \pm 0.012\%$ / °F typ. $\leq \pm 0.017\%$ / °F max.			
Rise time	≤ 1 ms			
Long-term drift	\leq ± 0.3% 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, $R_{Lmax} = (UB - 10V) / 20 mA [kΩ]$ 0 to 10 V, 3 wire, $R_{Lmax} = 2 kΩ$			
Environmental Condition				
Compensated temperature range	32° to 176°F (0° to 80°C)			
Operating temperature range	-13° to 185°F (-25° 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	≤ 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 suppy voltage	≤ 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

	<u>HDA 4 1 X</u>	<u>X</u> - 2	<u>X</u> -	<u>XX</u>	<u>XX</u>	- <u>00</u>	00	- <u>X</u>	<u>l (P</u> ;	SI)
Mech 4 8	anical Connection* = G1/4A DIN 3852 male (bar ranges only) = 1/4-18 NPT, male (psi ranges only)								-	
Elect 4 5 6	rical Connection* = 4 pole plug M18x1 (connector not included) = DIN 43650/ISO 4400 plug, 3 pole + ground (connector ZBE 01 included) = M12x1 plug, 4-pole (connector not included)									
Outp A B	ut Signal* = 2 conductor, 4-20 mA = 3 conductor, 0-10 VDC									
Press for H 0015	s ure Range IDA 418X only <i>(1/4-18 NPT)</i> 5, 0050 psi									
Modi 000	fication Number = Standard									
Seal F1 E1	material (in contact with fluid) = FPM-seal (hydraulic oil) = EPDM-seal (water, coolant, ammonia)									
(psi) psi v	ersion (leave blank for bar version)]

Pin Connections

Binder Series 714 M18

	Pin	HDA 41x4-A	HDA 41x4-B
	1	nc	+U _B
<i>[</i> [; ;]]	2	Signal +	Signal
	3	Signal -	0 V
	4	nc	nc

DIN 43650

	Pin	HDA 41x5-A	HDA 41x5-B
	1	Signal +	+U _B
ŢŦŢ	2	Signal -	0 V
	3	nc	Signal
	4	PE	PE

M12x1

Pin	HDA 41x6-A	HDA 41x6-B
1	Signal +	+U _B
2	nc	nc
3	Signal -	0 V
4	nc	Signal

Dimensions







Circuit Diagram

VOM / PLC

*Other options upon request

