

HDA 4100 Series Absolute Pressure Transducer Shipbuilding & Offshore



Applications



Description

This pressure transmitter has been specially developed for shipbuilding applications and is based on the HDA 4000 series.

The HDA 4100 has a ceramic measurement cell with thick-film strain gauge for measuring absolute pressure in the low pressure range. The evaluation electronics converts the measured pressure into a proportional analog signal of 4 to 20 mA.

The electronic module is completely potted to protect it against humidity, vibrations and shock, and is enclosed in a solid stainless steel housing.

For use in the shipping industry, these pressure transmitters have been approved by the following organisations.

Approvals

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

ABS American Bureau of Shipping

GL German Lloyd - GL

Bureau Veritas

Lloyds Register of Shipping - LRS

Det Norske Veritas - DNV

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 (standard for bar ranges only) 1/4"-18 NPT male (standard for psi ranges only) 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	≤ ±0.012%/°F typ. ≤ ±0.017%/°F max.
Temperature compensation over range	≤ ±0.012%/°F typ. ≤ ±0.017%/°F max.
Rise time	≤ 1 ms
Long-term drift	≤ ±0.3%FS typ./year
Life expectancy	10 million load cycles (0 to 100% FS)
Weight	Approximately 150 g
Output signal	4 to 20 mA, 2 wire, $R_{Lmax} = (UB - 10V) / 20 \text{ mA}$ [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	-22° to 212°F (-30° to 100°C)
Media temperature range	-13° to 212°F (-25° 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 connectors) IP 67 (ZBE 06 molded cable)
Other Data	
Supply voltage, 2-wire	10 to 30 VDC
Residual ripple supply voltage	≤ 5%
Reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection	Standard

Model Code

HDA 4 1 X X - X - XXXX - S00 X1 (PSI)

Mechanical Connection*

- 4 = G1/4A DIN 3852 male (bar ranges only)
- 8 = 1/4"-18 NPT (psi ranges only)

Electrical Connection*

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

Output Signal

- A = 4-20mA, 2-wire

Pressure Range

For HDA 418X only (1/4"-18 NPT)
0015, 0050 psi

Modification Number

- S00 = with Shipbuilding approvals

Seal Material

- F1 = FPM Seal (hydraulic oil)
- E1 = EPDM Seal (coolant, ammonia, water)

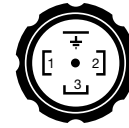
(psi)

psi version (leave blank for bar version)

*Other options available upon request

Pin Connections

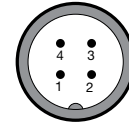
DIN 43650



Pin HDA 41X5-A

- | | |
|---|----------|
| 1 | Signal + |
| 2 | Signal - |
| 3 | nc |
| 4 | PE |

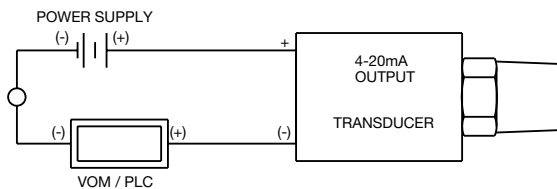
M12x1



Pin HDA 41X6-A

- | | |
|---|----------|
| 1 | Signal + |
| 2 | nc |
| 3 | Signal - |
| 4 | nc |

Circuit Diagram



Dimensions

