HYDAC INTERNATIONAL

Electronic Pressure Transmitter

HDA 4100

with Approvals for Shipping

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 analogue signal of 4 .. 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:

- American Bureau of Shipping
- Lloyds Register of Shipping
- Det Norske Veritas
- Germanischer Lloyd
- Bureau Veritas

Other approvals on request

Technical specifications:

Input data	
Measuring ranges	1; 2.5 bar
Overload pressures	3; 8 bar
Burst pressures	5; 12 bar
Mechanical connection	G1/4 A DIN 3852
Torque value	20 Nm
Parts in contact with medium	Mech. connection: Stainless steel Sensor cell: Ceramic Seal: FPM / EPDM (as per model code)
Output data	
Output signal, permitted load resistance	4 .. 20 mA, 2 conductor $R_{Lmax.} = (U_B - 10\ V) / 20\ mA\ [k\Omega]$
Accuracy to DIN 16086 Max. setting	≤ ± 0.5 % FS typ. ≤ ± 1 % FS max.
Accuracy at min. setting (B.F.S.L.)	≤ ± 0.25 % FS typ. ≤ ± 0.5 % FS max.
Temperature compensation Zero point	≤ ± 0.02 % FS / °C typ. ≤ ± 0.03 % FS / °C max.
Temperature compensation Over range	≤ ± 0.02 % FS / °C typ. ≤ ± 0.03 % FS / °C max.
Non-linearity at max. setting to DIN 16086	≤ ± 0.5 % FS max.
Hysteresis	≤ ± 0.25 % FS max.
Repeatability	≤ ± 0.1 % FS
Rise time	≤ 1 ms
Long-term drift	≤ ± 0.3 % FS typ. / year
Environmental conditions	
Compensated temperature range	0 .. +80 °C
Operating temperature range	-25 .. +85 °C*
Storage temperature range	-30 .. +100 °C
Fluid temperature range	-25 .. +100 °C *
CE mark	EN 61000-6-1 / 2 / 3 / 4
Vibration resistance to DIN EN 60068-2-6 at 10 .. 500 Hz	≤ 20 g
Protection class to DIN 40050	IP 65 (connector to DIN 43650 and Binder 714 M18) IP 67 (M12x1, when an IP 67 connector is used)
Other data	
Supply voltage	10 .. 32 V DC
Residual ripple of supply voltage	≤ 5 %
Life expectancy	> 10 million cycles 0 .. 100 % FS
Weight	approx. 150 g

Note: Reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection are provided.
FS (**F**ull **S**cale) = relative to complete measuring range
B.F.S.L. = **B**est **F**it **S**traight **L**ine

* To -30 °C as an option (depending on the seal material)

Model code:

HDA 4 1 4 X – A – XXXX – S00 – X 1

Mechanical connection
4 = G1/4 A DIN 3852 (male)

Electrical connection
5 = 3 pole + PE, DIN 43650, male (connector supplied)
6 = M12x1, 4 pole, male (connector not supplied)

Signal
A = 4 .. 20 mA, 2 conductor

Pressure ranges in bar
01.0; 02.5

Modification number
S00 = with approvals for shipping

Seal material (in contact with fluid)
F = FPM seal (e.g.: for hydraulic oils)
E = EPDM seal (e.g.: for refrigerants)

Material of connection (in contact with fluid)
1 = stainless steel

Note:
On instruments with a different modification number, please read the label or the technical amendment details supplied with the instrument.

Accessories:
Appropriate accessories, such as electrical connectors can be found in the Accessories section.

Pin connections:

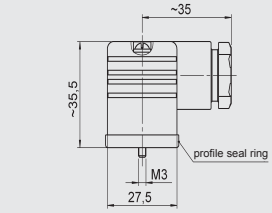
DIN 43650

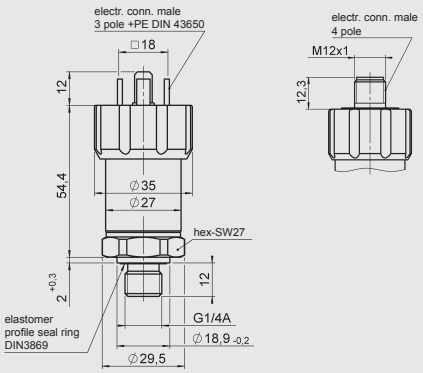
Pin	HDA 4145-A
1	Signal+
2	Signal-
3	n.c.
⊥	PE

M12x1

Pin	HDA 4146-A
1	Signal+
2	n.c.
3	Signal-
4	n.c.

Dimensions:





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.