Pressure Transmitter
HDA 4100 shipping applications

Absolute pressure | **Accuracy 0.5 %**

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-layer 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 Ships
- Det Norske Veritas/ Germanischer Lloyd
- Bureau Veritas

Other approvals on request

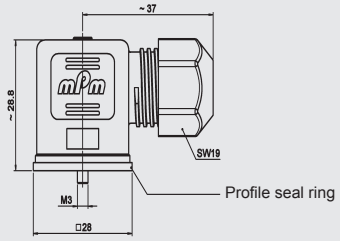
Technical data:

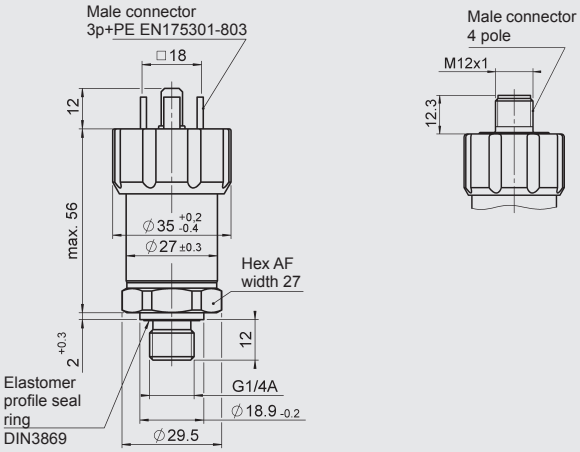
Input data			
Measuring ranges	bar	1	2.5
Overload pressures	bar	3	8
Burst pressure	bar	5	12
Mechanical connection	G1/4 A ISO 1179-2		
Tightening torque, recommended	20 Nm		
Parts in contact with fluid	Mech. connection: Stainless steel Sensor cell: Ceramic Seal: FKM/EPDM (as per model code)		
Output data			
Output signal, permitted load resistance	4 .. 20 mA, 2-conductor $R_{Lmax} = (U_B - 10\ V) / 20\ mA\ [k\Omega]$		
Accuracy acc. to DIN 16086, terminal based	≤ ± 0.5 % FS typ. ≤ ± 1 % FS max.		
Accuracy, 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 Span	≤ ± 0.02 % FS / °C typ. ≤ ± 0.03 % FS / °C max.		
Non-linearity acc. to DIN 16086, terminal based	≤ ± 0.5 % FS max.		
Hysteresis	≤ ± 0.4 % FS max.		
Repeatability	≤ ± 0.1 % FS		
Rise time	≤ 1 ms		
Long-term drift	≤ ± 0.3 % FS typ. / year		
Environmental conditions			
Compensated temperature range	-25 .. +85 °C		
Operating temperature range [1]	-30 .. +85 °C / -25 .. +85 °C		
Storage temperature range	-30 .. +100 °C		
Fluid temperature range [1]	-30 .. +85 °C / -25 .. +85 °C		
CE mark	EN 61000-6-1 / 2 / 3 / 4		
Vibration resistance acc.to DIN EN 60068-2-6 at 5 .. 500 Hz	≤ 20 g		
Protection class acc. to DIN EN 60529 [2]	IP 67		
Other data			
Supply voltage	10 .. 32 V DC		
Residual ripple of supply voltage	≤ 5 %		
Life expectancy	> 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 (**F**ull **S**cale) = relative to complete measuring range
B.F.S.L. = **B**est **F**it **S**traight **L**ine

[1] -25 °C with FKM or EPDM seal, -30 °C on request
[2] With mounted mating connector in corresponding protection class

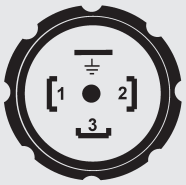
Dimensions:





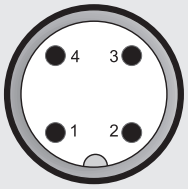
Pin connections:

EN175301-803



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

M12x1



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

Model code:

HDA 4 1 4 X – A – XXXX – S00 – X 1

Mechanical connection
4 = G1/4 A ISO 1179-2

Electrical connection
5 = male, EN175301-803, 3 pole + PE
(IP 67 mating connector supplied)
6 = male M12x1, 4 pole
(mating connector not supplied)

Output signal
A = 4 .. 20 mA, 2-conductor

Measuring ranges in bar
01.0; 02.5

Modification number
S00 = with approvals for shipping

Sealing material (in contact with fluid)
F = FKM seal (e.g. for hydraulic oils)
E = EPDM seal (e.g. for refrigerants)

Connection material (in contact with fluid)
1 = stainless steel

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

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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