



Pressure Transmitter

HDA 4100

Marine applications

Absolute pressure

Accuracy 0.5 %



ABS



Lloyd's
Register



Features

- Accuracy $\leq \pm 0.5 \%$ FS typ.
- Minor temperature error
- Excellent EMC characteristics

Approvals:

- American Bureau of Shipping
- Lloyds Register of Ships
- DNV
- Bureau Veritas

Other approvals on request

Description

The pressure transmitter series HDA 4100 is designed to measure absolute pressures in low-pressure ranges by means of its ceramic thick-film cell.

The electronic evaluation unit converts the measured pressure into a proportional analogue signal from 4..20 mA.

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

Application fields

HDA 4100 has been specially developed for the use in ship engineering industry.

For use in the ship engineering sector, these pressure transmitters have been approved by the below listed organisations.

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 ring: FKM / EPDM (acc. to model code)		
Output data			
Output signal, permitted load resistance	20 mA, 2-conductor $R_{Lmax} = (U_B - 10 \text{ V}) / 20 \text{ mA [k}\Omega\text{]}$		
Accuracy acc. to DIN 16086, Terminal based ¹⁾	$\leq \pm 0.5 \text{ \% FS typ.}$ $\leq \pm 1.0 \text{ \% FS max.}$		
Accuracy at minimum value setting (B.F.S.L.)	$\leq \pm 0.25 \text{ \% FS typ.}$ $\leq \pm 0.5 \text{ \% FS max.}$		
Temperature compensation offset	$\leq \pm 0.02 \text{ \% FS / } ^\circ\text{C typ.}$ $\leq \pm 0.03 \text{ \% FS / } ^\circ\text{C max.}$		
Temperature compensation span	$\leq \pm 0.02 \text{ \% FS / } ^\circ\text{C typ.}$ $\leq \pm 0.03 \text{ \% FS / } ^\circ\text{C max.}$		
Rise time	$\leq 2 \text{ ms}$		
Long-term drift	$\leq \pm 0.3 \text{ \% FS typ. / year}$		
Environmental conditions / Approvals / Tests			
Compensated temperature range	-25..+85 °C		
Operating temperature range	-25..+70 °C		
Storage temperature range	-40..+100 °C		
Fluid temperature range	-25..+70 °C		
EMC	2014/30/EU EN 61000-6-1 / 2 / 3 / 4		
Vibration resistance	DIN EN 60068-2-6	$\leq 200 \text{ m/s}^2 \text{ (10..500 Hz)}$	
Shock resistance	DIN EN 60068-2-27	$\leq 100 \text{ g / 6 ms}$	
Protection type ²⁾	DIN EN 60529	IP 67	
CE conformity	Available		
Other data			
Supply voltage	10..32 V DC		
Residual ripple of the supply voltage	$\leq 5 \text{ \%}$		
Current consumption	$\leq 25 \text{ mA}$		
Life expectancy	>10 million load cycles (0..100 % FS)		
Weight	~ 150 g		

Note: Reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection are provided.

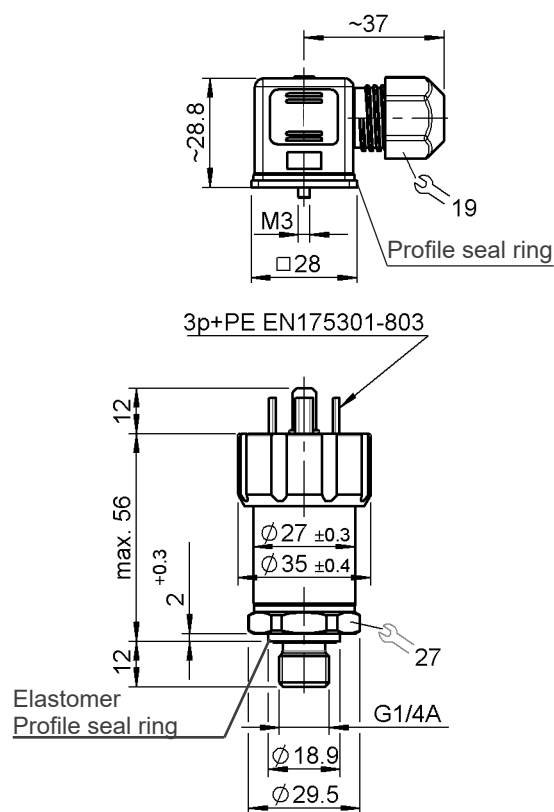
FS (Full Scale) = relative to complete measuring range

B.F.S.L. = Best Fit Straight Line

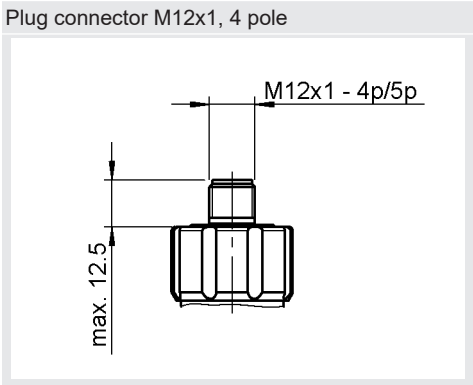
¹⁾ Including non-linearity, hysteresis, offset and final value deviation

²⁾ With mounted mating connector in corresponding protection type

Dimensions



Electrical connection variants



Pin connections

EN 175301-803, 3 pole + PE	Pin	Output signal: A
	1	Signal +
	2	Signal -
	3	n.c.
	┴	Housing
M12x1, 4 pole	Pin	Output signal: 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 = Plug connector EN175301-803, 3 pole + PE (with mating connector IP67)

6 = Plug connector M12x1, 4 pole (without mating connector)

Output signal

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

Measuring ranges in bar

01.0; 0.25

Modification number

S00 = Ship approval

Sealing material (in contact with fluid)

E = EPDM seal (e.g. for cooling liquids)

F = FKM seal (e.g. for hydraulic oils)

Connection material (in contact with fluid)

1 = Stainless steel

Accessories:

Appropriate accessories, such as mating connectors for electrical connection, can be found in the Accessories brochure.

Note

The information in this brochure relates to the operating conditions and applications described.

For applications and/or operating conditions not described please contact the relevant technical department.

Subject to technical modifications.

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