HYDAC INTERNATIONAL

Pressure Transmitter
HDA 4300
Marine applications

Relative pressure	Accuracy 0.5 %

Features

- Accuracy ≤ ± 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 4300 is designed to measure relative 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 of 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.

Fields of application

HDA 4300 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									
Measurement ranges	bar	1	2.5	4	6	10	16	25	40
	bar	-1 .. 5	-1 .. 9						
Overload pressures	bar	3	8	12	20	32	50	80	120
	bar	20	32						
Burst pressure	bar	5	12	18	30	48	75	120	180
	bar	30	48						
Mechanical connection		G1/4 A ISO 1179-2							
Tightening torque, recommended		20 Nm							
Parts in contact with fluid		Connector: Stainless steel Sensor cell: Ceramic Seal ring: FKM / EPDM (acc. to 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 [1]		≤ ± 0.5 % FS typ. ≤ ± 1.0 % FS max.							
Accuracy at minimum value 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 span		≤ ± 0.02 % FS / °C typ. ≤ ± 0.03 % FS / °C max.							
Rise time		≤ 2 ms							
Long-term drift		≤ ± 0.3 % FS typ. / year							
Environmental conditions / Approvals / Tests									
Compensated temperature range		-25 .. +85 °C							
Operating temperature range [2]		-30 .. +85 °C / -25 .. +85 °C							
Storage temperature range		-30 .. +100 °C							
Fluid temperature range [2]		-30 .. +100 °C / -25 .. +100 °C							
EMC		2014/30/EU EN 61006-6-1 / 2 / 3 / 4							
Vibration resistance		DIN EN 60068-2-6				≤ 200 m/s² (10 .. 500 Hz)			
Shock resistance		DIN EN 60068-2-27				≤ 100 g / 6 ms			
Protection type [3]		DIN EN ISO 60529				IP 67			
CE conformity		Provided							
Other data									
Supply voltage		10 .. 32 V DC							
Residual ripple of supply voltage		≤ 5 %							
Current consumption		≤ 25 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.

B.F.S.L. = **B**est **F**it **S**traight **L**ine

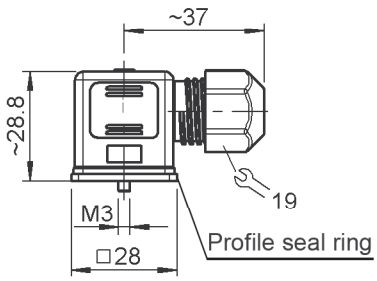
FS (**F**ull **S**cale) = relative to complete measuring range

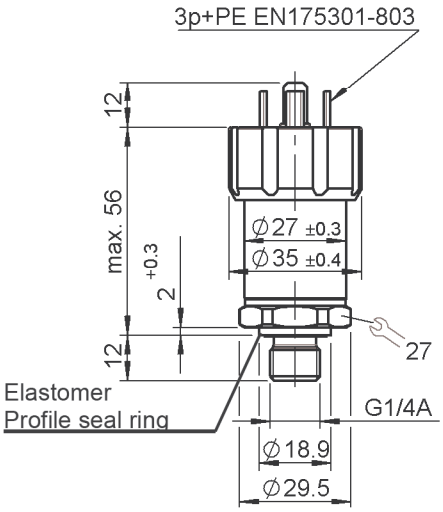
[1] Including non-linearity, hysteresis, offset and final value deviation

[2] In the standard up to -25 °C with FKM seal or EPDM seal, -30 °C on request

[3] With mounted mating connector in corresponding protection type

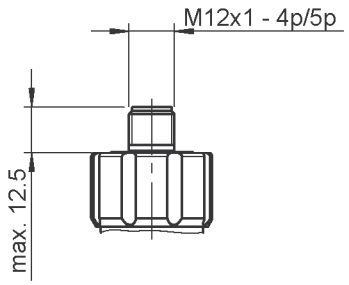
Dimensions





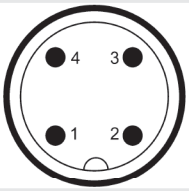
Electrical connection variants

Plug connector M12x1, 4 pole



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 3 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; 02,5; 04,0; 06,0; 0010; 0016; 0025; 0040
0005 (-1 .. 5); 0009 (-1 .. 9)

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, 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.