HYDAC INTERNATIONAL

Pressure Transmitter
HDA 4700 shipping applications

Relative pressure | **Accuracy 0.25 %**

Description:

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

The HDA 4700 is designed to measure relative pressures in the high pressure range by means of its sensor measurement cell with thin-film strain gauge on a stainless steel membrane.

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	6	16	40	60	100	250	400	600	1000[1]	1600[1]
Overload pressures	bar	15	32	80	120	200	500	800	1000	1600	2400
Burst pressure	bar	100	200	200	300	500	1000	2000	2000	3000	3000
Mechanical connection		G1/4 A ISO 1179-2 G1/2 B DIN EN 837									
Tightening torque, recommended		20 Nm (G1/4), 45 Nm (G1/2)									
Parts in contact with fluid		Mech. connection: Stainless steel Seal: FKM									
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		≤ ± 0.25 % FS typ. ≤ ± 0.5 % FS max.									
Accuracy, B.F.S.L.		≤ ± 0.15 % FS typ. ≤ ± 0.25 % FS max.									
Temperature compensation Zero point		≤ ± 0.008 % FS / °C typ. ≤ ± 0.015 % FS / °C max.									
Temperature compensation Span		≤ ± 0.008 % FS / °C typ. ≤ ± 0.015 % FS / °C max.									
Non-linearity acc. to DIN 16086, terminal based		≤ ± 0.3 % FS max.									
Hysteresis		≤ ± 0.1 % FS max.									
Repeatability		≤ ± 0.05 % FS									
Rise time		≤ 1 ms									
Long-term drift		≤ ± 0.1 % FS typ. / year									
Environmental conditions											
Compensated temperature range		-25 .. +85 °C									
Operating temperature range [2]		-40 .. +85 °C / -25 .. +85 °C									
Storage temperature range		-40 .. +100 °C									
Fluid temperature range [2]		-40 .. +100 °C / -25 .. +100 °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 [3]		IP 67									
Other data											
Supply voltage		10 .. 32 V DC									
Residual ripple of supply voltage		≤ 5 %									
Life expectancy [4]		> 10 million cycles, 0 .. 100 % FS									
Weight		~ 150 g									

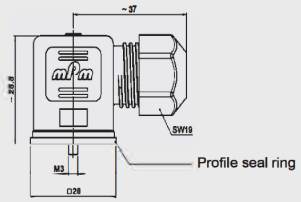
Note: Reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection are provided.
FS (**F**ull **S**cale) = relative to complete measuring range
B.F.S.L. = **B**est **F**it **S**traight **L**ine

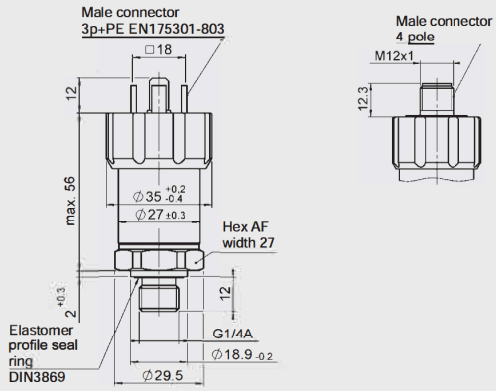
[1] Measuring ranges: approval for Lloyds Register on request, 1000 bar and above only with connection G 1/2 B DIN EN 837
[2] -25 °C with FKM seal, -40 °C on request
[3] With mounted mating connector in corresponding protection class
[4] Measuring ranges ≥ 1000 bar: > 1 million cycles (0 .. 100 % FS)

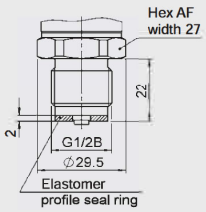
EN 18.322.3/02.18

1

Dimensions:

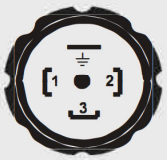






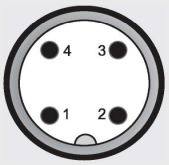
Pin connections:

EN175301-803



Pin	HDA 47X5-A
1	Signal +
2	Signal -
3	n.c.
⊥	Housing

M12x1



Pin	HDA 47X6-A
1	Signal +
2	n.c.
3	Signal -
4	n.c.

Model code:

HDA 4 7 X X – A – XXXX – S00

Mechanical connection
1 = G1/2 B DIN EN 837
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
0006; 0016; 0040; 0060; 0100; 0250; 0400; 0600
1000; 1600 bar (only with mech. connection code "1")

Modification number
S00 = with approvals for shipping

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