HYDAC INTERNATIONAL

Pressure Transmitter
HDA 7446

Relative pressure | **Accuracy 0.5 %**

Features

- Accuracy ≤ ± 0.5 % FS typ.
- Extremely small and compact design
- Exceptional temperature and EMC properties

Description

The pressure transmitter series HDA 7400 for the measurement of relative pressures in the high-pressure range has a stainless steel sensor cell with a thin-film strain gauge, which forms the basis for a robust and long-life pressure transmitter.

The device series combines excellent technical data with a very small and compact design.

Various pressure ranges between 0 .. 10 bar and 0 .. 1000 bar can be supplied to suit the particular application.

For the implementation of controls (e.g. PLC) the analogue signals 4 .. 20 mA or 0.. 10 V are available.

Further pressure ranges and output signals are available on request.

Application fields

The HDA 7446 pressure transmitter series has been specially designed for series use, particularly where space is limited.

Technical data

Input data											
Measuring ranges	bar	10	16	25	40	60	100	250	400	600	1000
Overload pressures	bar	20	32	50	80	120	200	500	800	1000	1600
Burst pressure	bar	100	100	125	200	300	500	1250	2000	2000	3000
Mechanical connection		G1/4 A ISO 1179-2 (Mod 050 with 0.5 mm orifice)									
Tightening torque, recommended		20 Nm									
Parts in contact with fluid		Connector: Stainless steel Seal: FKM									
Output data											
Output signal, permitted load resistance		4..20 mA, 2-conductor $R_{Lmax} = (U_B - 8\ V) / 20\ mA\ [k\Omega]$ 0..10 V, 3-conductor $R_{Lmin} = 2\ k\Omega$									
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 offset		≤ ± 0.015 % FS / °C typ. ≤ ± 0.025 % FS / °C max.									
Temperature compensation span		≤ ± 0.015 % FS / °C typ. ≤ ± 0.025 % 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]		-40..+85 °C / -25..+85 °C									
Storage temperature range		-40..+100 °C									
Fluid temperature range [2]		-40..+100 °C / -25..+100 °C									
EMC		2014/30/EU EN 61000-6-1 / 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 60529					IP 67				
CE / UKCA conformity		Available									
cULus approval [4]		Available									
Other data											
Supply voltage when applied acc. to UL specifications		8..30 V DC 2-conductor 12..30 V DC 3-conductor -limited energy- acc. to 9.3 UL 61010; Class 2 UL 1310/1585; LPS UL 60950									
Residual ripple of the supply voltage		≤ 5 %									
Current consumption		≤ 25 mA									
Life expectancy[5]		>10 million load cycles (0..100 % FS)									
Weight		~ 60 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] Including non-linearity, hysteresis, offset and final value deviation

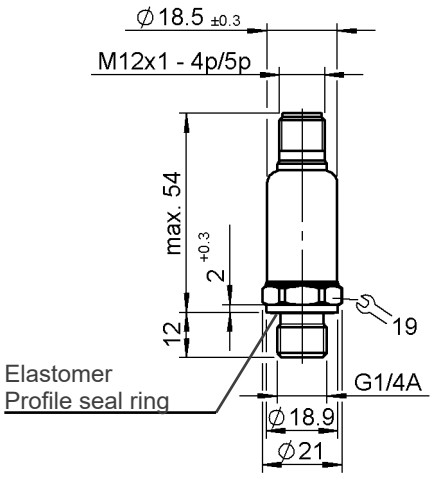
[2] In the standard up to -25 °C with FKM seal, -40 °C on request

[3] With mounted mating connector in corresponding protection type

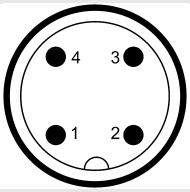
[4] Environmental conditions acc. to 1.4.2 UL 61010-1; C22.2 no. 61010-1

[5] Measuring ranges ≥ 1000 bar: > 1 million load cycles (0..100 % FS)

Dimensions



Pin connections

M12x1, 4 pole	Pin	Output signal: A	Output signal: B
	1	Signal +	$+U_B$
	2	n.c.	n.c.
	3	Signal -	0 V
	4	n.c.	Signal

Model code

HDA 7 4 4 6 - X - XXX - XXX

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

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

Output signal
A = 4.. 20 mA, 2-conductor
B = 0 .. 10 V, 3-conductor

Measuring ranges in bar
010; 016; 025; 040; 060; 100; 250; 400; 600; 1000

Modification number
000 = Standard
050 = With 0.5 mm orifice

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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