HYDAC INTERNATIONAL

Pressure Transmitter
HDA 7400
Flush membrane

Relative pressure | **Accuracy 0.5 %**

Features

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

Description

In line with the standard version, the HDA 7400 with flush membrane for relative pressure measurement in the high pressure range has a stainless steel measuring cell with thin-film strain gauge.
The pressure port is achieved with a fully sealed stainless steel front membrane filled internally with a pressure transfer fluid which transmits the process pressure hydrostatically to the measurement cell.

The output signals 4 .. 20 mA or 0 .. 10 V permit connection to all HYDAC measuring and control devices, as well as connection to standard evaluation systems (e.g. PLCcontrols).

Fields of application

The pressure Transmitter HDA 7400 with flush membrane was designed specifically for applications in which a standard pressure port could become blocked, clogged or frozen by the particular fluid used.
Further applications include processes where the fluid changes regularly and any residues could cause mixing or contamination of the fluid.

Thanks to its extremely small and compact design, the sensor is particularly suited for extremely narrow spaces.

Technical data

Input data						
Measuring ranges	bar	40	100	250	400	600
Overload pressures	bar	80	200	500	800	1000
Burst pressure	bar	200	500	1250	2000	2000
Mechanical connection		G1/4 A ISO 1179-2 G1/4 with additional front O-ring seal				
Pressure transfer fluid		Silicone-free oil				
Tightening torque, recommended		20 Nm				
Parts in contact with fluid [1]		Connector: Stainless steel Seal: FKM O-ring: 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 [2]		≤ ± 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		≤ ± 0.015 % 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		-25 .. +85 °C				
Storage temperature range		-40 .. +100 °C				
Fluid temperature range [3]		-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 [4]		DIN EN 60529				IP 67
CE / UKCA conformity		Provided				
cULus approval [5]		Provided				
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 supply voltage		≤ 5 %				
Current consumption		≤ 25 mA				
Life expectancy		> 10 million load cycles (0 .. 100 % FS)				
Weight		~ 80 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] Other seal materials on request

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

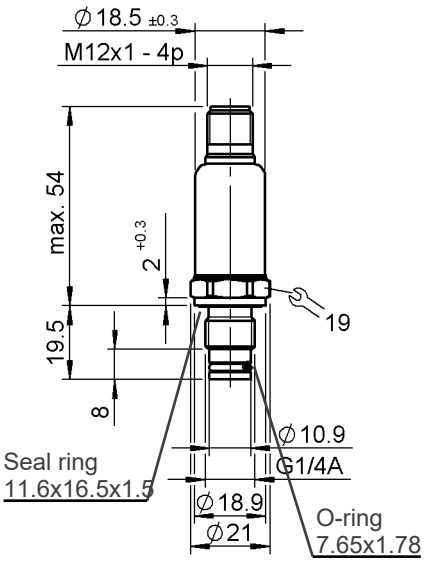
[3] In the standard up to -25 °C with FKM seal, -30 °C on request

[4] With mounted mating connector in corresponding protection type

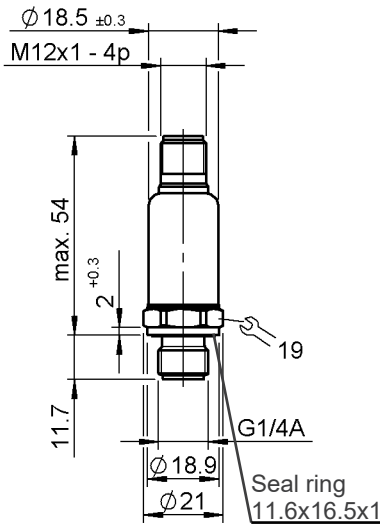
[5] Environmental conditions acc. to 1.4.2 UL 61010-1; C22.2 no. 61010-1

Dimensions

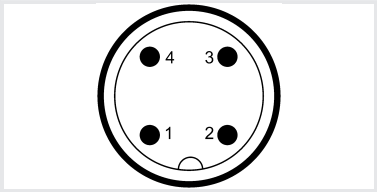
[G04]



[G05]



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 Z 6 - X - XXXX - XXX - 000

Process connection, mechanical
Z = Flush membrane

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
0040; 0100; 0250; 0400; 0600

Mechanical connection
G02 = G1/4 with additional front O-ring seal
G05 = G1/4 A ISO 1179-2

Modification number
000 = Standard

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.

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