HYDAC INTERNATIONAL

Pressure transmitter

HDA 4400

IO-Link interface

Relative pressure | **Accuracy 0.5 %**

IO-Link cULus

Features

- IO-Link interface
- Robust design
- Exceptional temperature and EMC properties
- Device temperature monitoring

Description

HDA 4400 with IO-Link interface is a digital pressure transmitter which is used to measure relative pressures in hydraulics and pneumatics.

It has a very accurate and robust sensor cell with a thin-film strain gauge on a stainless steel membrane.
The sensor also features outstanding temperature and EMC properties as well as a small, compact design.

IO-Link is a communication interface between the sensor / actuator (IO-Link device) and an IO-Link master based on a point-to-point interface.

Process data, parameters and diagnostic information from the pressure sensor can be transmitted via the standard cable (SDCI Mode).

Fields of application

The pressure sensor has a wide range of applications primary in the industrial sector.
The pressure sensor is used in particular in systems where continuous, intelligent monitoring is required.

Technical data

Input data										
Measurement ranges	bar	16	25	40	60	100	250	400	600	1000
Overload pressures	bar	32	50	80	120	200	500	800	1000	1600
Burst pressure	bar	100	125	200	300	500	1250	2000	2000	3000
Mechanical connection			G 1/4 A ISO 1179-2, external thread							
Tightening torque, recommended			20 Nm							
Parts in contact with fluid			Connector: Seal: Stainless steel: FKM							
Output data										
Output signal			IO-Link V1.1							
Accuracy [1] acc. to DIN 16086, Terminal based[2]			≤ ± 0.5 % FS typ. ≤ ± 1.0 % FS max.							
Accuracy [1]acc. to 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			≤ 5 ms							
Long-term drift			≤ ± 0.3 % FS typ. / year							
Environmental conditions / Approvals / Tests										
Compensated temperature range			-25 .. +85 °C							
Operating temperature range [3]			-40 .. +85 °C / -25 .. +85 °C							
Storage temperature range			-40 .. +100 °C							
Fluid temperature range [3]			-40 .. +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 / half sine 500 g / 1 ms / half sine			
Protection type [4]			DIN EN 60529				IP 67			
CE / UKCA conformity			Provided							
cULus approval [5]			Provided							
IO-Link specific data										
IO-Link revision			V1.1							
Port Class			A and B							
Transmission rate, Baud rate			384 kBaud (COM2)							
Minimum Cycle Time			2.5 ms							
Process data width			16 Bit (14 measured value - + 2 switching bits)							
SIO Mode supported			Yes							
M-Sequence capability			PREOPERATE = TYPE_1_V (8 OD-Bytes) OPERATE = TYPE_2_2 (1 OD-Byte) ISDU supported							
Download of the IO Device Description (IODD) at: https://ioddfinder.io-link.com/#/										
Other data										
Supply voltage when applied acc. to UL specifications			9 .. 35 V DC (18 .. 30 V DC for communication operation) 9 .. 35 V DC - limited energy – acc. to 9.3 UL 1310/1585; LPS UL 60950							
Residual ripple of supply voltage			≤ 5 %							
Current consumption			≤ 25 mA (without communication)							
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] The accuracy indications refer to the –measured value(process value or ISDU Index 112, Subindex 1).

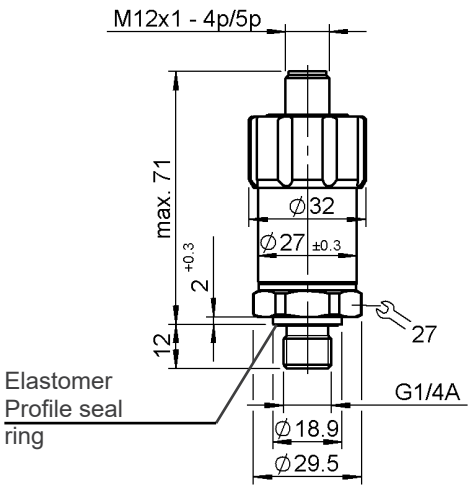
[2] Including non-linearity, hysteresis, offset and final value deviation

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

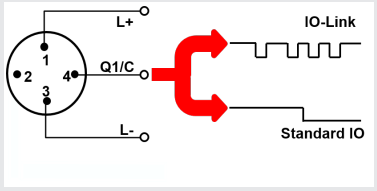
[4] With mounted mating connector in corresponding protection type

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

Dimensions



Pin connections

M12x1, 4 pole	Pin	Output signal: F31	
		Signal	Description
	1	L+	$+U_B$
	2		n.c.
	3	L-	0 V
	4	Q1/C	Switching output (SP1) / IO-Link communication

Model code

HDA 4 4 4 6 - F31 - XXXX - 000

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

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

Output signal
F31 = IO-Link

Pressure ranges in bar
0016; 0025; 0040; 0060; 0100; 0160; 0250; 0400; 0600; 1000

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.

HYDAC ELECTRONIC GMBH
Hauptstrasse 27
D-66128 Saarbruecken
Phone: +49 (0)6897 509-1
Fax: +49 (0)6897 509-1726
Email: electronic@hydac.com
Website: www.hydac.com