

HYDAC INTERNATIONAL



Pressure Transmitter HDA 4400

Relative pressure

Accuracy 0.5 %



Features

- Accuracy $\leq \pm 0.5 \%$ FS typ.
- Minor temperature error
- Excellent EMC characteristics

Description

The pressure transmitter series HDA 4400 for relative pressure measurement in low and high pressure ranges is equipped with a measurement cell with thin-film strain gauge on a stainlesssteel membrane. The output signals 4 .. 20 mA or 0 .. 10 V permit connection to all HYDAC ELECTRONIC GMBH measuring and control devices, as well as connection to standard evaluation systems (e.g.: PLC controls).

Fields of application

Applications are mainly found in the mobile or industrial sector in hydraulics and pneumatics.

Technical data

Input data									
Measuring ranges	bar	-1 .. 1	2.5	6	10	16	25	40	60
	bar	100	250	400	600	1000	1600	2000	
Overload pressures	bar	8	8	12	20	32	50	80	120
	bar	200	500	800	1000	1600	2400	3000	
Burst pressure	bar	100	100	100	100	100	125	200	300
	bar	500	1250	2000	2000	3000	3000	4000	
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		Connector: Stainless steel Seal ring: FKM							
Output data									
Output signal, permitted load resistance		4 .. 20 mA, 2-conductor $R_{Lmax} = (U_b - 8 \text{ V}) / 20 \text{ mA}$ [kΩ] 0 .. 10 V, 3-conductor $R_{Lmin} = 2 \text{ kΩ}$							
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		≤ ± 0.015 % FS / °C typ. ≤ ± 0.025 % FS / °C max.							
Temperature compensation span		≤ ± 0.015 % FS / °C typ. ≤ ± 0.025 % FS / °C max.							
Rise time		≤ 1 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 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 65 (Binder 714 M18) IP 67 (plug M12x1; plug EN 175301-803)			
  conformity		Provided							
 approval ⁴⁾		Provided							
Other data									
Supply voltage		8 .. 30 V DC, 2 conductor 12 .. 30 V DC, 3 conductor							
Supply voltage when applied acc. to UL specifications		- 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 ⁵⁾		> 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. = Best Fit Straight Line

FS (Full Scale) = relative to complete measuring range

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

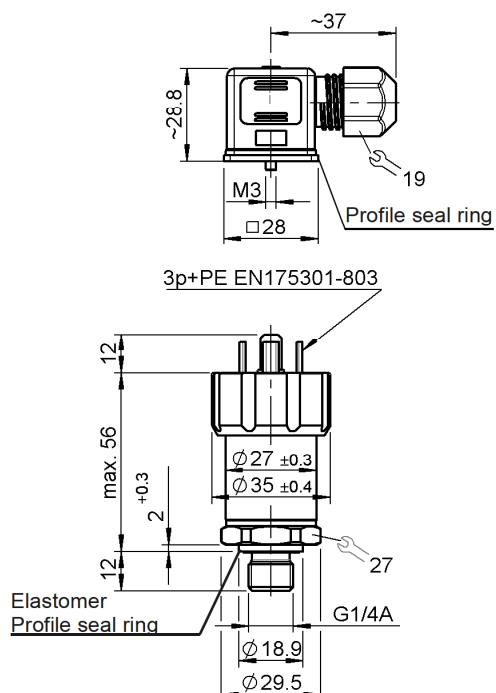
²⁾ In the standard up to -25 °C with FKM seal, -40 °C on request

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

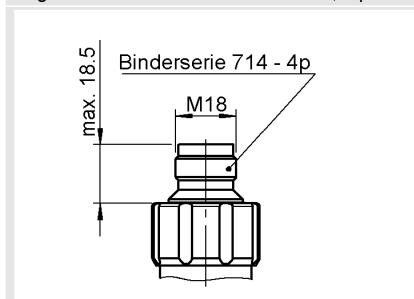
⁵⁾ Measuring ranges ≥ 1000 bar: > 1 million load cycles (0 .. 100 % FS)

Dimensions

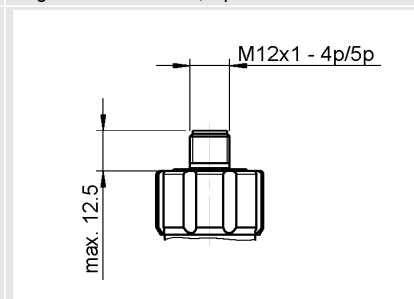


Electrical connection variants

Plug connector Binder series 714 M18, 4 pole

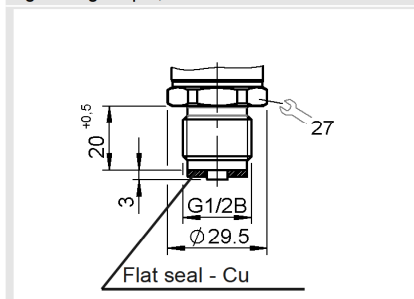


Plug connector M12x1, 4 pole

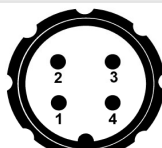
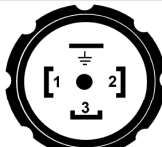
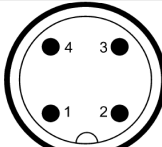


Mechanical connection variants

G1/2 B DIN EN 837 / external
Tightening torque, recommended: 45 Nm



Pin connections

Binder series 714 M18, 4 pole	Pin	Output signal: A	Output signal: B
	1	n.c.	+U _B
	2	Signal +	Signal
	3	Signal -	0 V
	4	n.c.	n.c.
EN 175301-803, 3 pole + PE	Pin	Output signal: A	Output signal: B
	1	Signal +	+U _B
	2	Signal -	0 V
	3	n.c.	Signal
	┴	Housing	Housing
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 4 4 X X - X - XXX - 000

Mechanical connection

1 = G1/2 B DIN EN 837 (only for pressure ranges "1600 and 2000 bar")
 4 = G1/4 A ISO 1179-2

Electrical connection

4 = Plug Binder series 714 M18, 4 pole (without mating connector)
 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
 B = 0 .. 10 V, 3 conductor

Measuring ranges in bar

001 (-1 .. 1); 2,5; 006; 010; 016; 025; 040; 060; 100; 250; 400; 600; 1000
 1600; 2000 bar (only with mech. connection type "1")

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.