HYDAC INTERNATIONAL

Electronic Pressure Transmitter

HDA 4100

Description:

The pressure transmitter series HDA 4100 has a ceramic pressure measurement cell with a thick-film strain gauge which has been specially developed for measuring absolute pressure in the low pressure range.

The output signals 4 ..20 mA or 0 .. 10 V enable connection of all HYDAC ELECTRONIC measurement and control devices as well as standard control and evaluation systems.

The main areas of application are low pressure applications in hydraulics and pneumatics, particularly in refrigeration and air conditioning technology, the food and pharmaceutical industries.

Special features:

- Accuracy ± 0.5 % FS typ.
- Very small temperature error
- Excellent EMC characteristics
- Very compact design
- Persuasive price / performance ratio

Technical specifications:

Input data	
Measuring ranges	1; 2.5 bar
Overload pressures	3; 8 bar
Burst pressures	5; 12 bar
Mechanical connection	G1/4 A DIN 3852; G1/2 B DIN-EN 837
Torque value	20 Nm (G1/4); 45 Nm (G1/2)
Parts in contact with medium	Mech. connection: Stainless steel Sensor cell: Ceramic Seal: copper (G1/2) / FPM / EPDM (as per model code)
Output data	
Output signal, permitted resistance	4 .. 20 mA, 2 conductor $R_{Lmax.} = (U_B - 10\ V) / 20\ mA\ [k\Omega]$ 0 .. 10 V, 3 conductor $R_{Lmin.} = 2\ k\Omega$
Accuracy to DIN 16086 Max. setting	≤ ± 0.5 % FS typ. ≤± 1.0 % FS max.
Accuracy at min. setting (B.F.S.L.)	≤ ± 0.25 % FS typ. ≤ ± 0.5 % FS max.
Temperature compensation Zero point	≤ ± 0.02 % FS / °C typ. ≤ ± 0.03 % FS / °C max.
Temperature compensation Over range	≤ ± 0.02 % FS / °C typ. ≤ ± 0.03 % FS / °C max.
Non-linearity at max. setting to DIN 16086	≤ ± 0.5 % FS max.
Hysteresis	≤ ± 0.25 % FS max.
Repeatability	≤ ± 0.1 % FS
Rise time	≤ 1 ms
Long-term drift	≤ ± 0.3 % FS typ. / year
Environmental conditions	
Compensated temperature range	0 .. +80 °C
Operating temperature range	-25 .. +85 °C
Storage temperature range	-40 .. +100 °C
Fluid temperature range	-40 .. +100 °C
CE mark	EN 61000-6-1 / 2 / 3 / 4
Vibration resistance to DIN EN 60068-2-6 at 10 .. 500 Hz	≤ 20 g
Protection class to DIN 40050	IP 65 (connector to DIN 43650 and Binder 714 M18) IP 67 (M12x1, when an IP 67 connector is used)
Other data	
Supply voltage 2 conductor	10 .. 30 V DC
Supply voltage 3 conductor	12 .. 30 V DC
Residual ripple of supply voltage	≤ 5 %
Current consumption 3 conductor	approx. 25 mA
Life expectancy	> 10 million cycles 0 .. 100 % FS
Weight	approx. 145 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

Model code:

HDA 4 1 X X – X – XXXX – 000 – X 1

Mechanical connection
1 = G1/2 B DIN-EN 837 (male)
4 = G1/4 A DIN 3852 (male)

Electrical connection
4 = 4 pole Binder series 714 M18, male (connector not supplied)
5 = 3 pole + PE, DIN 43650, male (connector supplied)
6 = M12x1, 4 pole, male (connector not supplied)

Signal
A = 4 .. 20 mA, 2 conductor
B = 0 .. 10 V, 3 conductor

Pressure ranges in bar
01.0; 02.5

Modification number
000 = standard

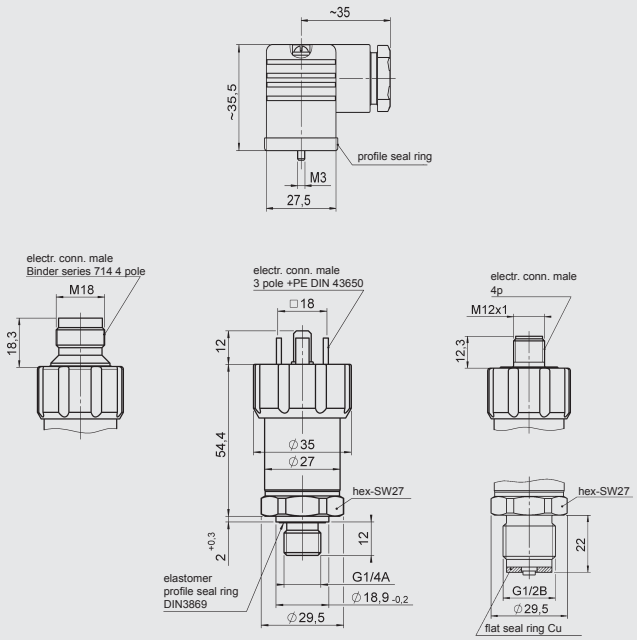
Seal material (in contact with fluid)
F = FPM seal (e.g.: for hydraulic oils)
E = EPDM seal (e.g.: for refrigerants)

Material of connection (in contact with fluid)
1 = stainless steel

Note:
On instruments with a different modification number, please read the label or the technical amendment details supplied with the instrument.

Accessories:
Appropriate accessories, such as electrical connectors can be found in the Accessories section.

Dimensions:



Pin connections:

Binder series 714 M18

Pin	HDA 41X4-A	HDA 41X4-B
1	n.c.	$+U_B$
2	Signal+	Signal
3	Signal-	0 V
4	n.c.	n.c.

DIN 43650

Pin	HDA 41X5-A	HDA 41X5-B
1	Signal+	$+U_B$
2	Signal-	0 V
3	n.c.	Signal
⊥	PE	PE

M12x1

Pin	HDA 41X6-A	HDA 41X6-B
1	Signal+	$+U_B$
2	n.c.	n.c.
3	Signal-	0 V
4	n.c.	Signal

Note:

The information in this brochure relates to the operating conditions and applications described.
For applications and operating conditions not described, please contact the relevant technical department.
Subject to technical modifications.