



## Electronic Pressure Transmitter HDA 3800

### Description:

The pressure transmitter series HDA 3800 has a very accurate and robust sensor cell with a thin-film strain gauge on a stainless steel membrane.

Outstanding technical specifications and robust construction make the HDA 3800 particularly suited to the field of test rig and diagnostic technology. It is also suitable for a broad range of applications in industry.

Since the accuracy of a pressure transmitter varies greatly with the temperature of the fluid, the unit offers outstanding characteristics on precisely this point. The output signals 4 .. 20 mA, 0 .. 10 V and 0 .. 20 mA (rising) are available as standard.

### Special features:

- Accuracy  $\leq \pm 0.15\%$  FS typ.
- Highly robust sensor cell
- Very small temperature error
- Excellent EMC characteristics
- Excellent long term stability

### Technical specifications:

Input data	
Measuring ranges	6; 16; 60; 100; 250; 400; 600 bar
Overload pressures	15; 32; 120; 200; 400; 800; 1000 bar
Burst pressure	100; 200; 300; 500; 1000; 2000; 2000 bar
Mechanical connection	G1/4 A DIN 3852
Torque value	20 Nm
Parts in contact with medium	Mech. connection: Stainless steel Seal: FPM
Output data	
Output signal, permitted resistance	4 .. 20 mA, 2 conductor $R_{Lmax.} = (U_B - 10 \text{ V}) / 20 \text{ mA} [\text{k}\Omega]$ 0 .. 10 V, 3 conductor $R_{Lmin.} = 2 \text{ k}\Omega$ 0 .. 20 mA, 3 conductor rising $R_{Lmax.} = (U_B - 7 \text{ V}) / 20 \text{ mA} [\text{k}\Omega]$
Accuracy to DIN 16086, Max. setting	$\leq \pm 0.15\%$ FS typ. $\leq \pm 0.3\%$ FS max.
Accuracy at min. setting (B.F.S.L.)	$\leq \pm 0.1\%$ FS typ. $\leq \pm 0.15\%$ FS max.
Temperature compensation	$\leq \pm 0.005\%$ FS / °C typ.
Zero point	$\leq \pm 0.01\%$ FS / °C max.
Temperature compensation	$\leq \pm 0.005\%$ FS / °C typ.
Over range	$\leq \pm 0.01\%$ FS / °C max.
Non-linearity at max. setting to DIN 16086	$\leq \pm 0.2\%$ FS max. (from 100 bar $\leq \pm 0.15\%$ FS max.)
Hysteresis	$\leq \pm 0.1\%$ FS max.
Repeatability	$\leq \pm 0.05\%$ FS
Rise time	$\leq 0.5 \text{ ms}$
Long-term drift	$\leq \pm 0.1\%$ FS typ. / year
Ambient conditions	
Compensated temperature range	-25 .. +85 °C
Operating temperature range	-40 .. +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	$\leq 20 \text{ g}$
Protection class to DIN 40050	IP 65
Other data	
Supply voltage 2 conductor	10 .. 30 V DC
Supply voltage 3 conductor	12 .. 30 V DC
Residual ripple of supply voltage	$\leq 5\%$
Current consumption 3 conductor	approx. 15 mA
Life expectancy	> 10 million cycles 0 .. 100 % FS
Weight	approx. 180 g

Note: Reverse polarity protection of the supply voltage, excess voltage, override, short circuit protection are provided.

FS (Full Scale) = relative to the complete measuring range

B.F.S.L. = Best Fit Straight Line

## Model code:

HDA 3 8 4 X - X - XXX - 000

### Mechanical connection

4 = G1/4 A DIN 3852 (male)

### Electrical connection

4 = 4 pole Binder series 714 M18  
(connector not supplied)

5 = 3 pole + PE, DIN 43650  
(connector supplied)

### Signal

A = 4 .. 20 mA, 2 conductor

B = 0 .. 10 V, 3 conductor

E = 0 .. 20 mA, 3 conductor

### Pressure ranges in bar

006, 016; 060; 100; 250; 400; 600

### Modification number

000 = Standard

### Note:

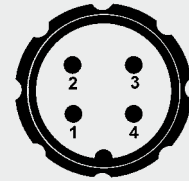
On units with a different modification number, please read the label or the technical amendment details supplied with the unit.

### Accessories:

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

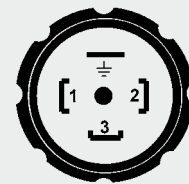
## Pin connections:

Binder series 714 M18



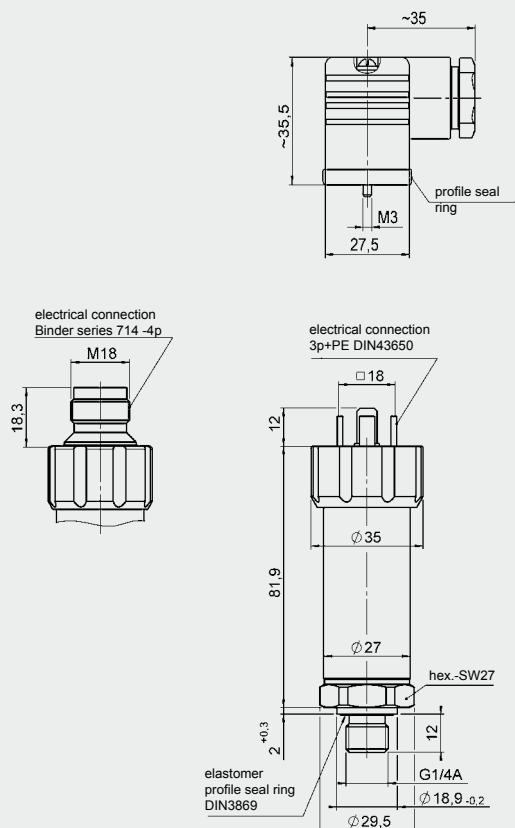
Pin	HDA 3844-A	HDA 3844-B	HDA 3844-E
1	n.c.	+U <sub>B</sub>	+U <sub>B</sub>
2	Signal+	Signal	Signal
3	Signal-	0 V	0 V
4	n.c.	n.c.	n.c.

DIN 43650



Pin	HDA 3845-A	HDA 3845-B	HDA 3845-E
1	Signal+	+U <sub>B</sub>	+U <sub>B</sub>
2	Signal-	0 V	0 V
3	n.c.	Signal	Signal
⊥	PE	PE	PE

## Dimensions:



### 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.

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