



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.
- Very robust sensor cell
- Very low temperature error
- Excellent EMC characteristics
- Good long-term stability

Technical specifications

Input data	HDA 3800
Measuring ranges	6; 16; 60; 100; 250; 400; 600 bar
Overload pressure	12; 32; 200; 200; 500; 800; 900 bar
Burst pressure	100; 200; 500; 500; 1000; 2000; 2000 bar
Mechanical connection	G1/4 A DIN 3852
Torque value	20 Nm
Parts in contact with media	stainless steel, FPM seal
Output data	
Curve deviation at max. setting to DIN 16086 (accuracy class))	$\leq \pm 0.15\%$ FS typ. $\leq \pm 0.3\%$ FS max.
Curve deviation at min. setting (B.F.S.L.)	$\leq \pm 0.1\%$ FS typ. $\leq \pm 0.2\%$ FS max.
Temperature compensation	$\leq \pm 0.05\%$ FS/10K typ.
Zero point	$\leq \pm 0.1\%$ FS/10K max.
Temperature compensation	$\leq \pm 0.05\%$ FS/10K typ.
Over range	$\leq \pm 0.1\%$ FS/10K max.
Linearity at max. setting to DIN 16086	$\leq \pm 0.1\%$ FS typ. $\leq \pm 0.2\%$ FS max. (from 100 bar $\leq \pm 0.15\%$ FS)
Hysteresis	$\leq \pm 0.05\%$ FS typ. $\leq \pm 0.1\%$ FS max.
Repeatability	$\leq \pm 0.05\%$ FS
Rise time	≤ 0.5 ms
Long-term drift	$\leq \pm 0.1\%$ FS typ. per year
Ambient conditions	
Nominal 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 50081-1, EN 50081-2 EN 50082-1, EN 50082-2
Vibration resistance to IEC 68-2-6 at 10 .. 500Hz	≤ 20 g (196.2 m/s ²)
Protection class to DIN 40050	IP 65
Other data	
Supply voltage 2-conductor	10 .. 30 V
Supply voltage 3-conductor	12 .. 30 V
Residual ripple supply voltage	$\leq 5\%$
Current consumption 3-conductor	approx. 15 mA
Reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection	available
Life expectancy	>10 million cycles 0 .. 100 % FS
Weight	approx. 180 g

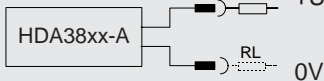
Note: **FS (Full Scale)** = relative to the complete measuring range

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

Other models available on request

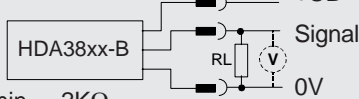
Electrical connection

2-conductor 4 .. 20 mA RL +UB



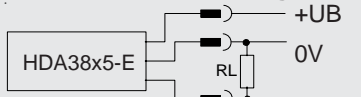
$$RL_{max.} = \frac{UB - 10 V}{0.02 A} [\Omega]$$

3-conductor 0 .. 10 V +UB



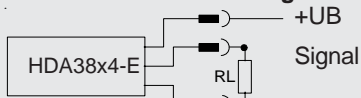
$$RL_{min.} = 2K\Omega$$

3-conductor 0 .. 20 mA rising



$$RL_{max.} = (UB - 7V)20mA [K\Omega]$$

3-conductor 0 .. 20 mA rising



$$RL_{max.} = (UB - 7V)20mA [K\Omega]$$

Note

The load resistance RL is produced by the measuring resistance inside the evaluation unit and the line resistance of the connection line.

Pin connections (HDA 3800)

HDA 3844



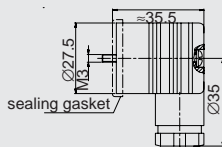
HDA 3845



	Pin 1	Pin 2	Pin 3	Pin 4
HDA 3845-A	+UB	0V	free	
HDA 3845-B	+UB	0V	Signal	
HDA 3845-E	+UB	0V	Signal	
HDA 3844-A	free	+UB	0V	free
HDA 3844-B	+UB	Signal	0V	free
HDA 3844-E	+UB	Signal	0V	free

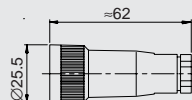
Electrical accessories

ZBE 01 right-angle plug, 3 pole + earth
DIN 43650/ISO 4400



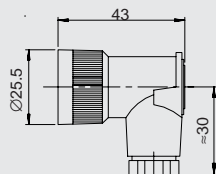
ZBE 02 Binder plug

4 pole, Binder series 714M18



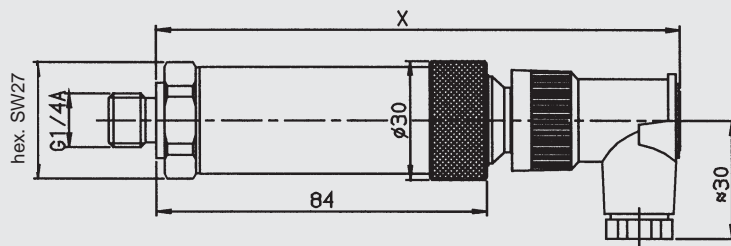
ZBE 03 right-angled plug

4 pole, Binder series 714M18



Dimensions

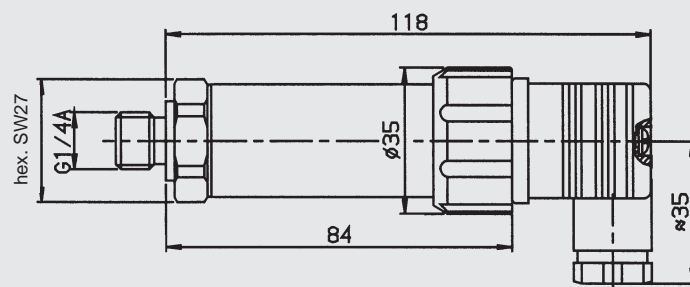
HDA 3844, shown with ZBE 03



Dimension X with right-angled plug ZBE 03: 108 mm

Dimension X with Binder plug ZBE 02: ≈127 mm

HDA 3845 shown with ZBE 01



Model code

HDA 3 8 4 X - X - XXX - 000

Type of connection, mechanical

4 = G1/4 A male thread

Type of connection, electrical

4 = 4 pole Binder plug 714 M18 (without connector)

plug connector ZBE 02 or ZBE 03

must be ordered separately

5 = appliance plug 3 pole + earth, DIN 43650/ ISO 4400

plug connector ZBE 01 included

Signal technology

A = 2 conductor, 4 .. 20 mA

B = 3 conductor, 0 .. 10 V

E = 3 conductor, 0 .. 20 mA

Pressure ranges in bar

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

Modification number

000 standard

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

Note

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

Subject to technical modifications.

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