



Electronic Pressure Transmitter HDA 3700 ATEX Version

Description

For pressure measurement in potentially explosive locations, the pressure transmitter series HDA 3700 is also available in a version for intrinsically safe circuits.

With approval for the following protection classes and applications:

I M1 EEx ia I,
II 1G EEx ia IIC T6 and
II 1/2 G EEx ia IIC T6

almost all requirements with regard to ignition type, error and temperature class are covered.

Like the industrial version of the HDA 3700, the ATEX version is also based on a very accurate and robust pressure sensor. With an accuracy level of typically $\pm 0.25\%$ FS and outstanding data in relation to temperature effect, this series of instruments is very well suited to use in potentially explosive atmospheres.

Special Features

- Accuracy $\leq \pm 0.25\%$ FS typically
Optionally $\leq \pm 0.15\%$ FS
- Protection classes and applications:
I M1 EEx ia I
II 1G EEx ia IIC T6
II 1/2 G EEx ia IIC T6
- Certificate number:
02 ATEX E 257 X
- Output signal 4 .. 20 mA
- Pressure ranges 0 .. 6 bar to 0 .. 600 bar
- Very low temperature error
- Excellent EMC characteristics
- Good long term stability

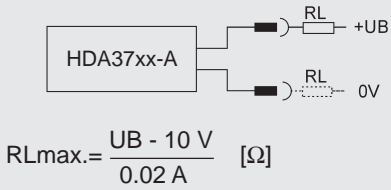
Technical Specifications

| Input data | HDA 3700 |
|--|--|
| Measuring ranges | 6, 16, 60, 100, 250, 400, 600 bar |
| Overload pressures | 15, 32, 200, 200, 400, 800, 900 bar |
| Burst pressures | 100, 200, 500, 500, 1000, 2000, 2000 bar |
| Mechanical connection | G1/4 A DIN 3852 |
| Torque rating | approx. 20 Nm |
| Parts in contact with media | Stainless steel 1.4542, FPM seal |
| Output data | |
| Curve deviation at max. setting to DIN16086 (accuracy class) | $\leq \pm 0.5\%$ FS max. |
| Curve deviation at min. setting (B.F.S.L.) | $\leq \pm 0.15\%$ FS/10K max. $\leq \pm 0.25\%$ FS max. |
| Temperature compensation | $\leq \pm 0.08\%$ FS/10K typ. |
| Zero point | $\leq \pm 0.15\%$ FS/10K max. |
| Temperature compensation | $\leq \pm 0.08\%$ FS/10K typ. |
| Over range | $\leq \pm 0.15\%$ FS/10K max. |
| Linearity at max. setting to DIN 16086 | $\leq \pm 0.1\%$ FS typ. $\leq \pm 0.3\%$ FS max. |
| 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 | $\leq \pm 0.2\%$ FS typ. / year |
| Ambient conditions | |
| Nominal temperature range | -25 .. +60 °C |
| Operating temperature range | -25 .. +60 °C |
| Storage temperature range | -40 .. +100 °C |
| CE - mark | EN 61000-6-1, -2, -3 and -4; EN 50014; EN 50020; EN 50284 |
| Vibration resistance to IEC 68-2-6 at 10 ..500 Hz | ≤ 20 g (196.2 m/s ²) |
| Protection class to DIN 40050 | IP 65 |
| Data relevant to Ex application | |
| Supply voltage | 12 .. 28 V |
| Maximum supply current | 100 mA |
| Maximum supply capacity | Up to 26 V: 1 W 26 .. 28 V: 0.8 W |
| Access capability of the pressure transmitter | ≤ 12 nF |
| Inductivity of the pressure transmitter | 0 H |
| Other data | |
| Reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection | provided |
| Residual ripple supply voltage | $\leq 5\%$ |
| Life expectancy | > 10 million cycles 0 .. 100 %FS |
| Weight | approx. 180 g |

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

Electrical connection

2-conductor 4..20 mA



Note

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

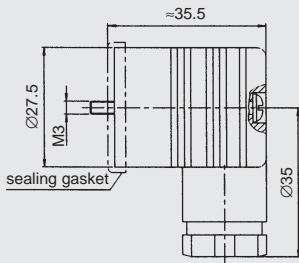
Pin connections



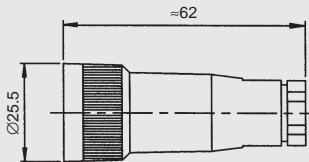
| | Pin 1 | Pin 2 | Pin 3 | Pin 4 |
|------------|-------|-------|-------|-------|
| HDA 3745-A | +UB | 0V | free | |
| HDA 3744-A | free | +UB | 0V | free |

Electrical accessories

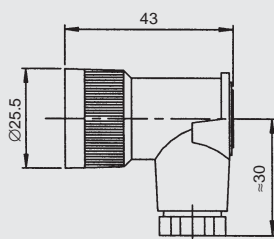
ZBE 01 right-angled connector 3-pole + earth
DIN 43650/ISO 4400



ZBE 02 connector
4 pole Binder series 714M18

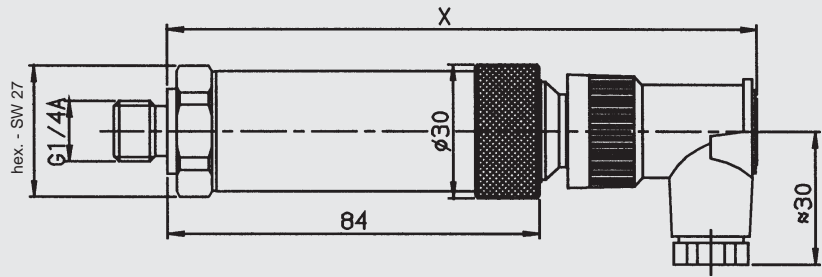


ZBE 03 right-angled connector
4 pole Binder series 714M18



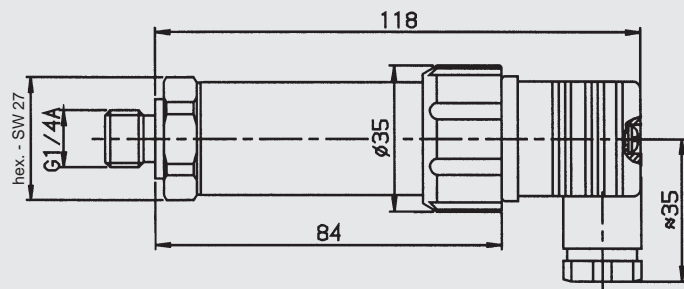
Dimensions

HDA 3744, shown with ZBE 03



Dimension X with right-angled connector ZBE 03: 108 mm
Dimension X with connector ZBE 02: ≈127 mm

HDA 3745, shown with ZBE 01



Model code

HDA 3 7 X X - A - XXX - A 00

Mechanical connection

4 = G 1/4 A DIN 3852, male thread

Electrical connection

4 = Binder plug,
series 714 M18,
4 pole

5 = Plug to DIN 43650,
3-pole + earth

Signal

A = 4 .. 20 mA

Measuring ranges

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

Approval

A = I M1 EEx ia I
II 1G; 1/2G; 2G EEx ia IIC

Modification number

00 standard

Notes

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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