



Pressure Transmitter

HDA 8400 for series application

Customised version thanks to various electrical and mechanical connections and a large number of output signals.

Relative pressure

Accuracy 0.5 %



Features

- Accuracy $\leq \pm 0.5 \%$ FS typ.
- Robust sensor cell
- With E13 road approval

Description

As most of our pressure transmitters, HDA 8400 is based on a robust and long-life thin-film sensor.

All of the parts in contact with the fluid (sensor and pressure connection) are made of stainless steel and are welded together. This means, there are no sealing points inside of the sensor. Leakage can therefore be excluded.

The transmitters are available in pressure ranges from 0 .. 40 bar to 0 .. 600 bar.

For implementation into modern controls, there are standard analogue outputs available, such as 4 .. 20 mA, 0 .. 5 V, 1 .. 6 V or 0 .. 10 V. Ratiometric output signals are available as well.

There are various integrated connectors as well as a diversity of cable solutions available for the electrical connection.

A basic accuracy of $\leq \pm 0.5 \%$ FS typ., combined with low temperature drift open up a wide range of applications for HDA 8400.

Fields of application

The HDA 8400 pressure transmitter series has been specially designed for series use, e.g. in mobile applications.

Especially for the use in public traffic vehicles, the inclinometers are approved for road vehicles according to ECE type approval.

Technical data

Input data								
Measuring ranges	bar	40	60	100	160	250	400	600
Overload pressures	bar	80	120	200	320	500	800	1000
Burst pressure	bar	200	300	500	800	1250	2000	2000
Mechanical connection	Various threads, e.g.: G1/4 A ISO 1179-2 M14x1.5 9/16-18 UNF 2A (SAE6)							
Tightening torque, recommended	Recommended tightening torque, see dimensions							
Parts in contact with fluid ¹⁾	Connector: Stainless steel Seal: FKM							
Output data								
Output signal	Various Signals, e.g. 4 .. 20 mA, 0 .. 5 V, 1 .. 6 V, 0 .. 10 V, Ratiometric: 0.5 .. 4.5 V at U _B = 5 V DC (10 .. 90 % U _B ± 5 %)							
Accuracy acc. to DIN 16086, Terminal based ²⁾	≤ ± 0.5 % FS typ. ≤ ± 1 % 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	≤ 1.5 ms							
Long-term drift	≤ ± 0.3 % FS typ. / year							
Environmental conditions / Approvals / Tests								
Compensated temperature range	-25 .. +85 °C							
Operating temperature range ³⁾	-40 .. +100 °C / -25 .. +100 °C							
Storage temperature range	-40 .. +100 °C							
Fluid temperature range ³⁾	-40 .. +125 °C / -25 .. +125 °C							
EMC	2014/30/EU EN 61006-6-1 / 2 / 3 / 4							
Vibration resistance	DIN EN 60068-2-6					≤ 250 m/s² (5 .. 2000 Hz)		
Shock resistance	DIN EN 60068-2-27					100 g / 6 ms / half sine 500 g / 1 ms / half sine		
Protection type ⁴⁾	DIN EN 60529 ISO 20653					IP 65 / IP 67 (depending on the electrical connection) IP 6K9K		
  conformity	Provided							
 us approval ⁵⁾	Provided							
 E approval	available acc. to UN/ECE10							
Other data								
Electrical connection	Various Plug, e.g. M12x1, Packard Metri Pack, Deutsch DT 04, AMP Superseal, AMP Junior Power Timer, jacketed cable							
Supply voltage	8 .. 30 V DC 12 .. 30 V DC for communication operation 0 .. 10 V							
when applied acc. to UL specifications	5 V ± 5 % for ratiometric output signal -limited energy- acc. to 9.3 UL 61010; Class 2 UL 1310/1585; LPS UL 60950							
Residual ripple of supply voltage	≤ 5 %							
Current consumption	≤ 22 mA							
Life expectancy	> 10 million load cycles (0 .. 100 % FS)							
Weight	~ 55 g							

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

FS (Full Scale) = relative to complete measuring range

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

¹⁾ Other seal materials on request

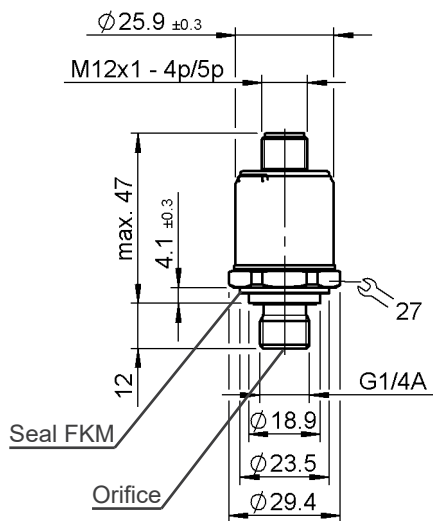
²⁾ Including non-linearity, hysteresis, offset and final value deviation

³⁾ In the standard up to -25 °C with FKM seal, -40 °C on request

⁴⁾ With mounted mating connector in corresponding protection type

⁵⁾ Environmental conditions acc. to 1.4.2 UL 61010-1; C22.2 no. 61010-1

Dimensions



Electrical connection variants

Plug Packard Metri Pack series 150, 3 pole	Plug Deutsch DT 04, 3 pole	Jacketed cable
Metri-Pack Serie 150 - 3p max. 20	DEUTSCH DT04 - 3p max. 17.5 max. 21	1000 ± 10 35 ± 2 5 ± 1 max. 20 $\phi 25.9 \pm 0.3$
Plug AMP Superseal, 3 pole	Plug AMP Junior Timer, 3 pole	
Superseal Serie 1.5 - 3p max. 19	Junior Power Timer - 3p max. 14.5	

Mechanical connection variants

7/16-20 UNF 2A External thread Tightening torque, recommended: 15 Nm	9/16-18 UNF 2A External thread Tightening torque, recommended: 20 Nm
7/16 -20UNF2A O-Ring 8.92x1.83 -FKM-90Sh Orifice $\phi 14.3$ $\phi 23.5$ $\phi 29.4$ 9.14 4.1 ± 0.3 27	9/16 -18UNF2A O-Ring 11.89x1.98 -FKM-90Sh Orifice $\phi 19$ $\phi 23.5$ $\phi 29.4$ 10 4.1 ± 0.3 27

Order details OEM

Pressure transmitter HDA 8400 has been specially developed for OEM customers and is available for minimum order quantities from 500 pieces per type.

For detailed specification, please do not hesitate to contact our HYDAC ELECTRONIC Sales department.

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.

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