HYDAC INTERNATIONAL

# Electronic Pressure Transmitter
## HDA 8400

(Minimum order quantity 500 units)

## Description:

The pressure transmitter series HDA 8400 has been specifically developed for the OEM market, e.g. in mobile applications. Like most of our pressure transmitter series, the HDA 8400 is based on a robust and long-life, thin-film sensor.

All parts (sensor and pressure connection) which are in contact with the fluid are made of stainless steel and are welded together. This means that there are no sealing points in the interior of the sensor. The possibility of leakage is excluded.

The pressure transmitters are available in various pressure ranges from 0 .. 40 bar to 0 .. 600 bar. For integration into modern controls, standard analogue output signals are available, e.g. 4 .. 20 mA, 0 .. 5 V, 1 .. 6 V or 0 .. 10 V. Ratiometric output signals are also available.

For the electrical connection, different types of integrated connections are available.

A basic accuracy of max. ≤ ± 1 % FS, combined with a small temperature drift, ensures a broad range of applications for the HDA 8400.

## Special features:

- Accuracy ≤ ± 0.5 % FS typ.
- Outstanding performance in terms of temperature effect and EMC
- Very compact design
- ECE type approval (E13) (approved for road vehicles)

## Technical data:

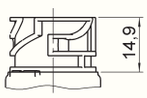
| | |
|---|---|
| **Input data** | |
| Measuring ranges | 40; 60; 100; 160; 250; 400; 600 bar |
| Overload pressures | 80; 120; 200; 320; 500; 800; 1000 bar |
| Burst pressures | 200; 300; 500; 800; 1250; 2000; 2000 bar |
| Mechanical connection<br>(Torque value) | G1/4 A DIN 3852 (20 Nm)<br>7/16-20 UNF 2A (15 Nm)<br>9/16-18 UNF 2A (20 Nm)<br>each with orifice 0.5 mm |
| Parts in contact with medium | Mech. conn.: Stainless steel<br>Seal: FPM |
| **Output data** | |
| Output signal | e.g.: 4 .. 20 mA, 0 .. 5 V, 1 .. 6 V, 0 .. 10 V,<br>ratiometric: 0.5 .. 4.5 V for $U_B$ = 5 V DC<br>(10 .. 90 % $U_B$ ± 5 %), etc. |
| Accuracy to DIN 16086<br>Max. setting | ≤ ± 0.5 % FS typ.<br>≤ ± 1 % FS max. |
| Accuracy at min. setting<br>(B.F.S.L.) | ≤ ± 0.25 % FS typ.<br>≤ ± 0.5 % FS max. |
| Temperature compensation<br>Zero point | ≤ ± 0.015 % FS / °C typ.<br>≤ ± 0.025 % FS / °C max. |
| Temperature compensation<br>Over range | ≤ ± 0.015 % FS / °C typ.<br>≤ ± 0.025 % FS / °C max. |
| Non-linearity at max. setting<br>to DIN 16086 | ≤ ± 0.3 % FS max. |
| Hysteresis | ≤ ± 0.4 % FS max. |
| Repeatability | ≤ ± 0.1 % FS |
| Rise time | ≤ 1.5 ms |
| Long-term drift | ≤ ± 0.3 % FS typ. / year |
| **Environmental conditions** | |
| Compensated temperature range | -25 .. +85 °C |
| Operating temperature range[1)] | -40 .. +100 °C / -25 .. +100 °C |
| Storage temperature range | -40 .. +100 °C |
| Fluid temperature range[1)] | -40 .. +125 °C / -25 .. +125 °C |
| CE mark | EN 61000-6-1 / 2 / 3 / 4 |
| c UL us mark[2)] | Certificate No. E318391 |
| Vibration resistance to<br>DIN EN 60068-2-6 at 5 .. 2000 Hz | ≤ 25 g |
| Shock resistance to<br>DIN EN 60068-2-27 | 100 g / 6 ms / half sine<br>500 g / 1 ms / half sine |
| Protection class to IEC 60529<br>to ISO 20653 | IP 65, IP 67 (depending on the electrical connection)<br>IP 69 K (depending on the electrical connection) |
| **Other data** | |
| Electrical connection | M12x1, 4 pole<br>AMP DIN 72585 code 1, 3 pole<br>Packard Metri Pack Series 150, 3 pole<br>Deutsch DT 04, 3 pole<br>AMP Superseal, 3 pole.<br>AMP Junior Power Timer, 3 pole<br>Flying leads, 1 m cable length<br>EN175301-803 (DIN 43650), 3 pole |
| Supply voltage<br><br>for use acc. to UL specification | 8 .. 30 V DC<br>12 .. 30 V DC for output signal 0 .. 10 V<br>5 V ± 5 % for ratiometric output signal<br>- limited energy - according to<br>9.3 UL 61010; Class 2;<br>UL 1310/1585; LPS UL 60950 |
| Residual ripple of supply voltage | ≤ 5 % |
| Life expectancy | > 10 million cycles<br>0 .. 100 % FS |
| Weight | ~ 55 g |

Note: Reverse polarity protection of the supply voltage, excess voltage, override, 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

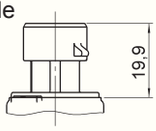
1) -25 °C with FPM seal, -40 °C on request
2) Environmental conditions according to 1.4.2 UL 61010-1; C22.2 No 61010-1

## Dimensions:

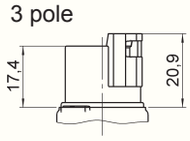
Male connection
DIN 72585
3 pole



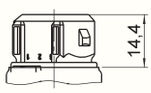

Male connection
Metri-Pack
series 150
3 pole



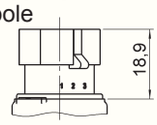

Male connection
Deutsch DT04
3 pole



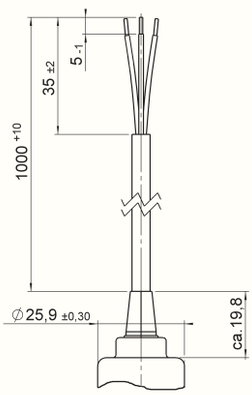

Male connection
Junior Power Timer
3 pole



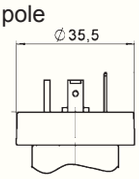

Male connection
Superseal
series 1.5
3 pole

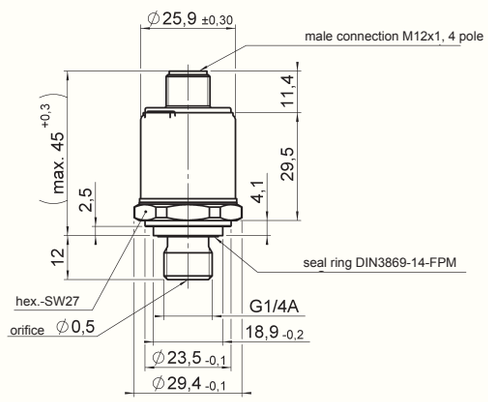


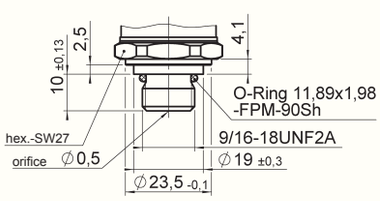

Flying leads

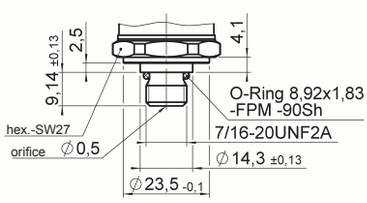



Male connection
EN175301-803 (DIN 43650)
3 pole




## 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.

## Order details:

The electronic pressure switch HDA 8400 has been specially developed for OEM customers and is available for minimum order quantities of 500 units per type.
For exact specification, please contact the Sales Department of HYDAC ELECTRONIC.

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