

AST H2 – Pressure Transmitter for hydrogen applications

AMSYS GmbH & Co. KG, Mainz (www.amsys-sensor.com), May 2024 – With the AST2000 and AST4000, AMSYS offers two variants of a pressure transducer specially certified for applications with hydrogen. With the EC79 certificate, these pressure sensors are suitable for use in fuel cells, hydrogen storage tanks and filling stations. The sensors are made from a single piece of stainless steel without oil filling and welded seams to prevent inclusions and leaks from the outset.



AST2000-H2 hydrogen compatible pressure sensor

With 4 ... 20 mA current and two different voltage outputs (1 ... 5 V / 0.5 ... 4.5 V ratiometric), the pressure transducers are versatile and can be used in both stationary and mobile applications. They measure relative pressures between 0 and 448 bar with an accuracy of +/- 0.25%.

The IP66-protected transmitters are suitable for a wide temperature range of -0 ... 85°C, shock-resistant in accordance with EN60067 and vibration-resistant in accordance with EN60068. EMC compatibility has been confirmed by measurements in accordance with EN61000. However, its greatest advantage is its conformity with EU Regulation EC79 for use in hydrogen-powered vehicles.

For this purpose, the pressure diaphragm, including the threaded mount, is precision machined from a single piece of AISI 316L stainless steel. With a burst pressure of over 2200 bar, this design eliminates the need for weld seams, which always represent a potential weak point and a possible leak for the very small H₂ molecules. As there is no pressure equalization via an oil-filled cavity as with many other precision transmitters with stainless steel diaphragms, no hydrogen can diffuse into this unventilated cavity.

For industrial applications, AMSYS offers the AST2000 (former American Sensor Technology, now TE Connectivity), a comparable pressure transmitter also made of AISI 316L for a variety of pressure ranges between -1 ... 2 bar and 0 ... 700 bar with several output signals and electrical connections.

Press Release

AMSYS GmbH & Co. KG



Title

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Applications

- PEM Fuel Cells
- Hydrogen Storage
- Hydrogen Filling Stations
- Test Stands
- Back Up Power

Product Page

<https://www.amsys-sensor.com/products/pressure-sensor/ast2000-ast4000-hydrogen-pressuretransducer/>

The Company

AMSYS GmbH & Co. KG is a German company specializing in sensor technology, particularly pressure measurement. Its product range includes pressure sensors from 1.25 mbar to 800 bar, as well as humidity, temperature, and inclination sensors, along with wireless solutions. In addition to standard products, AMSYS offers custom adaptations to meet specific customer requirements.

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