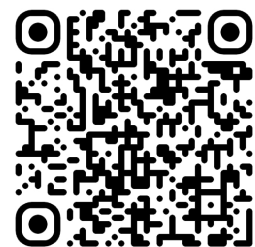


HYDROGEN PRESSURE SOLUTIONS

HYDROGEN

Our pressure transducers and transmitters provide reliable pressure monitoring and control for liquid and gaseous hydrogen across a wide range of industrial applications. These include climate-neutral energy generation and storage, such as fuel cells and hydrogen storage tanks, as well as hydrogen-powered ships, trains, and vehicles. They also support hydrogen refuelling infrastructure, heat generation and distribution systems, HVAC applications, and many other processes throughout the growing hydrogen economy.

To meet the demands of these challenging environments, our hydrogen-compatible pressure sensors incorporate advanced materials and design features. Available with pressure ranges up to 5,000 bar, the range includes ATEX and DNV approved options, titanium sensing elements for enhanced hydrogen compatibility, and robust 316L stainless steel housings. These innovations ensure long-term reliability, safety, and performance in hydrogen applications.



ESI TECHNOLOGY LTD

Pressure Measurement Specialists

t: +44 (0)1978 262255 | e: sales@esi-tec.com | w: www.esi-tec.com

esi-tec.com

esi

HYDROGEN PRESSURE TRANSDUCERS & TRANSMITTERS

ESI Technology Ltd's hydrogen-compatible pressure transducers and transmitters have passed the Hydrogen Compatibility test according to ISO 1114-2:2017, complying with European regulations EC 79/2009 and EU 406/2010.

Built with titanium sensing elements and Silicon-on-Sapphire sensors, they deliver outstanding long-term stability and precision. The hydrogen range supports measurements from vacuum to 5,000 bar, with options for ATEX/IECEX, marine approvals, and both digital and analog configurations.

GD4200HUSB

- Ranges from -1 to 5,000 bar.
- <2x overpressure safety.
- Titanium alloy, SOS sensor.
- ESI-USB© software with 1.000Hz sampling rate.
- High accuracy $\pm 0.15\%$ BFSL.
- Free ESI-USB© Software.



CUSTOM DESIGNED SOLUTIONS

We provide application-specific designs, customisable housings, and a variety of output signals and pressure ranges to suit diverse needs.

Our service includes specialised process connections, multiple electrical connector options, and a choice of housing materials to match your operational demands. Stringent quality control and processes at every stage of the manufacturing process ensure our customers are completely satisfied with the end product. Our team of engineers, with extensive experience in electronic, software and mechanical instruments, are able to offer a complete design service using the latest technologies.

Additionally, we deliver detailed documentation packages to support your project. When your application demands a specialised pressure measurement solution, ESI ensures a bespoke approach that delivers optimal performance and reliability.

Contact our sales team to discuss your application needs sales@esi-tec.com

GS4200H

- Ranges from -1 to 1,500 bar.
- <4x overpressure safety.
- Titanium alloy, SOS sensor.
- Optional ATEX/IECEX & DNV versions.
- Excellent corrosion resistance.



HP1000H

- Ranges from -1 to 5,000 bar.
- <1.5x overpressure safety.
- Titanium alloy, SOS sensor.
- Optional ATEX/IECEX & DNV versions.
- High resistance to pressure peaks.



HI6200H

- Ranges from -1 to 5,000 bar.
- <4x overpressure safety.
- Titanium alloy, SOS sensor.
- Excellent corrosion resistance.
- Compact design
- Metri-pack 150 connector.



HI2000H

- Ranges from -1 to 1,500 bar.
- <4x overpressure safety.
- Titanium alloy, SOS sensor.
- Optional ATEX/IECEX versions.
- High accuracy and precision ($\pm 0.1\%$ BFSL).



HYDROGEN COMPATIBILITY



Materials used in the manufacture of the Hydrogen range have been tested based on ISO1114-4:2017 in accordance with the European Regulations EC79/2009 and EU406/2010 to determine an "embrittlement index" of the material when placed in a saturated environment over an extended period of time. Results have provided a pass rating to the compatibility of the specialist Titanium Alloy of the range against Hydrogen.



SILICON-ON-SAPPHIRE PRESSURE SENSOR TECHNOLOGY

The combination of Silicon and sapphire provides a very durable sensor. Because the silicon is grown onto the surface of the sapphire it is incredibly stable and exhibits virtually no hysteresis. With its outstanding insulation properties, the sapphire protects the strain gauge from electromagnetic pulse radiation, and allows the sensor to operate over a very wide temperature range without loss of performance. It can endure high over pressures and provides superb corrosion resistance. The excellent elasticity of the sapphire ensures high repeatability which is a highly desirable characteristic for sensors.