

# ESI TECHNOLOGY LTD

## SPECIALISTS IN PRESSURE MEASUREMENT



- **Silicon-on-Sapphire (SOS) technology**  
Advanced Sensor Technology

- **Wide Pressure Range Capability**  
Vacuum to ultra-high pressures up to 5,000 bar

- **Application-Specific Solutions**  
Custom designs tailored to meet unique customer requirements

- **Proven Reliability**  
Robust products engineered for demanding environments

- **Engineering Expertise & Support**  
Experienced in-house team providing full design support



**ESI TECHNOLOGY LTD**

Pressure Measurement Specialists

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esi-tec.com

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## PRESSURE TRANSDUCERS & TRANSMITTERS

ESI Technology offers a comprehensive range of pressure transducers and transmitters designed to deliver accurate, reliable measurement across a wide spectrum of applications, from vacuum to ultra-high pressures. Built around advanced Silicon-on-Sapphire sensing technology, these devices provide excellent stability, fast response, and long service life, even in harsh environments involving high temperatures, shock, or corrosive media. The range includes analogue and digital outputs, multiple electrical and process connections, and options tailored for industries such as aerospace, oil & gas, hydrogen, marine, and industrial processing, ensuring a flexible solution for both standard and highly specialised pressure measurement needs.



### 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.

**The advantages of using this sensor are significant;**

- Titanium pressure diaphragm is welded to titanium threaded pressure port therefore no o-ring seals
- High accuracy
- High resistance to over-pressure (proof pressure) and pressure transients
- Excellent chemical resistance
- Stable at elevated temperatures
- High sensitivity 10mV/V to 20mV/V
- Pressures from -1 bar to 5000bar
- Constructed using machined titanium parts
- High pressure HP range is machined from a single piece of Titanium

### 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](mailto:sales@esi-tec.com)

## ACCREDITATIONS AND CERTIFICATIONS

Quality and compliance sit at the heart of everything at ESI Technology. Our pressure transducers and transmitters are designed and manufactured within robust quality management systems, including ISO 9001 and AS9100D, ensuring consistent reliability, full traceability, and high performance across demanding industrial and aerospace applications. In addition, products are tested to stringent internal and industry-recognised standards, with full CE compliance as standard.

For hazardous and specialist environments, selected products are available with ATEX and IECEx certification, while marine and offshore applications are supported through DNV approval, providing confidence in safety, integrity, and performance across a wide range of operating conditions.

