



Dynamic GD4200HUSB

Hydrogen Compatible
Digital Pressure Transmitter

- Compatible for use within Hydrogen based environments
- Sample rate software selection up to 1,000 Hz
- Silicon-on-Sapphire pressure sensor technology
- Pressure ranges from vacuum to 5,000 bar
- Free ESI-USB© downloadable software with auto update
- Measure & record up to 16 pressure inputs together
- Create customised test certificates
- Automatic temperature compensation
- Support for easy integration with applications created by C#, VB, Labview and Excel VBA (api dll library)
- 2m lead & carry case included



Materials used in the manufacture of the Hydrogen range have been tested based on ISO 11114-2:2017 in accordance to the European Regulations EC 79/2009 and EU 406/2010 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.

Dynamic GD4200HUSB Digital Pressure Transmitter

Specifications

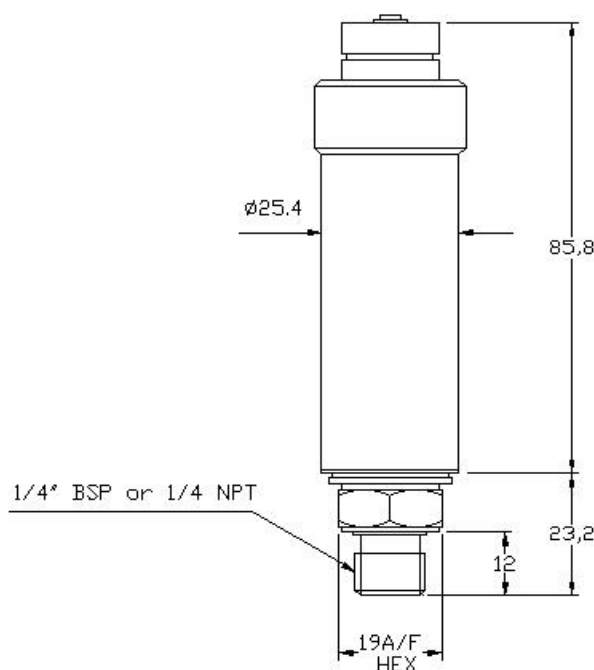
The **Dynamic GD4200HUSB** digital pressure transmitter offers reliable and accurate pressure measurement from vacuum to 5000 bar. It is specifically designed to measure, analyse and record pressure directly to your PC without the need of costly I/O interface board. The easy "plug and play" nature of the unit allows the user to easily download the free ESI-USB software and view live pressure data in as little as 10 minutes.

Typical applications include:

- Test and Measurement
- Laboratory or process measurement
- Leak testing and continuous monitoring

Dimensions

(in mm)



Electrical Connections

Electrical connections

Designation
USB Mini B Socket

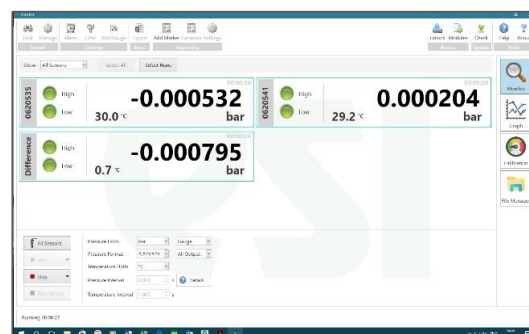
ESI-USB Software

Data is presented on the PC via the ESI-USB® fully configurable Windows Interface software. It has instant connection with auto-detection, and will configure automatically with your desktop, laptop or Windows tablet via USB protocol. The sample rate enables dynamic pressures to be measured with up to 21 bit resolution at user selectable speeds up to 1,000 Hz.

For real-time analysis, data transferred to the PC is achieved without loss of accuracy or bandwidth. Compatible with computers with USB 2.0/3.x type A ports, the ESI-USB® interface configuration and analysis software runs on Windows 8, 10 and 11. Data can be displayed in graphical or tabular form, with a choice of pressure units and fully adjustable scales. Data can be saved to a file or exported to Excel/PDF.

The ESI-USB software has many features including custom certificate generation, customisable certificate templates, leak testing, record and view up to 16 sensors at the same time, virtual differential pressure measurement, set automatic test start and stop times, and alarm levels for each individual sensor. Excellent measurement accuracy provides high resolution with a precision greater than 1 in 10,000.

Each unit requires free download of the ESI-USB® software and is supplied with 2m USB lead, with an option 4.5m lead also available.



Hydrogen Compatibility

The ESI hydrogen pressure transmitters are turned from a special titanium alloy for the measuring cell and the wetted parts from a titanium block. Thus the sensor is manufactured without seals, high pressure cells from 1000 bar we even manufacture without welding seams, which helps to avoid any weak points. This is especially important for the use with hydrogen due to the embrittling qualities of the media. Our materials have successfully passed the hydrogen compatibility testing based on ISO1114-2:2017 in accordance with the European regulations EC 79/2009 and EU 406/2010.

The combination of titanium sensing elements with SOS sensors has a long tradition at ESI, this material choice allows the construction of a long term stable sensor that has a high accuracy. Our measurement ranges up to 5000 bar make this transmitter the preferred choice for use on hydrogen storage tanks and pipelines. But we also offer the same technology for low pressures and also in vacuum measurement applications.

Each Hydrogen approved unit also includes a certificate of conformity verifying Hydrogen compatibility.

Dynamic GD4200HUSB Digital Pressure Transmitter

Technical Data

Type	GD4200HUSB
Sensor Technology:	Silicon-on-Sapphire (SOS)
Output Signal:	USB 2.0 compatible
Supply Voltage:	5 Vdc via USB bus
Standard Pressure Ranges (bar):	Gauge (default); Absolute reference input by user
Standard Pressure Ranges (psi):	-1 to 2.5 bar; 0-16 bar; 0-100 bar; 0-400 bar; 0-1000 bar; 0-1500 bar; 0-2000 bar; 0-4000 bar; 0-5000 bar
Standard Pressure Ranges (other):	User selectable for psi and other measurement units
Overpressure Safety:	2x up to 400 bar; 1.5x for 1,000 bar; 1.1x for 1,500 bar; 1.5x for 2,000 bar; 1.25x for 4,000 bar; 1.2x for 5,000 bar
Accuracy NLHR:	$\leq \pm 0.15\%$ of span BFSL
Sample Rate:	User selectable to 1,000 samples per second (1,000 Hz) Resolution: 21 bits for ≤ 5 Hz; 16 bits for > 5 - 1,000 Hz
Operating Ambient Temperature:	-20 °C to +85 °C (-4 °F to +185 °F)
Operating Media Temperature:	-50 °C to +125 °C (-58 °F to +257 °F)
Storage Temperature:	+5 °C to +40 °C (+41 °F to +104°F) Recommended Best Practice
Temperature Effects:	$\pm 1.5\%$ FS total error band for -10 °C to +80 °C. Typical thermal zero and span coefficients $\pm 0.015\%$ FS/ °C
Electromagnetic Compatibility:	EN61326-1, EN61326-2-3 (Laboratory equipment)
Wetted Parts:	Titanium alloy
Pressure Media:	All fluids compatible with titanium alloy
Pressure Connection:	1/4" BSP male (G1/4); 1/4" NPT male or F250-C (Autoclave)
Electrical Connection:	Mating to USB mini B socket for cable connection to PC. Supplied with 2m USB lead rated to IP68 as standard.
Software Compatibility:	Windows 8 8.1 10 11
Net. Weight (Kg):	0.4 Kg

Dynamic GD4200HUSB Digital Pressure Transmitter

Order Matrix

Output	Type	Electrical Connection	Pressure Range	Process Connection
Dynamic (1000 Hz)	GD4200HUSB	-		
Electrical Connection				
DIN EN175301 plug and socket				
Pressure Range				
-1 to 2.5 bar		02.5		
0-16 bar		0016		
0-100 bar		0100		
0-400 bar		0400		
0-1000 bar		1000		
0-1500 bar		1500		
0-2000 bar		2000		
0-4000 bar		4000		
0-5000 bar		5000		
Process Connection				
1/4" BSP male (G1/4)				AB
1/4" NPT male				AM
Autoclave F-250-C female (for pressures above 1500 bar)				DE

Order Number Example GD4200-USB1500AB

For options not listed please contact the sales team

DISCLAIMER : ESI Technology Ltd operates a policy of continuous product development. We reserve the right to change specification without prior notice. All products manufactured by ESI Technology Ltd are calibrated using precision calibration equipment, traceable to national measurement standards.