

## UPS-HSR

### USB High Sample Rate Pressure Sensor



#### Product Highlights:

- Pressure ranges from 2.5 up to 5,000 bar
- Accuracy  $\leq \pm 0.15\%$
- Media temperature measurement data
- Titanium construction, corrosion resistance
- Sample rate up to 1 kHz, user selectable
- USB 2.0 Interface to PC / Laptop
- User friendly software with reporting, data logging and creation of test certificates
- Integrates with C#, VB, Labview, Excel VBA (api dll library)
- Complete kit, plug & play solution

#### Applications include, but not limited to:

- Laboratory, Academic & Research testing
- Hydraulic & Pneumatic pressure logging
- Medical testing / prototyping
- Autoclave / Steriliser validation
- Hydraulic network analysis
- Pressure surge detection
- Leak testing
- Pump & Compressor monitoring
- Aerospace test and research
- Automotive component testing

**Description:**

The UPS-HSR has been designed and developed for ease of use, reliable data collection and real time monitoring, to cover the majority of applications where a simple interface to a computer is required. Without the fuss of complicated interfaces, converters, external power supplies and USB driver issues, the UPS-HSR interface is simply a USB cable that powers the pressure sensor, self installs on the computer and has automatic recognition of the sensors that connect to the software.

Each UPS-HSR purchased comes with a USB mini B socket, when properly connected to the supplied mating cable assembly with USB connection it provides IP68 protection to the pressure sensor which is ideal if you are installing the pressure sensor in wet or arduous conditions. Power is provided to the sensor from the computer's USB port so no additional connections are required. The USB cable is 2m as standard or alternatively this can be extended if required.

The sensing technology used in the UPS-HSR is Silicon-On-Sapphire (SoS), which produces outstanding performance, stability, repeatability and thermal stability. This level of accuracy enables the UPS-HSR to provide resolution with a precision of 1 in 100,000. With a wide range of pressures from -1 bar (-14.5 psi) through to 5,000 bar (72,500 psi), this device should cover every pressure measurement requirement in a multitude of applications. Other engineering units can be selected by using the software, such as bar, mbar, psi, MPa, Pa, mH<sub>2</sub>O, mmHg, atm, kg/cm<sup>2</sup>.

Media compatibility is enhanced due to the wetted parts being constructed from Titanium Alloy, this gives the UPS-HSR excellent corrosion resistance, lightweight and the ability to withstand extreme temperatures. There is a choice of G1/4" male or 1/4" NPT male pressure connections for pressures up to 1500 bar, thereafter we have the Autoclave F-250-C female pressure connection. For alternative connections a wide range of adaptors can be provided to suit.

Using the software the sample rate can be adjusted to suit the requirements of the application, from a high sample rate capability of 1kHz for dynamic applications to slower rates for static applications.

The software includes a 'Certificate Generator' which enables the user to create a test certificate by uploading the company logo, entering details about the test, site location, plant tag/ID, date and signable signature field. Whilst running the test in certificate generator mode, markers can be placed along the graph for reporting on significant events or points of interest. Once the test is complete you can freely print the certificates or export the data to excel.

In addition to the pressure measurement, the temperature can also be read and recorded in the software and scaled in either °C or °F.

Every UPS-HSR is supplied in a robust ABS plastic carry case and comes complete with the software and interface USB cable so you are ready to plug & play.

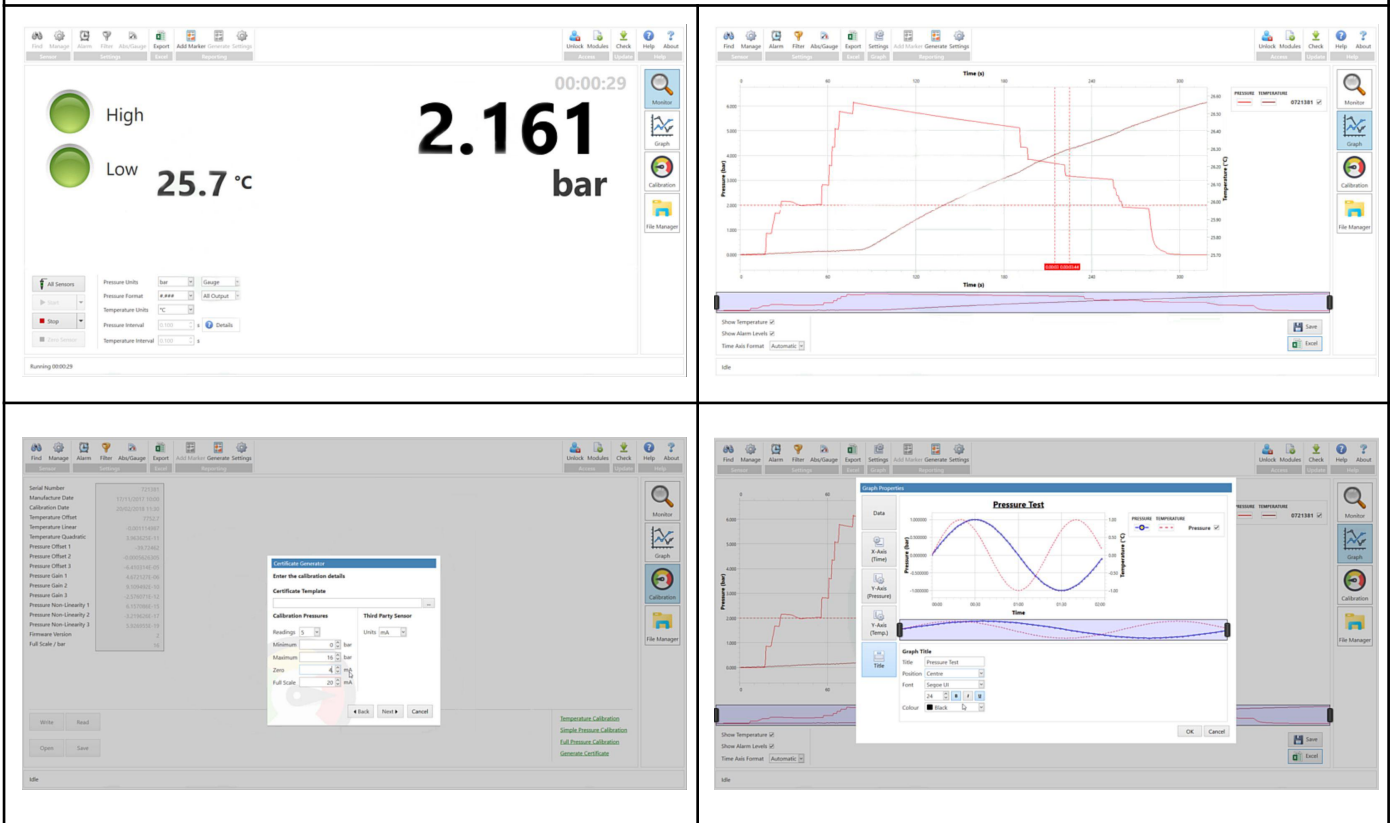
**Specification:**

<b>UPS-HSR</b>					
<b>Sensor technology</b>	Silicon-on-Sapphire (SoS)				
<b>Output</b>	USB 2.0 compatible				
<b>Supply voltage</b>	5V dc (from USB port)				
<b>Pressure reference</b>	Gauge (standard), Absolute (selectable in the software)				
<b>Pressure ranges</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Std. range</td> <td>-1 to 2.5 bar; 0-16 bar; 0-100 bar; 0-400 bar; 0-1,000 bar; 0-1,500 bar;</td> </tr> <tr> <td>High range</td> <td>0-2,000 bar; 0-4,000 bar, 0-5,000 bar</td> </tr> </table>	Std. range	-1 to 2.5 bar; 0-16 bar; 0-100 bar; 0-400 bar; 0-1,000 bar; 0-1,500 bar;	High range	0-2,000 bar; 0-4,000 bar, 0-5,000 bar
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High range	0-2,000 bar; 0-4,000 bar, 0-5,000 bar				
<b>Engineering units</b>	bar, mbar, psi, MPa, Pa, mH <sub>2</sub> O, mmHg, atm, kg/cm <sup>2</sup>				
<b>Safe over pressure</b>	1.5x up to 1,000 bar; 1.2x for up to 5,000 bar;				
<b>Accuracy (NL&amp;H)</b>	≤ ±0.15 % of span BFSL				
<b>Sampling rate</b>	User selectable to 1,000 samples per second (1,000 Hz) Resolution: 21 bits for ≤5 Hz; 16 bits for >5 - 1,000 Hz				
<b>Ambient temperature</b>	-20 °C to +85 °C (-4 °F to +185 °F)				
<b>Media temperature</b>	-50 °C to +125 °C (-58 °F to +257 °F)				
<b>Storage temperature</b>	+5 °C to +40 °C (+41 °F to +104°F)				
<b>Temperature effects</b>	±1.5 %FS total error band for -10 °C to +80 °C. Typical thermal zero and span coefficients ±0.015 %FS/ °C				
<b>Media wetted parts</b>	Titanium alloy				
<b>Permissible media</b>	All fluids compatible with titanium alloy				
<b>Electrical connection</b>	Mating to USB mini B socket for cable connection to PC. Supplied with 2m USB lead rated to IP68 as standard.				
<b>Pressure connection</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">≤1500 bar</td> <td>1/4" BSP male (G1/4); 1/4" NPT male</td> </tr> <tr> <td>≥1500 bar</td> <td>F250-C (Autoclave)</td> </tr> </table>	≤1500 bar	1/4" BSP male (G1/4); 1/4" NPT male	≥1500 bar	F250-C (Autoclave)
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<b>Electromagnetic compatibility</b>	EN61326-1, EN61326-2-3 (Laboratory equipment)				
<b>Software compatibility:</b>	Windows 7, Windows 8, Windows 8.1 and Windows 10				
<b>Application compatibility</b>	C#, VB, Labview and Excel VBA (api dll library)				

**Process Parameters Ltd**

**Software:**

You can download the software free of charge from the website.



Below are some features of the software:

- Monitor in real time
- Data log and select desired data for monitoring and analysis
- Set alarm levels
- Up to 21 bit resolution
- Adjustable sampling rate up to 1kHz
- Automatic software version update
- Adjustment of engineering units for both pressure and temperature readings
- Automatic detects number of sensors and range of sensors connected
- Create customised test reports and certificates
- Data presented in graphical or tabular format
- Data & configuration saved or exported to Excel spreadsheets & other database software or PDF
- Option to calibrate sensor, tare any zero offsets and generate calibration certificates

**Part Numbering system:**

UPS-HSR Dynamic Pressure Transmitter with USB interface	UPS-HSR	-	X	X	X	X	X	-	X
<b>Pressure Range</b>									
-1 to 2.5 bar			B	0	2	P	5		
0-16 bar			B	0	0	1	6		
0-100 bar			B	0	1	0	0		
0-400 bar			B	0	4	0	0		
0-1,500 bar			B	1	5	0	0		
0-2,000 bar			B	2	0	0	0		
0-4,000 bar			B	4	0	0	0		
0-5,000 bar			B	5	0	0	0		
<b>Pressure Connection</b>									
G1/4" male, pressures ≤1500bar									G
1/4" NPT male, pressures ≤1500bar									N
Autoclave F-250-C female, pressures ≥1500bar									F

**Example: UPS-HSR-B0400-N**

Model: UPS-HSR

Pressure Range: 0 - 400 Bar

Pressure Connection: 1/4" NPT male

**Accessory:** USB to Mini USB cable & robust carry case. Supplied free of charge.

