



## Digital Dynamic Pressure Sensor | USB | Pa600-USB-FQ

UK-Made - Fast 4.8kHz dynamic pressure measurement direct to your PC

- **Lead Time:** 3-5 days
- **Buy online:** <https://appmeas.co.uk/shop/pressure-sensors/pa600-usb-fq/>



### AT A GLANCE

- Ranges: 0-500mbar up to 0-700bar
- Vacuum & Compound Options
- USB Powered
- Environmental Protection: IP67
- Accuracy:  $<\pm 0.25\%$ /FS
- Gauge, Sealed Gauge or Absolute Reference

Versions

- UK-Manufactured & Bulk Production Available
- Ideal for Dynamic Fast Pressure Applications
- Fast Sampling Rate 4.8kHz
- Monitoring/Logging Software Included
- Customised Versions
- Simple Setup

### DESCRIPTION

Applied Measurements Pa600-USB-FQ digital dynamic pressure sensor is a simple way of getting fast pressure measurements straight to your PC or laptop. To use you simply need to install the sensor and connect the cable, plug the USB interface DSCUSB-FQ into the USB port of your computer or laptop and download the free Toolkit Software to get started.

The dynamic pressure sensor has an accuracy of  $\pm 0.25\%$  full scale, is extremely compact and has a naturally high-frequency response. It features a high-performance ceramic sensing element and once connected to the high-speed USB digitiser, delivers fast precise pressure measurements with its 24-bit ADC circuit sampling at 4.8kHz with a resolution of up to 1 part in 8,000.

The DSCUSB-FQ needs no external power cable as it takes all the power it needs directly from the USB port of your PC or laptop.

The USB Pressure Sensor is supplied with powerful, user-friendly Toolkit Software which is free to download. It enables you to monitor readings in real-time, either as a display value or as a live graph. Up to 30 minutes of data can be saved into a CSV file at a fixed rate of 4.8kHz for later review and analysis.

Additionally, the software allows you to analyse your data in a few ways:

- View a trend chart of the pressure and export the image and data.
- FFT view to examine the frequency components of your pressure signal.
- Oscilloscope view to evaluate wave-based signals with frequencies between 1Hz and 500Hz.



The software also allows alternative engineering units to be selected and zeroing of the system.

Each Pa600-USB-FQ dynamic pressure sensor is supplied in a compact carrying case with its USB interface module and connecting cables along with a UKAS traceable calibration certificate.

## TECHNICAL SPECIFICATIONS

| Input Pressure Range     |                                       |       |          |           |         |         |          |          |       |       |       |       |       |
|--------------------------|---------------------------------------|-------|----------|-----------|---------|---------|----------|----------|-------|-------|-------|-------|-------|
| Nominal Pressure Range   | Bar (gauge, absolute or sealed gauge) | 0-0.5 | 0-1      | 0-2       | 0-5     | 0-10    | 0-20     | 0-50     | 0-100 | 0-250 | 0-400 | 0-600 | 0-700 |
| Compound Ranges          | Bar                                   | -     | -1...0 * | -1...+2 * | -1...+5 | -1...+9 | -1...+19 | -1...+29 | -     | -     | -     | -     | -     |
| Permissible Overpressure | Bar                                   | 1     | 2        | 4         | 10      | 20      | 40       | 100      | 200   | 400   | 575   | 800   | 800   |
| Burst Pressure           | Bar                                   | 2     | 4        | 5         | 12      | 25      | 50       | 120      | 250   | 500   | 650   | 950   | 950   |

| Output Signal & Supply Voltage | Wiring System | Output            | Supply Voltage      | Input Current |
|--------------------------------|---------------|-------------------|---------------------|---------------|
| Pa600-USB                      | USB           | ASCII Data Stream | 5Vdc (via USB port) | <75mA         |

| Performance   |                     |   |
|---|---------------------|---|
| Accuracy (non-linearity, hysteresis, repeatability) | % Full Scale Output | <±0.25 (BFSL)   |
| Sampling Rate                                       | Hz                  | 4800 (fixed)  |
| Measurement Units                                   | -                   | bar (default), psi, mbar, kPa, Pa, MPa, torr, kgf/cm2 (user selectable) |

| Permissible Temperatures & Thermal Effects |               |                |
|--|---------------|----------------|
| Media Temperature                          | °C            | -40 to +135    |
| Ambient Temperature                        | °C            | -20 to +85     |
| Storage Temperature                        | °C            | -20 to +85     |
| Compensated Temperature Range              | °C            | +20 to +80     |
| Thermal Zero Shift (TZS)                   | % / FS / °C   | <±0.02 typical |
| Thermal Span Shift (TSS)                   | % output / °C | <-0.015        |

| Electrical Protection         |                           |
|-------------------------------|---------------------------|
| Electromagnetic Compatibility | CE Compliant              |
| Mechanical Stability          |                           |
| Shock                         | 100 g / 11 ms             |
| Vibration                     | 10 g RMS (20 ... 2000 Hz) |

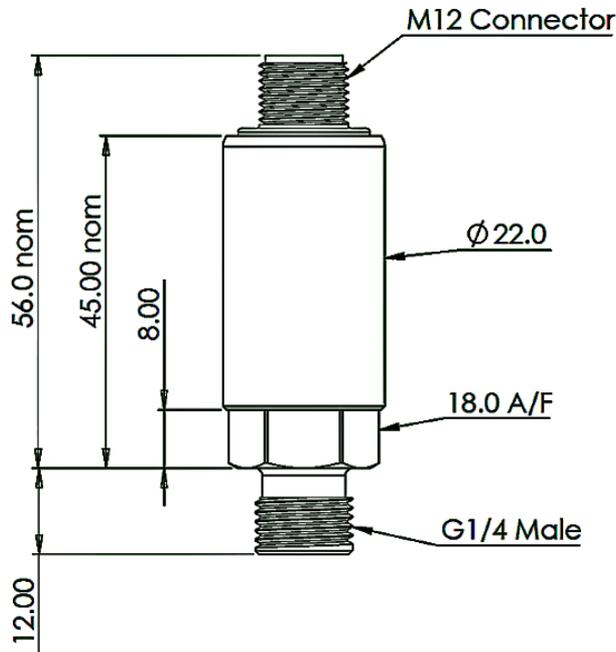
| Materials                    |  |
|------------------------------|--|
| Housing & process connection | 303 Stainless Steel<br>316L Stainless Steel (optional)                   |
| 'O' ring seals               | Viton<br>NBR/Nitrile (optional)<br>EPDM (optional)<br>Chemraz (optional) |
| Diaphragm                    | Ceramic Al2O3 96 %   |
| Media wetted parts           | Housing and process connection, 'O' ring seal, diaphragm                 |



| Misc                         |                 |   |
|------------------------------|-----------------|---|
| Weight                       | grams           | 100 nominal   |
| Installation position        |                 | Any   |
| Operational life             | pressure cycles | > 100 x 10 <sup>6</sup>   |
| Environmental Protection     |                 | Gauge Reference ≤ 50bar : IP65 /<br>Absolute, Sealed Gauge or >50bar Range : IP67 |
| Software Compatibility       |                 | MS Windows 7, 8, 8.1, and 10  |
| Sensor Cable Assembly Length | metres          | 1.5 (standard) / 5 (optional)   |

### Product Dimensions

USB Pressure Sensor Pa600-USB-FQ Outline



All dimensions are in mm

## ORDERING CODES & OPTIONS

|                             |     |      |   |        |   |   |   |   |   |   |     |   |     |
|-----------------------------|-----|------|---|--------|---|---|---|---|---|---|-----|---|-----|
| Pa600UF-10barg-A2AV-1.5-000 | Pa6 | 00UF | - | 10barg | - | A | 2 | A | V | - | 1.5 | - | 000 |
| <b>Product Family</b>       |     |      |   |        |   |   |   |   |   |   |     |   |     |
| Pa6                         | Pa6 |      |   |        |   |   |   |   |   |   |     |   |     |
| <b>Electrical Output</b>    |     |      |   |        |   |   |   |   |   |   |     |   |     |
| 00UF = USB 4.8kHz           |     | 00UF |   |        |   |   |   |   |   |   |     |   |     |
| <b>Pressure Range</b>       |     |      |   |        |   |   |   |   |   |   |     |   |     |



|  |            |             |   |               |   |          |          |          |          |   |            |     |            |
|--|------------|-------------|---|---------------|---|----------|----------|----------|----------|---|------------|-----|------------|
| <b>Pa600UF-10barg-A2AV-1.5-000</b>               | <b>Pa6</b> | <b>00UF</b> | - | <b>10barg</b> | - | <b>A</b> | <b>2</b> | <b>A</b> | <b>V</b> | - | <b>1.5</b> | -   | <b>000</b> |
| 10barg = 0 to 10bar gauge                        |            |             | - | 10barg        |   |          |          |          |          |   |            |     |            |
| M1P1barg = -1 to +1bar gauge                     |            |             | - | M1P1barg      |   |          |          |          |          |   |            |     |            |
| P15P500psia = +15 to +500psi absolute            |            |             | - | P15P500psia   |   |          |          |          |          |   |            |     |            |
| 2400psig = 0 to 2400psi gauge                    |            |             | - | 2400psig      |   |          |          |          |          |   |            |     |            |
| <b>Accuracy (Non-Linearity &amp; Hysteresis)</b> |            |             |   |               |   |          |          |          |          |   |            |     |            |
| A = <math>\pm 0.25\%/FS</math> (standard)        |            |             |   |               |   | -        | A        |          |          |   |            |     |            |
| <b>Zero Temperature Compensation (TZS)</b>       |            |             |   |               |   |          |          |          |          |   |            |     |            |
| 2 = <math>\pm 0.02\%/FS/^{\circ}C</math>         |            |             |   |               |   |          |          | 2        |          |   |            |     |            |
| <b>Process Connection</b>                        |            |             |   |               |   |          |          |          |          |   |            |     |            |
| A = G1/4" Male DIN 3852 in 303 St/Steel          |            |             |   |               |   |          |          |          | A        |   |            |     |            |
| B = G1/4" Male DIN 3852 in 316L St/Steel         |            |             |   |               |   |          |          |          | B        |   |            |     |            |
| C = 1/4" NPT Male 303 St/Steel                   |            |             |   |               |   |          |          |          | C        |   |            |     |            |
| <b>O-Ring Material</b>                           |            |             |   |               |   |          |          |          |          |   |            |     |            |
| V = Viton (FKM)                                  |            |             |   |               |   |          |          |          | V        |   |            |     |            |
| N = Nitrile (NBR)                                |            |             |   |               |   |          |          |          | N        |   |            |     |            |
| E = EPDM (Ethylene Propylene Diene Monomer)      |            |             |   |               |   |          |          |          | E        |   |            |     |            |
| C = Chemraz (Perfluoroelastomer)                 |            |             |   |               |   |          |          |          | C        |   |            |     |            |
| <b>Cable Length (in metres)</b>                  |            |             |   |               |   |          |          |          |          |   |            |     |            |
| 1.5 = 1.5 metres                                 |            |             |   |               |   |          |          |          |          |   | -          | 1.5 |            |
| 05 = 5 metres                                    |            |             |   |               |   |          |          |          |          |   | -          | 05  |            |
| <b>Specials Code</b>                             |            |             |   |               |   |          |          |          |          |   |            |     |            |
| 000 = No Special Requirements                    |            |             |   |               |   |          |          |          |          |   |            |     | - 000      |

## RELATED PRODUCTS & SERVICES



Low Cost Process Meter  
 | Panel Mount |  
 Intuitive-Lite4-P  
[\(https://appmeas.co.uk/products/instrumentation/low-cost-process-meter-ii4-p/\)](https://appmeas.co.uk/products/instrumentation/low-cost-process-meter-ii4-p/)



Universal Process Input  
 Digital Indicator |  
 Intuitive4-P  
[\(https://appmeas.co.uk/products/instrumentation/universal-process-input-digital-indicator-int4-p/\)](https://appmeas.co.uk/products/instrumentation/universal-process-input-digital-indicator-int4-p/)



Handheld Load Cell  
 Indicator | Digital  
 Display | TR150  
[\(https://appmeas.co.uk/products/instrumentation/tr150-digital-handheld-load-cell-indicator/\)](https://appmeas.co.uk/products/instrumentation/tr150-digital-handheld-load-cell-indicator/)



Wireless Telemetry for  
 Load Cells, Strain Gauge  
 Sensors & Transducers  
[\(https://appmeas.co.uk/products/instrumentation/t24-wireless-telemetry/\)](https://appmeas.co.uk/products/instrumentation/t24-wireless-telemetry/)



USB Load Cell Interface  
 | USB Strain Gauge  
 Digitiser |...  
[\(https://appmeas.co.uk/products/instrumentation/usb-load-cell-interface-strain-gauge-digitiser-dcsusb/\)](https://appmeas.co.uk/products/instrumentation/usb-load-cell-interface-strain-gauge-digitiser-dcsusb/)

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+44 (0) 118 981 7339  
info@appmeas.co.uk  
<https://appmeas.co.uk>



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