

Digital Pressure Module

DMP7010



Product Information

The DPM7010 Digital Pressure Module is a completely self-contained high accuracy pressure measurement instrument suitable for measurement of dry air.

The DPM7010 incorporates the latest miniaturized version of the Weston Aerospace vibrating cylinder pressure transducer, proven in many demanding airborne and ground based applications.

This sensor, being of a resonant element technology, is inherently digital in its primary signal output, and is also widely acknowledged as one of the most stable configurations, typically offering long term drift performance of around 0.005% FS per year, irrespective of its temperature exposure experience.

The DPM7010 combines this sensor with an on-board microcontroller, FPGA timer/counter circuitry, a 3.2" colour touch screen display, USB and Ethernet communications interfaces. The microcontroller performs all of the necessary sensor frequency and temperature compensation signal acquisition and computes pressure, delivering measurements in a choice of eight engineering units including Air Data units for the atmospheric pressure range devices.

A unique feature of the DPM is that calibration and characterisation is carried out at the top level of integration. This procedure monitors the outputs over a matrix of eleven pressures at seven different temperatures, fully characterising the device over a temperature span of +5°C to +55°C.

The DPM7010 is housed a ruggedised machined from solid enclosure, providing a robust industrial package, whilst also assisting in the reduction of thermal gradients across the sensing element.

Interface options include a standard USB 2.0 port and an Ethernet (multidrop) interface, allowing up to 255 DPM7010'S to be networked together.

Deliverable with every DPM7010 is a power supply, USB and Ethernet cables and Windows compatible Metrocal software, all housed in a foam lined ruggedised flight case. The DPM is delivered with a UKAS Certificate as standard.

The Metrocal software application allows the user to exercise the functions of the DPM7010 and also includes a data logger facility and simulated pressure indicator.



General Features

- Pressure ranges 130kPa to 5000kPa
- Accuracy $\pm 0.01\%$ FS
- Stability $\pm 0.01\%$ FS (0.005% typical) per year
- Large colour touch display
- Multiple engineering units including Air Data units
- Suitable for stand alone use or as part of an instrumentation network
- Simple to configure and set-up
- Window 2000 / XP / VISTA / 7 compatible
- Data logger facility
- Windows API, LabView & CVI drivers available
- Operating temperature range: +5°C to +55°C
- UKAS Certification

Product Application

- Metrology and barometric reference
- Low cost, high accuracy pressure standard
- Pressure calibration equipment
- Portable transfer standard

Drivers

Software libraries and drivers are available for windows API, LabView and CVI, to allow integration in automated test system and bespoke applications.

Versions Available

- DMP7010-130VCA (130 kPa Absolute)
- DMP7010-262VCA (262 kPa Absolute)
- DMP7010-345VCA (345 kPa Absolute)
- DMP7010-1000VCA (1000kPa Absolute)
- DMP7010-5000VCA (5000kPa Absolute)



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All devices can be supplied with a UKAS accredited calibration certificate from our laboratory.