



DPI610E-Aero



Portable aircraft leak tester

The DPI610E-Aero is a low cost yet flexible portable calibrator for precision leak testing of aircraft pitot static systems.

Configured as a single channel unit for testing either altitude or airspeed parameters, it is fully self-contained with manual pressure and vacuum generation and venting facilities. Conversion to aeronautical units is provided and the instrument also includes leak and switch tests as well as other functions.

The pneumatics system in the DPI610E-A limits both the maximum rate of climb and descent to protect connected delicate aircraft instrumentation such as Rate of Climb (RoC) meters.

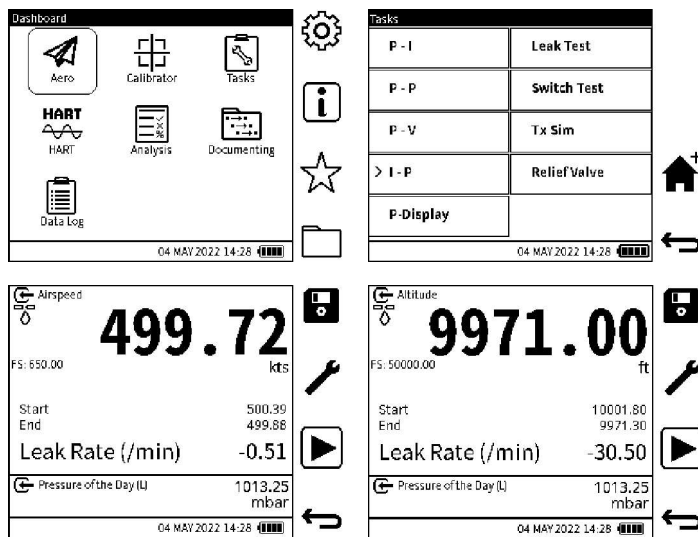
With a 5m length aero hose (6mm bore) and RoC meter attached with a total volume of 1 litre the maximum rate of climb is ± 6000 ft/min.

Pressure fitting is a choice of AN4, AN6, Hansen or Staubli quick-fit connection which includes an integral valve for let-down to ambient ground pressure conditions.

Features

- Altitude and airspeed leak testing and calibration
- Altitude and airspeed switch testing and calibration
- Integral pressure/vacuum pump
- Accuracy to 14ft and 0.15kts
- Large, task oriented display
- Altitude and airspeed display for calibration checking
- USB connection for data log transfer

DPI610E-Aero specifications



Example display screens for airspeed and altitude.

Standard specifications

Aeronautical ranges

Altitude: -3,000 to 50,000ft

Airspeed: 0 to 600 knots

Aeronautical scales

Altitude: feet and metres (or pressure units)

Airspeed: knots or kph or pressure units

(mbar, hPa, kPa, psi, mmHg@0°C, inHg@0°C, inH₂O@0°C)

Leak test scales

Airspeed: kts/min, kph/min, or pressure units /min (mbar, hPa, kPa, psi, mmHg@0°C, inHg@0°C, inH₂O@0°C)

Altitude: ft/min, m/min, or pressure units / min (mbar, hPa, kPa, psi, mmHg@0°C, inHg@0°C, inH₂O@0°C)

Pressure/vacuum source

An integral pneumatic hand pump and volume adjuster are supplied for generation and fine adjust of pressure or vacuum. Release valve and ground valve supplied for lowering values to atmospheric. Rate of climb limited to +/- 6,000 ft/min during ascent or descent when it is connected to an instrument containing a total volume of 1 litre (1000 cubic centimetres) including the hose.

Temperature ranges

Operating: -10 to 50°C

Accuracy - airspeed

Over the range 0 to 600 knots:

200kts: +/-3kts

400kts: +/-0.7kts

600kts: +/-0.15kts

Accuracy - altitude

Over the range -3,000 to 50,000 feet:

Sea level: +/- 14ft

10,000ft: +/- 18ft

30,000ft: +/- 36ft

Accuracy - absolute range

0.02% FS

Accuracy includes linearity, hysteresis, repeatability, 12 months measurement stability across the operating temperature range.

General

Barometer total uncertainty (24hr) is <0.5mbar, drift is <0.33mbar/year typical.

For further general specification and functionality details please refer to the standard DPI610E Series Portable Calibrator datasheet.

Pressure connector options



Calibration standards

Instruments manufactured by Druck are calibrated against precision calibration equipment traceable to International Standards.

UKAS calibration available

Electrical measurement and source

| | | | | | |
|------------------------------------|--|-------|---|---------|------------|
| | Total uncertainty 10°C to 30°C (50° to 86°F) for one year %Rdg + %FS | | Additional error -10°C to 10°C & 30°C to 50°C %FS/°C | | Resolution |
| Measure mode | | | | | |
| DC | | | | | |
| +/- 200 mV | 0.018 | 0.005 | 0.001 | 0.001 | |
| +/- 2000 mV | 0.018 | 0.005 | 0.001 | 0.01 | |
| +/- 20 V | 0.018 | 0.005 | 0.001 | 0.00001 | |
| +/- 30 V | 0.018 | 0.005 | 0.001 | 0.0001 | |
| Current | | | | | |
| +/- 20 mA | 0.015 | 0.006 | 0.001 | 0.0001 | |
| +/- 55 mA | 0.018 | 0.006 | 0.001 | 0.0001 | |
| Source mode | | | | | |
| DC | | | | | |
| 10 V* (Fixed, 25 mA max.) | 0 | 0.1 | 0 | 0.001 | |
| 24V (Nominal, 25mA max.) | n/a – loop supply | | | | |
| Current | | | | | |
| 0.6 to 24 mA | 0.018 | 0.006 | 0.001 | 0.0001 | |
| 0.6 to 24 mA (internal loop power) | 0.018 | 0.006 | 0.001 | 0.0001 | |

Related products

Druck manufacture a wide range of flight approved pressure sensors and ground test instrumentation for the aeronautical industry. Visit Druck.com for some more information on the products currently available..

Hoses and Accessories

| Part number | Description |
|--------------------|--|
| IO61X-LEAD | DPI61I/612 Test Lead Set |
| IO620-BLANK | PV621/622 Blanking Plug |
| IO620-BSP | Pressure Adaptor Set - BSP |
| IO620-IDT62I-NEW | Dirt Moisture Trap |
| IO620-MET | Pressure Adaptor Set - Metric |
| IO620-NPT | Pressure Adaptor Set - NPT |
| IO610E-CAR-CHARGER | DPI610E Car Charger Cable (12V) |
| IO610E-CASE | DPI610E Carrying Case (All variants) |
| IO610E-USB-CABLE | DPI610E USB A-B Cable 2m |
| IO610E-PSU | DPI610E Mains PSU 15Vdc 2A 2.5mm Coax |
| AA610E-AN4 | Quick connect to AN4 connector |
| AA610E-AN6 | Quick connect to AN6 connector |
| AA610E-HANSEN 7/16 | Quick connect to Hansen 7/16-20 |
| AA610E-HANSEN 9/16 | Quick connect to Hansen 9/16-18 |
| AA610E-STAUBLI | Quick connect to Staubli connector (based on AA500F-4) |
| AA500F-17 | Black hose (please state length in meters or feet) |
| AA500F-21 | Hose pressure connector AN3 female |
| AA500F-22 | Hose pressure connector AN4 female |
| AA500F-23 | Hose pressure connector AN6 female |
| AA500F-25 | Hose pressure connector Hansen female |
| AA500F-27 | Hose pressure connector AN6 Hansen female |
| AA500F-24A | Hose pressure connector Staubli (blackdot) |

Ordering information

Please state the following when ordering:

DPI610E-A

Pressure units

U0 - All pressure units (Default selection)

U1 - Pa (SI) pressure units only

Country of use (entered during order process to ensure relevant approvals are available for Bluetooth features)

Bluetooth Required

B0 - Not required

B1 - Bluetooth*

Output Connector Adaptor

P1 - AN4 Connector

P2 - AN6 Connector

P3 - Hansen 7/16-20 Connector

P4 - Hansen 9/16-18 Connector

P5 - G1/8 Staubli Connector

DPI610E-A

-U0

-B1

-P1

*Due to individual country radio licence requirements, Bluetooth® wireless technology may not be available in some countries. An up-to-date list of countries where Bluetooth® wireless technology is licenced to be used in is available upon request.