



# 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.

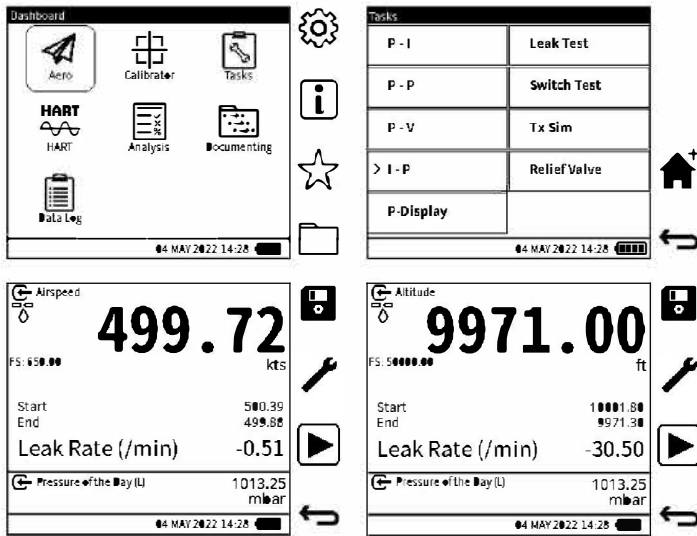
With a 5m length aero hose (6mm bore) and RoC meter attached with a total volume of 1 litre the maximum rate of climb is +/-6000 ft/min.

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 11ft 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, inH<sub>2</sub>O@0°C)

#### Leak test scales

Airspeed: kts/min, kph/min, or pressure units /min (mbar, hPa, kPa, psi, mmHg@0°C, inHg@0°C, inH<sub>2</sub>O@0°C)

Altitude: ft/min, m/min, or pressure units / min (mbar, hPa, kPa, psi, mmHg@0°C, inHg@0°C, inH<sub>2</sub>O@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: +/-0.6kts

400kts: +/-0.3kts

600kts: +/-0.15kts

#### Accuracy - altitude

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

Sea level: +/- 11ft

10,000ft: +/- 15ft

30,000ft: +/- 30ft

#### Accuracy - absolute range

0.02% FS

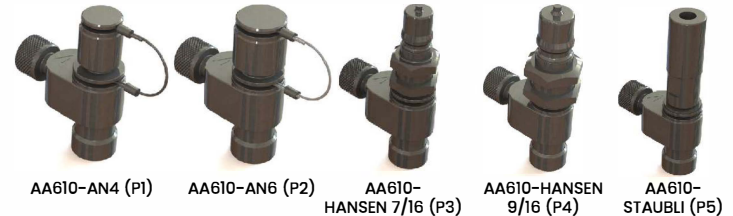
Accuracy includes linearity, hysteresis, repeatability, 12 months measurement stability across the operating temperature range.

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

Delivering world class pressure measurement and calibration technology



## Hoses and Accessories

|                    |  |
|--------------------|--|
| IO61X-LEAD         | DPI Expert Series Test Lead Set                    |
| IO620-BLANK        | Quick Fit Blanking Plug                            |
| IO620-BSP          | Pressure Adaptor Set - BSP                         |
| IO620-IDT621-NEW   | Dirt Moisture Trap 35 bar                          |
| 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         | AN4 connector (Quick connector)                    |
| AA610E-AN6         | AN6 connector (Quick connector)                    |
| AA610E-HANSEN 7/16 | Hansen 7/16-20 (Quick connector)                   |
| AA610E-HANSEN 9/16 | Hansen 9/16-18 (Quick connector)                   |
| AA610E-STAUUBLI    | Staubli connector (Quick connector)                |
| AA500F-17          | Black hose (please state length in meters or feet) |
| AA500F-21          | Pressure connector AN3 Female                      |
| AA500F-22          | Pressure connector AN4 Female                      |
| AA500F-23          | Pressure Connector AN6 Female                      |
| AA500F-25          | Pressure Connector Hanson Female AN4               |
| AA500F-27          | Pressure Connector Hansen Female AN6               |
| AA500F-24A         | Hose 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.

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