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.

TERPS® Performance

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

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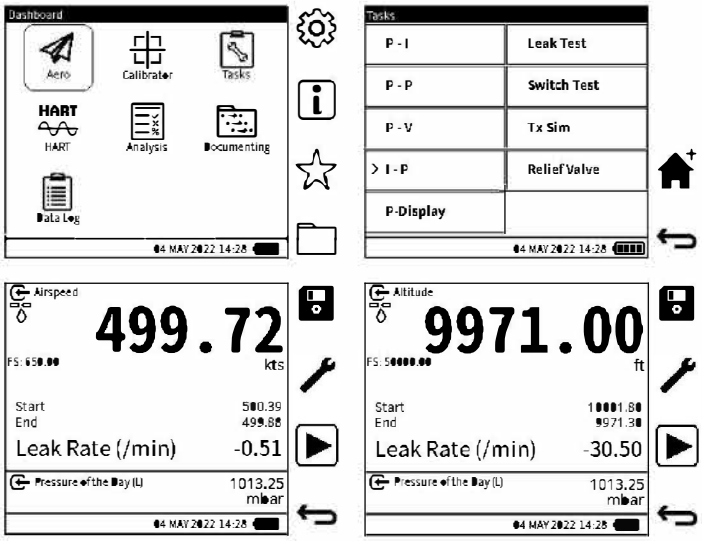
a Baker Hughes business

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_20@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_20@0°C)

Altitude: ft/min, m/min, or pressure units / min (mbar, hPa, kPa, psi, mmHg@0°C, inHg@0°C, inH_20@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

AA610-AN4 (P1) | AA610-AN6 (P2) | AA610-HANSEN 7/16 (P3) | AA610-HANSEN 9/16 (P4) | AA610-STAUBLI (P5)

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	DPI611/612 Test Lead Set
IO620-BLANK	PV621/622 Blanking Plug
IO620-BSP	Pressure Adaptor Set - BSP
IO620-IDT621-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.

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