

DPI 603

Portable Pressure Calibrator

- Accuracy $\pm 0.075\%$ standard
- Integral pressure/vacuum generation
- Standard ranges up to 20 barg
- 5 digit LCD display, multiple scales
- Dual pressure and electrical readout
- Transmitter supply and measurement
- Loop verification test current



The cost effective DPI 603, which extends the Druck range of rugged portable battery powered pressure calibrators, has standard ranges of -1 to +1 bar, 2 bar, 10 bar or 20 bar gauge with an accuracy of $\pm 0.075\%$

Designed for use in remote locations where a.c. power is not available, the DPI 603 enables pressure instrumentation to be serviced and calibrated.

The instrument features the capability to generate test pressures with an integral hand-pump up to 20 barg. A volume adjuster provides fine control of the desired test value and a venting valve enables pressure release without disconnection of the device under test.

An optional pressure/vacuum switching facility can also be provided, which enables the hand-pump to source vacuum down to -850mbarg or pressure up to 20 barg.

To facilitate pressure transmitter testing and calibration, an energising voltage of 24V d.c. is provided and the ability to monitor the loop current over the range 0 to $\pm 55\text{mA}$ d.c.

For loop verification, the DPI 603 can also output a single 12mA test value, or provide a passive sink if required.

The clear LCD display allows readout of pressure, voltage and current parameters with the ability to show current or voltage simultaneously with pressure.

STANDARD SPECIFICATION

Pressure Measurement Specification

Operating Pressure Ranges

Standard full scale ranges can be specified of -1 bar to : + 1 bar, + 2 bar, + 10 bar or + 20 bar gauge.

Over Pressure

The rated pressure can be exceeded by 4 x causing negligible calibration change, subject to a maximum safe working pressure of 25 bar.

Pressure Media

Compatible with most common fluids.

Accuracy

Combined non-linearity, hysteresis and repeatability $\pm 0.075\%$ F.S. for positive or negative pressures ± 1 digit.

Temperature Effects

Over 0° to 40°C the averaged Span temperature coefficient will not exceed 0.0125% of reading/°C.

Digital Indicator

Readout and Display

± 99999 capability, 13.6mm LCD digits with additional 16 text characters.

Pressure Scale Units

24 scale units are provided:- Pa, kPa, MPa, mbar, bar, kg/cm², kg/m², mmHg, cmHg, mHg, mmH₂O, cmH₂O, mH₂O, torr, atm, psi, lb/ft², inHg, inHg, inH₂O, ftH₂O (4° and 20°C), Special, hPa. 2 units are presented on the display.

Display Overload

Instruments are capable of nominal 120% F.S. Above this, an overrange error code is displayed.

Resolution

0.005% F.S. maximum.

Response

Nominal rate of three readings per second on the digital display.

Zero Control

Offset correction for pressure and electrical scales by key press, protected against accidental use.

Calibration Controls

Front panel key pad calibration controls for pressure and electrical ranges.

Position Effect

Negligible.

Electrical Specification

Electrical Inputs

Voltage Measurement:-
Range $\pm 50V$
Accuracy $\pm 0.15\%$ of reading
 $\pm 0.02\%$ F.S.
Temperature Coefficient $\pm 0.01\%$ reading/°C.
Current Measurements:-
Range $\pm 55mA$
Accuracy $\pm 0.075\%$ of reading
 $\pm 0.005\%$ F.S.
Temperature Coefficient $\pm 0.01\%$ reading/°C.

Electrical Outputs

Voltage outputs:-
Loop energisation, 24V nominal, floating, 25mA maximum
Current Output:-
Loop check, fixed 12mA nominal, source or sink.

Power Supply

Battery powered 4 x 1.5V zinc carbon 'D' cells, 50 hours nominal continuous operation with no load on output terminals.
Battery low condition indicated by display symbol.
Optional rechargeable batteries and external power adaptor/charger unit available.

Environmental Specification

Temperature

Operating -10° to $+ 50^\circ C$
Calibrated 0° to $40^\circ C$
Storage -20° to $+ 60^\circ C$.

Sealing

Sealed to IP65.

Safety

Electrical and Mechanical Safety EN61010
EMC Emissions EN50081-1
EMC Immunity EN50082-1
Certification CE Marked.

Physical Specification

Weight

4kg nominal

Dimensions

320mm x 195mm x 125mm.

Pressure Connection

G1/8 female or 1/8 " NPT (female).

Carrying Case

This is supplied with the instrument as standard and includes a complete set of accessories.

OPTIONS

(A) Pressure/ Vacuum Capability

A switch facility enables the integral hand-pump to generate pressure in the down stroke to a maximum of 20 bar gauge, or vacuum on the reverse stroke to -850mbar gauge.

(B) Rechargeable Batteries

Ni-Cad rechargeable cells can be supplied complete with an external charger unit.
(B1) UK 240V a.c. plug version
(B2) USA 110V a.c. plug version
(B3) European 220V a.c. plug version
(B4) 110V a.c. cable version

ACCESSORIES

Electrical test probes, calibration certificate and user handbook supplied with instrument.

ORDERING INFORMATION

Please state the following (where applicable):-

- (1) Type number
- (2) Pressure range
- (3) Pressure connection
- (4) Options
- (5) Pressure media

For non-standard requirements please refer to manufacturer.

Continuing development sometimes necessitates specification changes without notice.

RELATED PRODUCTS

Druck manufacture a comprehensive range of pressure indicators, controllers, calibrators, transducers and transmitters.
The range of portable calibrators also covers temperature and electrical parameters.

Please refer to manufacturer for further information and data sheets.

CALIBRATION STANDARDS

Instruments manufactured by Druck Limited are calibrated against precision pressure calibration equipment which is traceable to International Standards.

CALIBRATION CONNECTION SCHEMATIC

