DPI 800/802
Druck Pressure
Indicator/Loop Calibrator

DPI 800/802 is a Druck product.
Druck has joined other GE high-technology sensing
businesses under a new name—GE Industrial, Sensing.

Features

• Ranges from 10 in H2O to 10,000 psi
  (25 mbar to 700 bar)

• Single or dual range configuration

• IDOS pressure sensors provide accuracies to 0.05% FS
  all-inclusive or 0.01% precision

• mA measure, switch test and 24V loop power

• Large backlit display, menu driven interface

• HART® loop resistor

• Robust and weatherproof

• Compact, simple to use, easy to carry

• Convenient, one-handed operation

• Secure grip, impact resistant, elastomer protected

Applications

• Plug/play connector for IDOS Universal Measurement Modules

• Pressure test and maintenance

• Transmitter calibration

• Loop set-up and diagnostics

• Switch verification

The DPI 800 Series is a complete range of advanced, robust
and simple to use hand-held instruments. Highly cost
effective, these tools are ideal for test/calibration of many
popular process parameters. Advanced features and
technical innovations address more applications in less time
and deliver results you can rely on.
GE Sensing

DPI 800/802

Specifications

**DPI 800 Pressure Indicator**
The ideal tool for pressure test and measurement

**Pressure Ranges**
10 in H2O to 10,000 psi (25 mbar to 700 bar) including vacuum options

**DPI 802 Pressure Loop Calibrator**
Provides simultaneous pressure and mA measurement for transmitter and loop maintenance

**Dual Capability**
mA measure with 24 V loop power
Switch test
HART resistor

**IDOS Universal Measurement Modules**

<table>
<thead>
<tr>
<th>Type</th>
<th>DPI 800</th>
<th>DPI 802</th>
<th>DPI 811</th>
<th>DPI 812</th>
<th>DPI 820</th>
<th>DPI 821</th>
<th>DPI 822</th>
<th>DPI 831</th>
<th>DPI 832</th>
<th>DPI 841</th>
<th>DPI 842</th>
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<td>Indicator, controller and recorder testing</td>
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<td>✓</td>
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<td>Transmitter maintenance and calibration</td>
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<tr>
<td>Switch, trip and safety system testing</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
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</tr>
</tbody>
</table>

1. Optional (please refer to IDOS datasheet)
2. When fitted with IDOS pressure module
3. Optional (please refer to accessories IO800E)

**Pressure Test and Measurement**

**All-Inclusive Accuracy**
Can be relied on from one year to the next, even in tough environmental conditions (see specifications)

**Dual Sensor Configuration**
Extended measurement range and simultaneous two channel reading (P1 and P2 or P1 - P2)

**Stainless Steel Sensor Construction**
Available for compatibility with a wide range of fluids and gases (refer to range table)

**Programmable Leak Test**
Reports the pressure drop and leak rate

**Advanced Features**
Hold, maximum/minimum/average, alarm, and tare facilitate troubleshooting

**Pressure Instrument and Loop Maintenance**

**DPI 802 Pressure Loop Calibrator**
Provides simultaneous pressure and mA measurement for transmitter and loop maintenance

**Dual Readings**
Simultaneous measurement of pressure and mA for transmitter calibration and loop maintenance

**24V Loop Power Supply**
Energizes transmitters and control loops

**Automatic Switch Test**
Captures open/closed trip values providing a fast and highly accurate “safety system” check

**HART Resistor**
Can be switched into the loop when required by a HART digital communicator and avoids the inconvenience of carrying a 250 Ω resistor

![Graphs showing pressure readings](image-url)
**DPI 800/802 Specifications**

### IDOS™ Flexibility

**Intelligent Digital Output Sensor (IDOS)**
Universal Pressure Modules are available from 10 in H₂O to 10,000 psi (25 mbar to 700 bar).

**Total Flexibility**
IDOS modules can be used with any compatible instrument; for example, a DPI 812 RTD loop calibrator can become a fully featured pressure calibrator.

**Plug and Play**
Modules are interchangeable between instruments, requiring no set-up or instrument calibration.

**Range Expansion**
Achieved by adding modules (please refer to the IDOS Universal Pressure Module datasheet).

<table>
<thead>
<tr>
<th>Pressure Range</th>
<th>G/D</th>
<th>G</th>
<th>A</th>
<th>Media (+)</th>
<th>*Accuracy %FS S</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>±10 in H₂O (25 mbar)</td>
<td>✓</td>
<td></td>
<td></td>
<td>1</td>
<td>0.1</td>
<td>0.03</td>
</tr>
<tr>
<td>±1, 3, 5, or 10 psi (70, 200, 350, or 700 mbar)</td>
<td>✓</td>
<td></td>
<td></td>
<td>1</td>
<td>0.075</td>
<td>0.03</td>
</tr>
<tr>
<td>5 psi (350 mbar)</td>
<td>✓</td>
<td></td>
<td></td>
<td>1</td>
<td>0.1</td>
<td>N/A</td>
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<tr>
<td>-15 to 15 or 30 psi (-1 to 1 or 2 bar)</td>
<td>✓</td>
<td></td>
<td></td>
<td>1</td>
<td>0.05</td>
<td>0.01</td>
</tr>
<tr>
<td>30 psi (2 bar)</td>
<td>✓</td>
<td></td>
<td></td>
<td>1</td>
<td>0.075</td>
<td>N/A</td>
</tr>
<tr>
<td>-15 to 50, 100, 150 or 300 psi (-1 to 3.5, 7, 10 or 20 bar)</td>
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<td></td>
<td></td>
<td>1</td>
<td>0.05</td>
<td>0.01</td>
</tr>
<tr>
<td>100, 300 psi (7, 20 bar)</td>
<td>✓</td>
<td></td>
<td></td>
<td>1</td>
<td>0.075</td>
<td>N/A</td>
</tr>
<tr>
<td>500, 1000, 1500, 2000 or 3000 psi (35, 70, 100, 135, 200 bar)</td>
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<td></td>
<td></td>
<td>1</td>
<td>0.05</td>
<td>0.01</td>
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<tr>
<td>5000 or 10,000 psi (350 or 700 bar) Sealed gauge</td>
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<td></td>
<td></td>
<td>1</td>
<td>0.05</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*S—Standard Accuracy*  
Total accuracy over 32°F to 122°F (0°C to 50°C), including one year stability and calibration uncertainty

*P—Premier Accuracy*  
- Precision over 65°F to 82°F (18°C to 28°C)  
- For operation over 41°F to 113°F (5°C to 45°C):  
  - 0.014% FS for ranges above 10 psi (700 mbar)  
  - 0.075% FS for ranges below 15 psi (1 bar)  
- Stability over a year:  
  - 0.01% reading ranges above 5 psi (350 mbar)  
  - 0.03% reading ranges below 10 psi (700 mbar)  
- Calibration uncertainty: 50 ppm of reading

**Single or Dual Range**
One or two internal sensors can be selected. For dual range instruments, G/D ranges will be configured as G (gauge).

Only one of the two sensors can be 1500 psi (100 bar) or above.

**Overpressure (maximum transient/intermittent pressure)**
- 5 psi (350 mbar) and below 4 x FS  
- 10 to 10,000 psi (700 mbar to 700 bar) 2 x FS  
- Maximum working pressure: 1.1 x FS

**Pressure Connections**
1/8 NPT female or G 1/8 female

**DPI 802 Only**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 55,000 mA</td>
<td>0.02% reading ± 3 counts</td>
</tr>
</tbody>
</table>
| Temperature coefficient  | 14°F to 50°F, 86°F to 122°F, 0.0011/°FºF  
|                           | -10°C to 10°C, 30°C to 50°C, 0.002% FS/ºC  |
| Switch detection         | Open and closed, 2 mA current     |
| Loop power output        | 24 V ±10% (35 mA maximum)         |
| HART mA loop resistor    | 250 Ω (menu selection)            |
| Electrical connectors    | 4 mm sockets                      |

**DPI 800 Series Common Specification**

**Operating Temperature**
14°F to 122°F (-10°C to 50°C)

**Storage Temperature**
-4°F to 158°F (-20°C to 70°C)
DPI 800/802
Specifications

Humidity
0% to 90% non-condensing, Def Stan 66-31, 8.6 Cat III

Shock and Vibration
BS EN61010:2001, Def Stan 66-31, 8.4 Cat III

EMC

Safety
Electrical BS EN61010:2001. Pressure Equipment Directive (PED), Class SEP. CE marked

Display
Graphic LCD with backlight. Resolution 99999

Size (l x w x h) and Weight
7.1 in x 3.3 in x 2 in (180 mm x 85 mm x 50 mm), 18 oz (500 g)

Batteries
3 AA alkaline, >50 hours measure, >10 hours 24V source

Accessories

IO800A
Soft fabric carrying case with accessory pocket

IO800B
Belt clip, wrist strap/hanging loop and bench stand

IO800C
NiMh batteries with charger, batteries charged externally

IO800E
Data logging upgrade and RS232 lead

Log data periodically (1 s to 23h 59m 59s) or manually by key press. Review data on-screen or upload to a PC via the RS232 interface. No software purchase is necessary as standard Microsoft® applications provide data transfer (HyperTerminal) and analysis (Excel). Alternatively, print directly to a compatible serial printer. Real time clock with date. Memory: 1000 single or 750 dual reading screens with date and time. Header tag: 6 user characters to identify groups of readings. RS232: 19200 baud, 8 data bits, 1 stop bit, no parity, Xon/Xoff. Data output: comma separated ASCII.

Ordering Information

Please state the model number DPI 800 or DPI 802 for standard accuracy and DPI 800P or DPI 802P for high accuracy, pressure range(s) G, A or G/D, 1/8 NPT female or G 1/8 female and accessories as separate items.

Each unit is supplied with batteries, calibration certificate and user guide. The DPI 802 and DPI 802P include a set of electrical test leads.

Related Products

GE is a world leader in the design and manufacture of pressure, temperature and electrical field calibrators, laboratory/workshop calibration equipment and pressure sensors.