

# GE Sensing

## Features

- Single, dual or differential readings
- Wide probe compatibility for general measurement and specialist applications
- Advanced Cold Junction compensation virtually eliminates errors due to ambient temperature changes
- Data logging with adjustable period or manual recording
- Large backlit display, menu driven interface
- RS232 interface for PC or serial printer
- Robust and weatherproof
- Compact, simple to use, easy to carry
- Convenient, one-handed operation
- Secure grip, impact resistant, elastomer protected

- Plug/play connector for Intelligent Digital Output Sensor (IDOS™) Universal Measurement Modules

## Applications

- Temperature test and measurement
- Batch sampling and environmental monitoring
- Comparison test against reference sensor
- Laboratory standard

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.

# DPI 820 Druck Dual Input Thermometer

DPI 820 is a Druck product. Druck has joined other GE high-technology sensing businesses under a new name—GE Industrial, Sensing.



# DPI 820 Specifications

	DPI 800	DPI 802	DPI 811	DPI 812	DPI 820	DPI 821	DPI 822	DPI 832	DPI 841	DPI 842
<b>Type</b>	P	P	RTD	RTD	°F (°C)	TC	mA/V	Hz		
Indicator (measure pressure)	✓	✓								
Calibrator (measure or source)			✓	✓		✓	✓	✓	✓	✓
Thermometer (dual input T1, T2, T1 - T2)					✓					
<b>Dual Capability</b>										
mA measure with 24 V loop power		✓		✓			✓	✓		✓
Switch test			✓	✓			✓	✓		✓
HART resistor			✓	✓			✓	✓		✓
IDOS Universal Measurement Modules	①	①	①	①	①	①	①	①	①	①
<b>Features</b>										
Programmable step and ramp output			✓	✓		✓	✓	✓	✓	✓
Hold, scaling, max/min/avg, filter, alarm, tare	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
25 pressure units, flow scaling, leak test	✓	✓	②	②	②	②	②	②	②	②
1000 point data memory, RS232	③	③	③	③	✓	③	③	③	③	③
<b>Applications</b>										
Measurement and monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Indicator, controller and recorder testing	✓	✓	✓	✓		✓	✓	✓	✓	✓
Transmitter maintenance and calibration		✓		✓			✓	✓		✓
Process loop set-up and maintenance		✓		✓			✓	✓		✓
Switch, trip and safety system testing		✓		✓			✓	✓		✓

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

## Temperature Test and Measurement

### DPI 820 Dual Input Thermometer

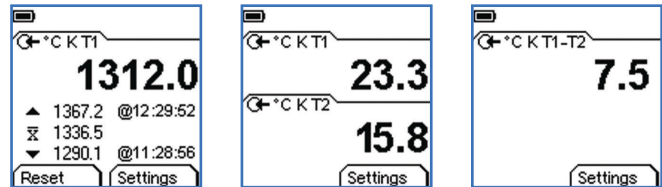
Two sensor inputs, T1 and T2, allow individual measurement or simultaneous comparisons. For differential applications; e.g. heating boiler bypass, T1 minus T2 can be displayed

### Interchangeable Probes and Wide Thermocouple Compatibility

Allow general temperature measurement or the use of special sensors for demanding applications; e.g. high temperature, hygienic and aggressive media

### Advanced Features

Hold, maximum/minimum/average, (with time stamp), tare (offset) and damping filter facilitate system checks and troubleshooting



## Temperature Data Logging, Analysis and Documentation

### Periodic Data Logging

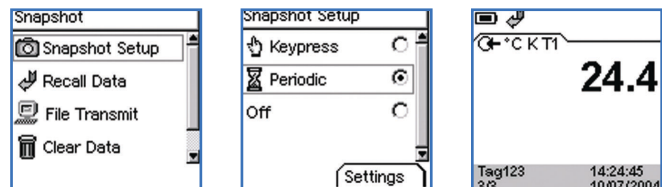
Records processes and systems over time

### Manual Logging

Record screen snapshots for batch sampling and environmental monitoring. All data is date/time stamped.

### Review Data

On-screen or upload to a PC via RS232 interface (see accessories for lead). No software purchase is necessary as standard Microsoft® applications provide data transfer (HyperTerminal) and analysis (Excel). Alternatively, print directly to a compatible serial printer.



## Data Logging

**Memory:** 1000 single or 750 dual reading screens with date and time

**Header Tag:** 6 user characters to identify groups of readings

**RS232:** 19.2 k baud, 8 data bits, 1 stop bit, no parity, Xon/Xoff

**Data Output:** Comma separated ASCII

# DPI 820 Specifications

## IDOS Flexibility

### Intelligent Digital Output Sensor (IDOS)

Universal Pressure Modules are available from 10 in H<sub>2</sub>O to 10,000 psi (25 mbar to 700 bar).

### Total Flexibility

IDOS modules can be used with any compatible instrument; for example, a DPI 820 thermometer can become a fully featured pressure indicator or can read pressure and temperature simultaneously.

### Plug and Play

Modules are interchangeable between instruments, requiring no set-up or instrument calibration.

*Please refer to IDOS UPM data sheet.*

#### DPI 820 specifications

\*Accuracy includes operation from 50°F to 86°F (10°C to 30°C), one year stability and calibration uncertainty.

Type	Standard	*Accuracy	Range
K	IEC 584	1.1°F (0.6°C)	-454°F to 2498°F (-270°C to 1370°C)
J	IEC 584	0.9°F (0.5°C)	-346°F to 2192°F (-210°C to 1200°C)
T	IEC 584	0.6°F (0.3°C)	-454°F to 752°F (-270°C to 400°C)
B	IEC 584	1.8°F (1.0°C)	122°F to 3308°F (50°C to 1820°C)
R	IEC 584	1.8°F (1.0°C)	-58°F to 3216°F (-50°C to 1769°C)
S	IEC 584	2.5°F (1.4°C)	-58°F to 3216°F (-50°C to 1769°C)
E	IEC 584	0.7°F (0.4°C)	-454°F to 1832°F (-270°C to 1000°C)
N	IEC 584	1.1°F (0.6°C)	-454°F to 2372°F (-270°C to 1300°C)
L	DIN 43710	0.6°F (0.3°C)	-328°F to 1652°F (-200°C to 900°C)
U	DIN 43710	0.6°F (0.3°C)	-328°F to 1112°F (-200°C to 600°C)
C		1.8°F (1.0°C)	32°F to 4208°F (0°C to 2320°C)
D		1.8°F (1.0°C)	32°F to 4523°F (0°C to 2495°C)

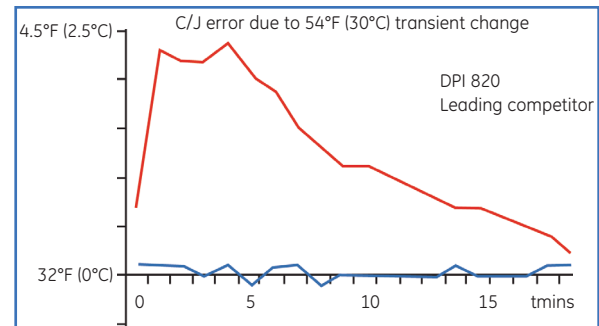
Accuracies quoted for mid range and do not include sensor error

### Temperature Coefficient

14°F to 50°F, 86°F to 122°F; 0.005°F/°F (-10°C to 10°C, 30°C to 50°C; 0.01°C/°C)

### Unique Cold Junction Compensation

Virtually eliminates ambient temperature errors. (Patent pending). 0.4°F (0.2°C) maximum error for 86°F (30°C) change in ambient temperature



### Thermocouple connectors

Mini-jack sockets for T1 and T2 inputs

## 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)

### Humidity

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

### Shock and vibration

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

### EMC

BS EN61326-1:1998 + A2:2001

### Safety

Electrical BS EN61010:2001. 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), 14 oz (400 g)

### Batteries

3 AA alkaline, >80 hours use

# DPI 820 Specifications

## Accessories

### IO800A

Soft fabric carrying case with accessory pocket

### IO800B

Belt clip, wrist strap/hanging loop and bench stand

### IO800C

NiMH batteries with charger (charged externally)

### IO800D

RS232 lead: DPI 800 to PC 9 way 'D' type

## Ordering Information

Please state the model number DPI 820 and accessories as separate items.

*Each unit is supplied with batteries, calibration certificate, user guide and two general purpose type 'K' bead thermocouples range -103°F to 482°F (-75°C to 250°C) Class I.*

## 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.



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