Features

- Advanced frequency meter and generator with three output waveforms from 0.1 V to 24 V amplitude

- Measure or source 0.01 Hz to 50 kHz

- CPM, CPH and totalizing counter

- Sine, square and triangular waveforms

- 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

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

Applications

- Electronic test and maintenance

- Transmitter calibration and switch test

- Loop set-up and diagnostics

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 841/842
Druck Frequency Calibrator/ Loop Calibrator

DPI 841/842 is a GE Druck product. GE Druck has joined other GE high-technology sensing businesses under a new name– GE Infrastructure Sensing.

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DPI 841/842 Specifications

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

❶ *Optional (please refer to IDOS datasheet)*, ❷ *When fitted with IDOS pressure module*
❸ *Optional (please refer to accessories IO800E).*

DPI 841 Frequency Loop Calibrator

Measures or sources Hz, kHz, CPM, CPH and pulses. It is the ideal instrument for process technicians and electronic engineers, providing a highly accurate calibration standard and versatile test tool. Dedicated features facilitate test and maintenance of electronic circuits and frequency instruments including frequency meters, batch counters, tachometers, motion pickups, integrators and flowmeters.

Automatic Trigger
Detects the best value regardless of waveform or amplitude

Frequency Scaling
Reads in process units; e.g. flow or revolutions/minute

Programmable Step and Ramp Outputs
Simplify calibration and diagnostics

Adjustable "Nudge" Value
Provides an incremental output for setting switches, relays, trips and alarms

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

DPI 842 Frequency Loop Calibrator

Dual Readings
Provides simultaneous frequency output and mA measurement for transmitter and loop maintenance
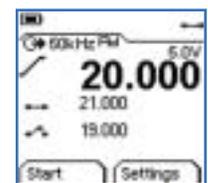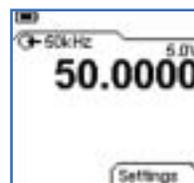
24 V Power Supply
Energize transmitters and control loops

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 for a HART digital communicator and avoids the inconvenience of carrying a 250 Ω resistor

DPI 841/842 Specifications

IDOS Flexibility

Intelligent Digital Output Sensor (IDOS)
Universal Pressure Modules are available from 10 inH_2O to 10,000 psi (25 mbar to 700 bar)

Total Flexibility
Means IDOS modules can be used with any compatible instrument; for example, a DPI 842 frequency loop calibrator can become a fully featured pressure calibrator

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

Please refer to IDOS UPM data sheet.

DPI 841 and DPI 842

Measure	Accuracy*
0 to 999.999 Hz	0.003% of reading + 2 counts
0 to 50.0000 kHz	0.003% of reading + 2 counts
0 to 999999 cpm/cph	0.003% of reading + 2 counts
0 to 999999 total count	

Source	Accuracy*
0 to 999.99 Hz	0.003% of reading + 0.0023 Hz
0 to 50.000 kHz	0.003% of reading + 0.0336 KHz
0 to 99999 cpm	0.003% of reading + 0.138 cpm
0 to 99999 cph	0.003% of reading + 0.5 cph
0 to 999999 pulse with variable rate 0 to 99999 Hz	
Temperature Coefficient	14°F to 50°F, 86°F to 122°F; 0.0011% FS/°F (-10°C to 10°C, 30°C to 50°C; 0.002% FS/°C)
Waveform	sine, square and triangular (unipolar or bipolar)
Voltage Input	30 V maximum
Trigger Level	0 to 24 V, resolution 0.1 V
Output Amplitude	0 to 24 VDC ±1% (20 mA maximum) 0 to 24 VAC ±5% (20 mA maximum)

DPI 842/Additional Specification

Measure	Accuracy*
0 to 55.000 mA	0.02% of reading + 3 counts
Temperature Coefficient	14°F to 50°F, 86°F to 122°F; 0.0011% FS/°F -10°C to 10°C, 30°C to 50°C; 0.002% FS/°C
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)

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

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 66-31 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, >60 hours frequency measure, 10 hours mA source (24 V @ 12 mA)

Electrical Connectors
Four (4 mm) sockets

GE Infrastructure
Sensing

DPI 841/842 Specifications

(Excel). Alternatively, print directly to a compatible serial printer. **Real time clock** with date format. **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.

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)

IO800E
Data logging upgrade and RS232 lead

Log Data periodically (1 second to 23 hours 59 minutes 59 seconds) 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

Ordering Information

Please state the model number DPI 841 or 842 and accessories as separate items.

Each unit is supplied with batteries, test leads, calibration certificate and user guide.

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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