



# IUPM / IUPMP (IDOS)

## Druck Universal Pressure Modules

### Features

- Pressure ranges from 25 mbar to 700 bar (10 in H<sub>2</sub>O to 10,000 psi)
- 0.05% full scale (FS) all-inclusive accuracy
- Optional 0.01% FS premium accuracy
- Fully interchangeable; no set-up
- Impact resistant, elastomer protected
- Robust, weatherproof and simple to use

### Applications

- Remote pressure sensor for (IDOS) compatible instruments e.g DPI800 series and PACE
- Applications: test, measurement, monitoring and calibration
- Expands instrument ranges and capability

The IDOS Universal Pressure Modules (IUPM / IUPMP) are robust and simple to use.

Highly accurate IDOS are housed in tough functional cases, providing dependability along with plug and play connectivity.

They provide a cost effective solution for expanding instrument ranges, adding pressure measurement capability and addressing more applications.

## Specification

### Compatible products

The DPI 800 Series of robust, highly reliable and simple to use hand-held indicators and calibrators address a broad range of applications with the following features:

|                                                 | DPI 800 | DPI 802 | DPI 880        |
|-------------------------------------------------|---------|---------|----------------|
| Features                                        | P       | P       | Multi-function |
| Indicator (measure pressure)                    | ✓       | ✓       | ✓              |
| Calibrator (measure or source)                  |         |         | ✓              |
| Thermometer (dual input T1, T2, T1-T2)          |         |         | ✓              |
| mA measure with 24 V loop power                 |         | ✓       | ✓              |
| Switch test                                     |         | ✓       | ✓              |
| HART resistor                                   |         | ✓       | ✓              |
| Programmable step and ramp output               |         | ✓       | ✓              |
| Hold, scaling, max/min/avg, filter, alarm, tare | ✓       | ✓       | ✓              |
| 25 pressure units, flow scaling, leak test      | ✓       | ✓       | ①              |
| 1000 point data memory, RS232                   | ②       | ②       | ②              |
| 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          |         | ✓       | ✓              |

① Optional (please refer to IUPM / IUPMP (IDOS) datasheet), ② Optional.

### IDOS flexibility

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

### Total flexibility

IUPM/IUPMP modules can be used with any compatible instrument for range expansion or to become a fully featured pressure calibrator.

### Instrument range expansion

Simply achieved by adding modules.



DPI 800 Series

IUPM/IUPMP

PACE 1000

### PACE 1000 pressure indicator

A high precision, simple to use bench or panel mounted indicator suitable as a secondary standard.

| Features                                                                                                                                                                                                                                                                                                                                                                                                                                            | Applications                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Accuracies of up to 3Pa/0.03mbar</li> <li>• Barometer*</li> <li>• RS232, IEEE connectivity, Ethernet and USB as standard</li> <li>• Analog output, V and mA*</li> <li>• Aeronautical option providing Airspeed, Altitude and Mach indications</li> <li>• Maximum/minimum and average</li> <li>• Filter, scaling and tare</li> <li>• 25 pressure units plus 5 user specific</li> <li>• Leak test</li> </ul> | <ul style="list-style-type: none"> <li>• Sensor calibration</li> <li>• Instrument calibration</li> <li>• Test/measurement</li> <li>• System monitoring</li> <li>• Automated production test and calibration</li> <li>• Pressure data logging</li> <li>• Leak testing</li> <li>• Weather monitoring (e.g wind tunnels)</li> </ul> |

\*Optional feature

### IUPM/IUPMP pressure ranges

| Pressure Range                                                | G/D | G | A | Media<br>+ - | *Accuracy %FS |             |
|---------------------------------------------------------------|-----|---|---|--------------|---------------|-------------|
|                                                               |     |   |   |              | Standard (S)  | Premium (P) |
| 25 mbar (±10 in H <sub>2</sub> O)                             | ✓   |   |   | ② ③          | 0.1           | 0.03        |
| 70, 200, 350, or 700 mbar (±1, 3, 5, or 10 psi)               | ✓   |   |   | ② ③          | 0.075         | 0.03        |
| 350 mbar (5 psi)                                              |     |   | ✓ | ②            | 0.1           | N/A         |
| -1 to 1 or 2 bar (-15 to 15 or 30 psi)                        | ✓   |   |   | ② ③          | 0.05          | 0.01        |
| 2 bar (30 psi)                                                |     |   | ✓ | ②            | 0.075         | N/A         |
| -1 to 3.5, 7, 10 or 20 bar (-15 to 50, 100, 150 or 300 psi)   |     | ✓ |   | ①            | 0.05          | 0.01        |
| 7, 20 bar (100, 300 psi)                                      |     |   | ✓ | ①            | 0.075         | N/A         |
| 35, 70, 100, 135, 200 bar (500, 1000, 1500, 2000 or 3000 psi) |     | ✓ |   | ①            | 0.05          | 0.01        |
| 350 or 700 bar (5000 or 10,000 psi) sealed gauge              |     | ✓ |   | ①            | 0.05          | N/A         |

G = gauge, A = absolute, G/D = gauge/differential; calibrated referenced to atmosphere maximum line pressure 30 psi (2 bar). ① Stainless steel compatibility, ② Non-corrosive gas, ③ Non-corrosive gas. (N/A = not available). Accuracy assumes regular zero correction.

## Specifications

### **\*IUPM Standard Accuracy**

Total accuracy including calibration uncertainty, operation over 0°C to 50°C over (32°F to 122°F) and one year stability. Negative calibration included.

### **\*IUPMP Premium Accuracy**

Precision over 18°C to 28°C (65°F to 82°F). For operation from 5°C to 45°C (41°F to 113°F) 0.014% full scale (FS), 0.075% for ranges 25 to 700 mbar (10 in H<sub>2</sub>O to 10 psi)

Stability 0.01% reading/year (0.03% for ranges 25 to 350 mbar/10 in H<sub>2</sub>O to 5 psi)

Calibration uncertainty 50 ppm of reading.  
Negative calibration optional

### **Overpressure (maximum transient/intermittent pressure)**

350 mbar (5 psi) and below 4 x FS  
700 mbar to 700 bar (10 to 10,000 psi) 2 x FS  
Maximum working pressure: 1.1 x FS

### **Pressure Connections**

G 1/8 female; M5 reference on G ranges above 2 bar (30 psi) 1/8 NPT female; 10-32 UNF reference on G ranges above 2 bar (30 psi)

### **Electrical Connection**

1 m (3 ft) cable with locking instrument connector

### **Operating Temperature**

-10°C to 50°C (14°F to 122°F)

### **Storage Temperature**

-20°C to 70°C (-4°F to 158°F)

### **Humidity**

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

### **Shock and Vibration**

BS EN61010  
Def Stan 66-31, 8.18 and 8.6 Cat III.

### **EMC**

EN 61326-1

### **Electrical Safety**

EN 61010-1

### **Pressure Safety**

Pressure Equipment Directive - Class: Sound Engineering Practice (SEP)

### **Approvals**

CE marked

### **Size**

130 mm x 60 mm x 45 mm (5 in x 2.3 in x 1.7 in)

### **Weight**

240 to 325 g (53 to 71 lbs)

## Options

### **(A) Negative Calibration**

IUPM/IUPMP module ranges 20 bar (300 psi) and below.

Please refer to pressure range table for ranges and accuracies.

# Ordering information

The IUPM and IUPMP are supplied with a user guide and calibration certificate as standard.

### Model type

- IUPM Universal Pressure Module Standard accuracy
- IUPMP Universal Pressure Module Premium accuracy

| Pressure range and reference type; (Mandatory to select only one e.g. 03L for each configuration) |                                           |                                             |              |                  |   |
|---------------------------------------------------------------------------------------------------|-------------------------------------------|---------------------------------------------|--------------|------------------|---|
|                                                                                                   |                                           | Gauge (G)                                   | Absolute (A) | Differential (L) |   |
|                                                                                                   | 25 mbar / 10 inH <sub>2</sub> O / 2.5 kPa | -                                           | -            | 008L             |   |
|                                                                                                   | 70 mbar / 1 psi / 7 kPa                   | -                                           | -            | 01L              |   |
|                                                                                                   | 200 mbar / 3 psi / 20 kPa                 | -                                           | -            | 02L              |   |
|                                                                                                   | 350 mbar / 5 psi / 35 kPa                 | -                                           | 03A          | 03L              |   |
|                                                                                                   | 700 mbar / 10 psi / 70 kPa                | -                                           | -            | 04L              |   |
|                                                                                                   | 1 bar / 15 psi / 100 kPa                  | -                                           | -            | 05L              |   |
|                                                                                                   | 2 bar / 30 psi / 200 kPa                  | -                                           | 07A          | 07L              |   |
|                                                                                                   | 3.5 bar / 50 psi / 350 kPa                | 08G                                         | -            | -                |   |
|                                                                                                   | 7 bar / 100 psi / 700 kPa                 | 10G                                         | 10A          | -                |   |
|                                                                                                   | 10 bar / 150 psi / 1000 kPa               | 11G                                         | -            | -                |   |
|                                                                                                   | 20 bar / 300 psi / 2 MPa                  | 13G                                         | 13A          | -                |   |
|                                                                                                   | 35 bar / 500 psi / 3.5 MPa                | 14G                                         | -            | -                |   |
|                                                                                                   | 70 bar / 1000 psi / 7 MPa                 | 16G                                         | -            | -                |   |
|                                                                                                   | 100 bar / 1500 psi / 10 MPa               | 165G                                        | -            | -                |   |
|                                                                                                   | 135 bar / 2000 psi / 13.5 MPa             | 17G                                         | -            | -                |   |
|                                                                                                   | 200 bar / 3000 psi / 20 MPa               | 18G                                         | -            | -                |   |
|                                                                                                   | 350 bar / 5000 psi / 35 MPa               | 20G                                         | -            | -                |   |
|                                                                                                   | 700 bar / 10000 psi / 70 MPa              | 22G                                         | -            | -                |   |
|                                                                                                   | Pressure connection                       |                                             |              |                  |   |
|                                                                                                   | BSP                                       | G1/8 Female                                 |              |                  |   |
|                                                                                                   | NPT                                       | 1/8 NPT Female                              |              |                  |   |
|                                                                                                   | Calibration unit                          |                                             |              |                  |   |
|                                                                                                   | Bar                                       |                                             |              |                  |   |
|                                                                                                   | psi                                       |                                             |              |                  |   |
|                                                                                                   | hPa                                       |                                             |              |                  |   |
|                                                                                                   | kPa                                       |                                             |              |                  |   |
|                                                                                                   | inH2O                                     |                                             |              |                  |   |
|                                                                                                   | mbar                                      |                                             |              |                  |   |
|                                                                                                   | MPa                                       |                                             |              |                  |   |
|                                                                                                   | Instrument set up                         |                                             |              |                  |   |
|                                                                                                   | W1                                        | UK and Europe                               |              |                  |   |
|                                                                                                   | W2                                        | USA                                         |              |                  |   |
|                                                                                                   | W3                                        | Japan                                       |              |                  |   |
|                                                                                                   | W4                                        | Asia                                        |              |                  |   |
|                                                                                                   | W5                                        | Other countries                             |              |                  |   |
|                                                                                                   | Option                                    |                                             |              |                  |   |
|                                                                                                   | A                                         | Negative Calibration (Premium version only) |              |                  |   |
| IUPM                                                                                              | -                                         | BSP                                         | Bar          | W1               | A |
| (Example model numbers)                                                                           |                                           |                                             |              |                  |   |

Druck offers a portfolio of high accuracy, high performance test and calibration equipment in safe or hazardous area (IS) variants that are ideal for the calibration and adjustment of Druck's pressure sensors.

