

# DIGITAL PRESSURE GAUGES WITH METRIC FITTINGS AND RANGES

## 0.08% ACCURACY WITH STAINLESS STEEL WETTED PARTS AND BODY

**Gauge Pressure: 0-25 mb  
to 0-345 bar**

**Sealed Gauge: 0-7 bar to 0-345 bar**

**Absolute Pressure: 0-350 mb  
to 0-345 bar**

**Compound Gauge: ±25 mb to  
±1 bar**

**Vacuum (Negative Gauge):  
0 to -25 mb to 0 to -1 bar**

**Barometric: 0-1100 hPa to  
880-1100 hPa**

### DPGM409 Series



Standard

- ✓ 5-PT NIST Traceable Calibration Included
- ✓ High 0.08% Accuracy
- ✓ Easy to Read 25 mm (1") Backlit LCD Display
- ✓ Hi and Lo Alarms Standard
- ✓ MIN/MAX/AVG Reading
- ✓ User Selectable Analog Output 0 to 5 Vdc, 0 to 10 Vdc or 4 to 20 mA
- ✓ Included Setup and Service Software Allows for Fast Maintenance and Calibration via USB Connection
- ✓ Wireless Transmitter Optional
- ✓ Wireless Models Include Data Logging Software for Remote Recording and Charting
- ✓ CE Certified
- ✓ Battery Powered with Long Battery Life
- ✓ Analog Output Standard



Magnetic stylus (included).

DPGM409-070BG, shown smaller than actual size.

NEMA 4X case.

**Fast Delivery - Typically Stock to 2-Weeks!**

Standard integral pressure sensor

OMEGA's DPGM409 digital pressure gauge incorporates a rugged 316 SS enclosure designed for washdown and marine applications with a precision 0.08% accuracy pressure transducer with 316L SS wetted parts and body. The result is an extremely durable digital pressure gauge designed to survive harsh industrial environments. The large 25 mm (1") display is easy to read at a distance up to 11 m (36'). Models are available in Gauge, Sealed Gauge, Compound Gauge, Absolute, Vacuum and Barometric pressure ranges. Standard features include a highly stable silicon sensor, selectable MIN/MAX and AVG readings, Hi and LO alarms and an

externally powered user selectable analog output. An optional wireless transmitter feature with software allows the signal to be transmitted to a remote location such as a PC for charting and data logging. Power is from an internal long life battery (included) or an externally supplied dc voltage source. Each unit is supplied with configuration software that allows the user to connect to a PC via a standard USB connection (cable included) and select a variety of user configurable features including sample interval, units, and backlight.

**Note:** Because of transmission frequency regulations, wireless models may only be used in the US, Canada and Europe.

## SPECIFICATIONS

**CE Compliant:** Meets EN61326-1: 2006 for industrial locations with analog output cables less than 30 m (98')

**Accuracy (Combined Linearity, Hysteresis and Repeatability):**  $\pm 0.08\%$  BSL (0.15% max in 10V/m RF field) (compound gauge calibrated in positive direction only)

### Temperature:

**Storage:** -40 to 82°C (-40 to 180°F)

**Compensated:** -18 to 66°C (0 to 150°F)

### Thermal Effects

**(Over Compensated Range):**

#### Zero Shift:

**Ranges >350 mb:**  $\pm 0.3\%$  span

**Ranges  $\leq 350$  mb:**  $\pm 0.5\%$  span

#### Span Shift:

**Ranges >350 mb:**  $\pm 0.3\%$  span

**Ranges  $\leq 350$  mb psi:**  $\pm 0.5\%$  span

### Minimum Resistance Between Transducer Body and Any Wire:

100M $\Omega$  @ 50 Vdc

**Pressure Cycles:** 1 million minimum

### Long Term Stability (1-yr):

$\pm 0.1\%$  FS typical

**Analog Output:** User selectable

0 to 5 Vdc, 0 to 10 Vdc or 4 to 20 mA

(external 24 Vdc power supply required)

**Note:** Compound gauge ranges have a unidirectional analog output equal to their full span; i.e. -350 to 350 mb = 0 to 10 Vdc.

### Analog Output:

**Cable:** 2.7 m (8.9')

**Accuracy:** 0.08% typical

**Overpressure:** Gauge/sealed gauge

**25 mb:** 10 times span

**70 mb:** 6 times span

**170 mb to 100 bar:** 4 times span

**175 to 350 bar:** 500 bar max

### Absolute/Barometric Ranges:

**350 mb to 100 bar:** 4 times span

**175 to 350 bar:** To 500 bar abs

**Containment Pressure:** Gauge and Sealed Gauge pressure

**25 to 350 mbar:** To 70 bar

**1 to 70 bar:** To 200 bar

**100 to 350 bar:** To 700 bar

### Absolute/Barometric Pressure:

**350 mb to 70 bar:** to 400 bar

**Display:** 4-digit LCD with user

selectable backlighting, (9999 count) 25 mm (1") character height

**Computer Interface:** USB connection for set-up, cable included

**Update Rate:** User selectable from 0.25 to 10 sec. (preset to 1/sec)



**Power:** One 3.6V lithium 8.4 Ah capacity (C cell) Included (two with wireless option) (replacement battery BATT-C-3.6V)

**Battery Life (Typical):** Up to 9 months

### Enclosure:

**Material:** 316 Stainless Steel and ABS center gasket

**Finish:** Brushed 316 stainless steel

**Environmental Rating:** Weatherproof, NEMA 4X (IP65)

### Sensor Wetted Parts:

316L Stainless Steel

**Pressure Connection:** G $\frac{1}{4}$  male

### Dimensions:

**Display:** 115 L x 89 W x 74 mm D (4.5 x 3.5 x 2.9")

**Sensor:** 72 to 89 mm L (2.8 x 3.5") below display

**Weight:** 900 g (32 oz) Typical depending upon configuration

### Front Panel Functions

**Backlight:** Manually turns backlight on/off

**Min/Max:** Recalls min/max values

**Zero/Clear:** Zeros display or clears min/max

### Software Settings (via USB)

**Update Rate:** 4 options, 10, 5, 2, 1 times per second

**Units:** psi, inHg, inH $_2$ O, bar, mbar, hPa units; must be specified at time of order

**Lock:** Allows the lock-out of front panel functions

**Alarms:** User selectable "High" and "Low" alarm limits (open collector)

**Analog Output:** User Selectable 0 to 5 Vdc, 0 to 10 Vdc, or 4 to 20 mA (requires external 24 Vdc power)

**Backlight:** On/off, 10 sec, 30 sec, 1 min, 5 min

**Wireless Transmitter (Optional):** Channel number, transmission rate, alarms, sensor offset, chart recording, data logging

**Overrange Indication:** " \_ \_ \_ \_ "

### Wireless Option Specifications

**Transmit Sample Rate:** User programmable from 1 sample/2 min to 1 sample/2 sec

**Radio Frequency (RF) Transceiver Carrier:** ISM 2.4 GHz

**RF Output:** 10 dBm (10 mW)

### Range of RF Link:

**Outdoors (Line of Sight):**

Up to 120 m (400')

**Indoors/Urban:** Up to 40 m (130')

**Included Software:** Requires Windows<sup>®</sup> 7 (32 bit); XP or Vista

**Internal Battery:** Two 3.6V lithium 8.4 Ah capacity (C-cell) included, (replacement battery BATT-C-3.6V)

**Data Transmission to Host:** Pressure reading, ambient temperature reading, RF transmit strength and battery level

**For calibration and to setup your DPG409 device please go to**

**ftp://ftp.omega.com/public/DASGroup/products/dpg409/**

The DPG configuration wizard provides a convenient USB interface with your device. Please refer to the manual for details on setting up your device.



**UWTC-REC2-D,**  
48-channel wireless receiver  
with analog output and display.

### Wireless Receivers (For Use with Wireless Transmitter Option)

| MODEL NO.       | DESCRIPTION   |
|-----------------|---|
| UWTC-REC1       | 48-channel wireless receiver, USB powered                           |
| UWTC-REC2-(*)   | 48-channel wireless receiver with analog output                     |
| UWTC-REC2-D-(*) | 48-channel wireless receiver with analog output and digital display |

\* Specify analog output signal: "V1" for 0 to 5 Vdc; "V2" for 0 to 10 Vdc, "TC" for Type K thermocouple, or "MA" for 4 to 20 mA.

Comes complete with operator's manual, set-up and configuration software, charting and databasing software with common drivers, USB cable, 2.7 m (8.9') analog output cable, one 3.6V lithium C cell battery (two with wireless option), and 5-point NIST traceable calibration.

To order wireless option add suffix "-W" to model number, for additional cost.

To order sealed gauge models change suffix "G" to "SG", available on gauge ranges  $\geq 7$  bar, no extra charge.

**Ordering Examples:** DPGM409-070G-W, digital pressure gauge with 70 bar range, G $\frac{1}{4}$  male fitting and wireless transmitter option, and UWTC-REC1, wireless USB receiver.

DPGM409-025HV digital pressure gauge with 25 mb (hPa) vacuum range, G $\frac{1}{4}$  male fitting.

DPGM409-007SG digital pressure gauge with 7 bar, sealed gauge range, G $\frac{1}{4}$  male fitting.

## To Order

| RANGE (RESOLUTION)<br>GAUGE PRESSURE                          | MODEL NO.<br>G 1/4 Male Thread |
|---|--------------------------------|
| 0 to 25.00 mbar (hPa)   | DPGM409-025HG                  |
| 0 to 70.00 mbar (hPa)   | DPGM409-070HG                  |
| 0 to 170.0 mbar (hPa)   | DPGM409-170HG                  |
| 0 to 350.0 mbar (hPa)   | DPGM409-350HG                  |
| 0 to 1.000 bar  | DPGM409-001BG                  |
| 0 to 2.000 bar  | DPGM409-002BG                  |
| 0 to 3.500 bar  | DPGM409-3.5BG                  |
| 0 to 7.000 bar  | DPGM409-007BG                  |
| 0 to 10.00 bar  | DPGM409-010BG                  |
| 0 to 17.50 bar  | DPGM409-17.5BG                 |
| 0 to 35.00 bar  | DPGM409-035BG                  |
| 0 to 50.00 bar  | DPGM409-050BG                  |
| 0 to 70.00 bar  | DPGM409-070BG                  |
| 0 to 100.0 bar  | DPGM409-100BG                  |
| 0 to 175.0 bar  | DPGM409-175BG                  |
| 0 to 245.0 bar  | DPGM409-245BG                  |
| 0 to 350.0 bar  | DPGM409-350BG                  |
| <b>ABSOLUTE PRESSURE</b>                                      |                                |
| 0 to 350.0 mbar (hPa)   | DPGM409-350HA                  |
| 0 to 1.000 bar  | DPGM409-001BA                  |
| 0 to 2.000 bar  | DPGM409-002BA                  |
| 0 to 3.500 bar  | DPGM409-3.5BA                  |
| 0 to 7.000 bar  | DPGM409-007BA                  |
| 0 to 10.00 bar  | DPGM409-010BA                  |
| 0 to 17.50 bar  | DPGM409-017BA                  |
| 0 to 35.00 bar  | DPGM409-035BA                  |
| 0 to 50.00 bar  | DPGM409-050BA                  |
| 0 to 70.00 bar  | DPGM409-070BA                  |
| <b>VACUUM (NEGATIVE GAUGE) RANGES (ZERO OUTPUT = AMBIENT)</b> |                                |
| 0 to -25.00 mbar (hPa)  | DPGM409-025HV                  |
| 0 to -70.00 mbar (hPa)  | DPGM409-070HV                  |
| 0 to -170.0 mbar (hPa)  | DPGM409-170HV                  |
| 0 to -350.0 mbar (hPa)  | DPGM409-350HV                  |
| 0 to -1.000 bar   | DPGM409-001BV                  |
| <b>BAROMETRIC RANGES (ABSOLUTE PRESSURE)</b>                  |                                |
| 0 to 1100 hPa   | DPGM409-1100HB                 |
| 550 to 1100 hPa   | DPGM409-550HB                  |
| 880 to 1100 hPa   | DPGM409-880HB                  |
| <b>COMPOUND GAUGE RANGES</b>                                  |                                |
| $\pm 25.00$ mbar (hPa)  | DPGM409-025HCG                 |
| $\pm 70.00$ mbar (hPa)  | DPGM409-070HCG                 |
| $\pm 170.0$ mbar (hPa)  | DPGM409-170HCG                 |
| $\pm 350.0$ mbar (hPa)  | DPGM409-350HCG                 |
| $\pm 1.000$ bar   | DPGM409-001BCG                 |