DPG509

Advanced Digital Pressure Gauge

ΩE OMEGA™

- **Configurable - 40,000+ Possibilities**
- **Large 1" digits for high visibility**
- **User friendly, 4-button interface**
- **Differential pressure available**
- **High accuracy (0.08%) options**
- **Data logging with SD card optional**

Overview

We've created a new, user-friendly interface with four clearly labeled buttons and a large 4-digit, backlit display. Full-scale accuracy as high as 0.08% is perfect for applications where accuracy is critical, and 0.25% accuracy is also available for those times when a reliable, easy-to-use gauge is most important. Configure a basic gauge with long-lasting battery power or choose an externally powered option to support a robust unit with voltage and/or current outputs.

Another powerful feature is the data logging option. Log your important data as fast as four readings per second so that you don't miss a thing. Data analysis is straightforward with an included SD card that is easily accessible for data retrieval.

All options are built with an engineered thermoplastic housing with an IP65 rating for durability in harsh environments. A protective rubber boot is also an option for additional protection.

Configurable Menu Features

Users have four different operation modes to select from. Normal mode displays the last pressure reading. Tare mode zeros the unit at an applied pressure. Minimum and maximum modes display the lowest and highest recorded pressure readings respectively. There are also additional settings that can be adjusted to best suit your process including the shut-off timer, sampling rate, range plotting, pressure units, and zero-point adjustment.

With the advanced menu, additional features include custom units, dampening mode, password protection, and backlight adjustment. If the 15 engineering unit options don't cover what you need, up to five custom pressure units can be programmed. Dampening mode filters the raw data into a smoother output.

Password protection allows only authorized users to change DPG settings to help avoid accidental button presses and setting changes. Backlight adjustment provides five options to adjust how long the backlight remains on, from 10 seconds to always on to balance both visibility and battery life.
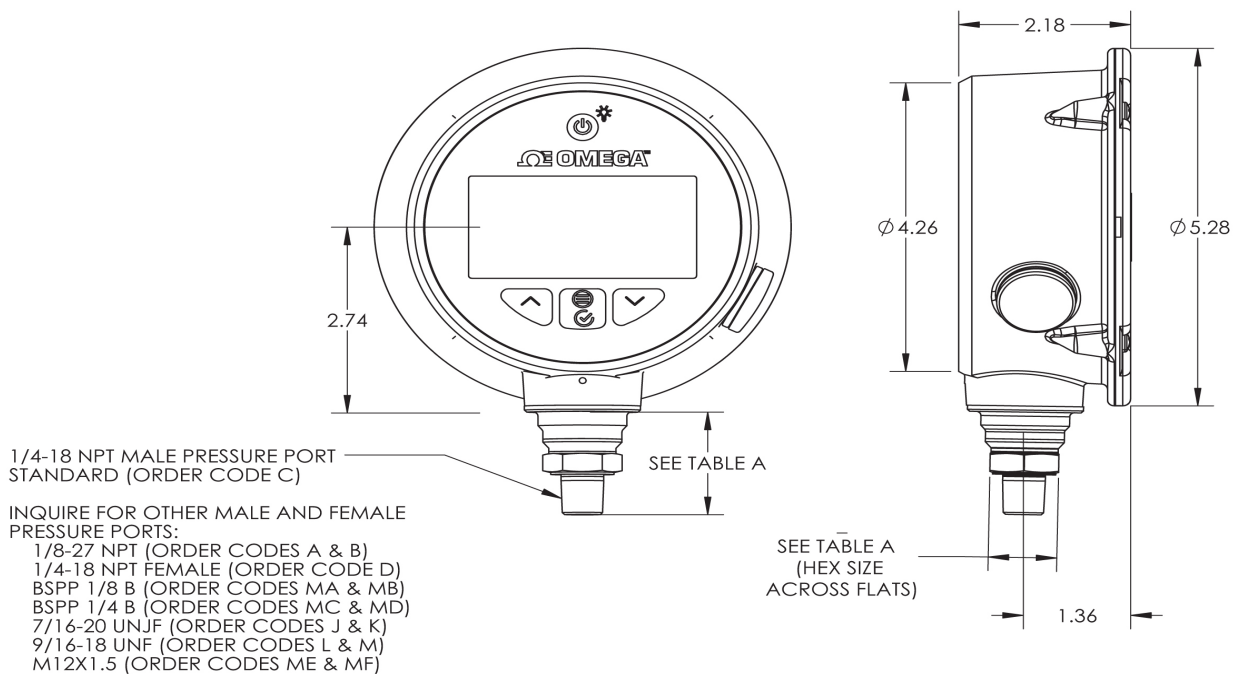
Specifications

	Configuration Option	
Accuracy (Combined Linearity, Hysteresis and Repeatability)	25	±0.25% Full Scale Span
	08	±0.08% Full Scale Span
Power Supply	B	4 Alkaline AA Batteries
	D	DC Power through M12 connection and 4 Alkaline AA Batteries
Output	N	None
	I	4 to 20 mA
	V	0 to 5 Vdc and 0 to 10 Vdc
	IV	4 to 20 mA, 0 to 5 Vdc, and 0 to 10 Vdc
Pressure Type	A	Absolute
	D	Differential
	G	Gauge
Engineering Units	B	psi, bar, mbar, inH2O, ftH2O, mmH2O, inHG, mmHG, cmHG, Pa, hPa, kPa, MPa, ATM, TORR
	A	Includes units listed above and programmable custom units
Protective Rubber Boot	B	Adds another layer of durability to the pressure gauge
Calibration	C	5-point NIST Traceable is available
Data Logging	D	8 Gb Micro SD card. Can accept up to 32 Gb Micro SD
Pressure Connection Options	14 options available in configurator	1/4-18 NPT, 1/8-27 NPT, BSPP 1/8 B, BSPP 1/4 B, 7/16-20 UNF (MS33656-04), 9/16-18 UNF, M12x1.5. All connections available as male or female types.
Long Term Stability	Standard for all units	±0.3% Span/Year
Battery Life (Typical)		1,000 hours (no backlight usage)
Display		4-digit LCD with backlight and 25 mm (1") character height
User Interface		4 membrane key switches
Minimum Resistance Between Transducer Body and any Wire		100 MOhms @100 VDC
Operating Temperature		-17°C to 54°C (0°F to 130°F)
Storage Temperature (without batteries)		-40°C to 82°C (-40°F to 180°F)
Pressure Cycles		1 million
Over Pressure		1.5 x rated pressure
Materials		Enclosure: Engineered Thermoplastic. Sensor Wetted Parts: 316L Stainless Steel, Viton Seal
Enclosure rotation after securing fluid connection		±150°
Weight		1.25 lbs
Environmental Rating		IP65
CE		EN61326-1: 2012
RoHS		2015/863
Vibration		ASME B40.7

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Keypad Table

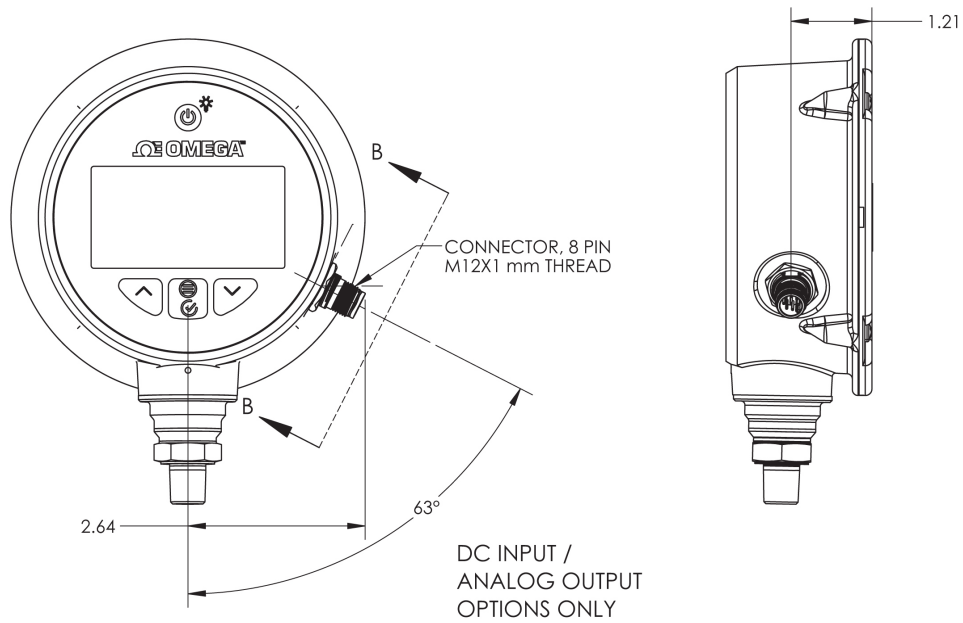| ⏻✳	Power / Backlight	Turns the unit on and off / Turn backlight on
∧	Max / Scroll Up	Displays the maximum reading / Scroll up in menu navigation
▤	Menu / Enter	Enter / Access the menu / Exit the menu
∨	Min / Scroll Down	Displays the minimum reading / Scroll down in menu navigation

DPG509 Dimensions & Pressure Ports

2.18

⌀4.26

⌀5.28

2.74

1/4-18 NPT MALE PRESSURE PORT
STANDARD (ORDER CODE C)

INQUIRE FOR OTHER MALE AND FEMALE
PRESSURE PORTS:
  1/8-27 NPT (ORDER CODES A & B)
  1/4-18 NPT FEMALE (ORDER CODE D)
  BSPP 1/8 B (ORDER CODES MA & MB)
  BSPP 1/4 B (ORDER CODES MC & MD)
  7/16-20 UNJF (ORDER CODES J & K)
  9/16-18 UNF (ORDER CODES L & M)
  M12X1.5 (ORDER CODES ME & MF)

SEE TABLE A

SEE TABLE A
(HEX SIZE
ACROSS FLATS)

1.36

STANDARD (SINGLE-POINT) PRESSURE
0.3 TO 1000 PSI (LOW AND MID RANGE)
0.08% ACCURACY

.00

1.04

1.51

1.99
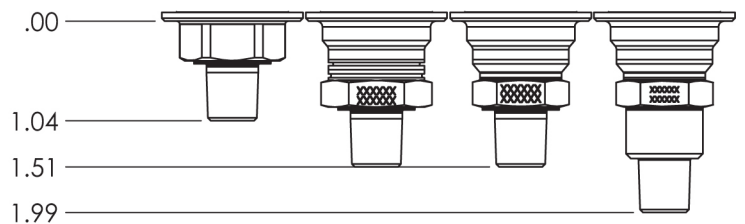
	TABLE A			
PRESSURE RANGES (PSI)	0 TO 500	0 TO 15	30 TO 1000	1500 TO 5000
ACCURACY	±.25 %	±.08 %		
HEX SIZE ACROSS FLATS	1.0		.87	

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DPG509 Dimensions for Units with DC Power

CONNECTOR, 8 PIN
M12X1 mm THREAD

1.21

2.64

63°

DC INPUT /
ANALOG OUTPUT
OPTIONS ONLY

M12 Pin-Out for DC Power and Analog Output

PIN 5
SUPPLY (-)

PIN 4
DNC

PIN 6
OUTPUT (-)

PIN 3
DNC

PIN 7
DNC

PIN 2
SUPPLY (+)

PIN 8
SHIELD

PIN 1
OUTPUT (+)

VIEW B-B

4
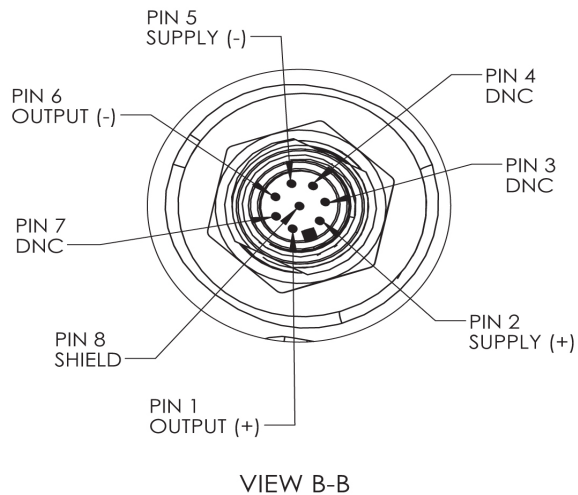
DPG509 Differential Unit Dimensions

2.18

⌀4.26

⌀5.28

2.74

1.47

1.36

LOW PRESS
PORT MARK
BOTH SIDES

1.87

HIGH PRESS
PORT MARK
BOTH SIDES

3.05

HEX 1.00
SHOWN
0.3 TO 15 PSID

HEX .87
30 TO 1000 PSID

1/4-18 NPT MALE PRESSURE PORT
STANDARD (ORDER CODE C)
BOTH ENDS
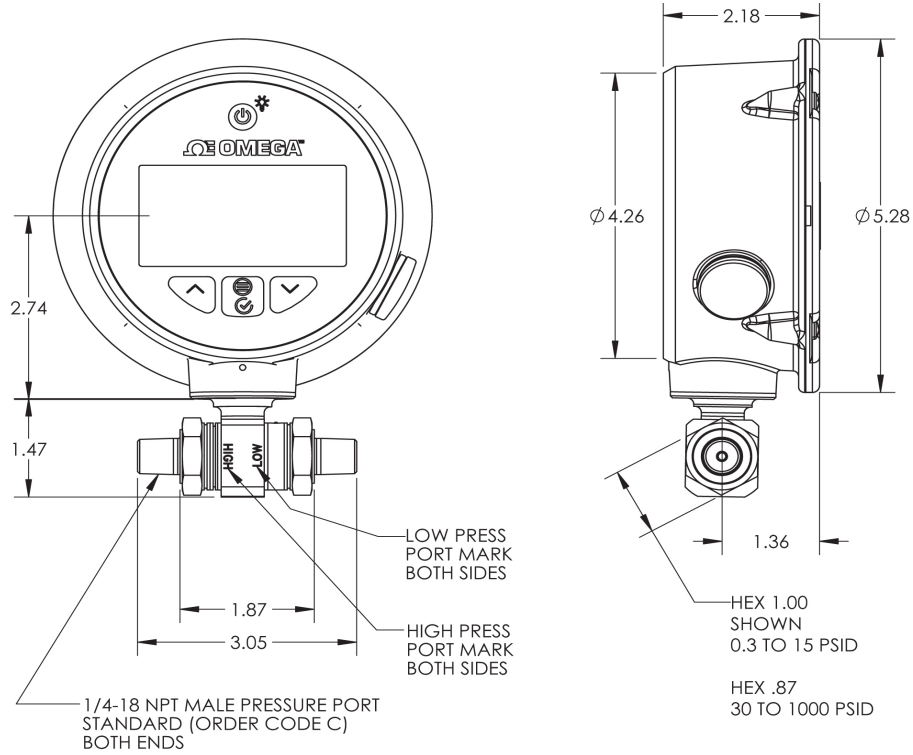
DPG509 Protective Boot Dimensions

2.32

2.74

4.36

5.44
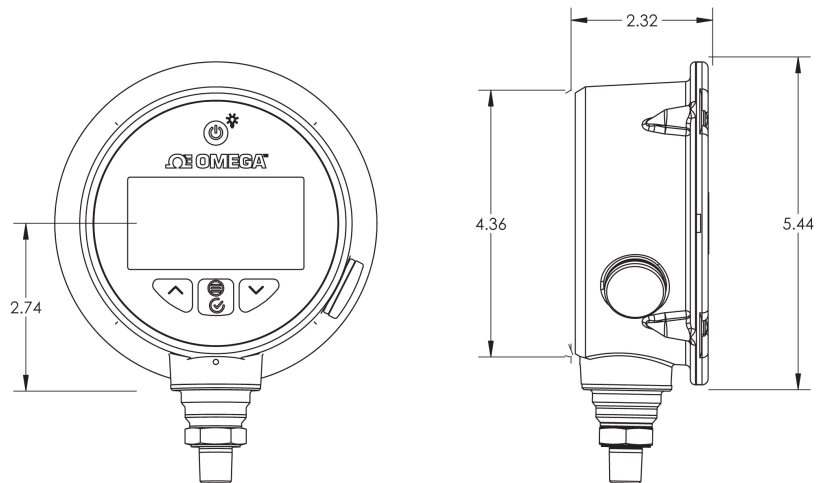
PROTECTIVE BOOT OPTION -
ENCLOSURE DIMENSIONS

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