

# DIGITAL PRESSURE GAGES

±0.25% or ±0.5% Full-Scale Accuracy, NEMA 4X (IP66) Aluminum Housing

CALIBRATION SERVICES AVAILABLE

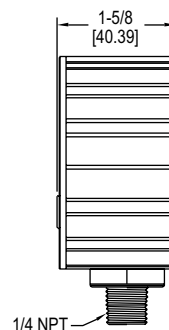
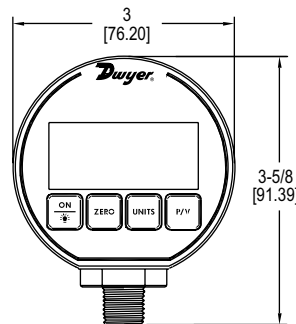
PRESSURE



DPG-000



DPG-100



The **Series DPG Digital Pressure Gages** have a high  $\pm 0.25\%$  or  $\pm 0.5\%$  full-scale accuracy. The 4 digit digital display will reduce the potential for errors in readings by eliminating parallax error commonly produced with analog gages. Series DPG is battery powered and has an auto-shut off to conserve battery life. Battery life, on average, will last 2000 hours. A 4 button key pad allows easy access to features without the need to work through complex menus or difficult key combinations. These features include backlight, peak and valley, tare or auto zero and conversion of the pressure units.

## BENEFITS/FEATURES

- High accuracy provides exceptional measurement minimizing costly out of specification conditions
- Backlit 4-digit display provides clear parallax-free reading reducing potential for errors
- Battery-powered gage with auto-shutoff eliminates wiring and prolongs battery life reducing service calls
- Push-button zero reduce installation and service time

## APPLICATIONS

- Process applications
- Replacement for legacy analog gages
- OEM applications

## SPECIFICATIONS

**Service:** Compatible liquids and combustible gases (for FM listing see Compliance below).

**Wetted Materials:** Type 316L SS.

**Housing Materials:** Polycarbonate front and back cover, anodized aluminum extruded housing with recessed grooves, polycarbonate overlay, Buna-N O-rings, 316L SS sensor construction.

**Accuracy:** DPG-000:  $\pm 0.5\%$  FS; DPG-100:  $0.25\%$  FS;  $\pm 1$  least significant digit @  $70^\circ\text{F}$  ( $21^\circ\text{C}$ ) (includes linearity, hysteresis, repeatability).

**Pressure Limit:** 2x pressure range for models  $\leq 1000$  psi; 5000 psi for 3000 psi range; 7500 psi for 5000 psi range.

**Enclosure Rating:** Designed to meet NEMA 4/4X (IP66).

**Temperature Limits:** 0 to  $130^\circ\text{F}$  ( $-18$  to  $55^\circ\text{C}$ ).

**Thermal Effect:** Between 70 to  $130^\circ\text{F}$  is  $0.016\%/^\circ\text{F}$ ; Between 32 to  $70^\circ\text{F}$  is  $0.026\%/^\circ\text{F}$ ; Between 10 to  $32^\circ\text{F}$  is  $0.09\%/^\circ\text{F}$ .

**Size:** 3.00" OD x 1.90" deep (max).

**Process Connection:** 1/4" male NPT.

**Display:** 4 digit (.425" H x .234" W digits).

**Power Requirements:** (2) AAA alkaline batteries, included, user replaceable.

**Battery Life:** 2000 hours typical; Low battery indicator (60 hours in continuous use).

**Auto Shut-Off:** Gage: 60 minute auto shut off. Auto shut-off may be disengaged; Backlight: 2 minute auto shut-off.

**Weight:** 8.84 oz (275 g).

**Compliance:** DPG-000: CE; DPG-100: CE, FM approved to be intrinsically safe for class I, division I, groups A, B, C and D, for ranges 0-15 to 0-3000 psi.

## MODEL CHART

Model	Model $\pm 0.5\%$	Range psi	Pressure Ranges									
			kg/cm <sup>2</sup>	bar	in Hg	ft w.c.	kPa	oz/in <sup>2</sup>	in w.c.	mbar	cm w.c.	mm Hg
DPG-000*	-	-14.70 to 0	-1.033	-1.013	-29.93	-33.94	-101.4	-235.2	-407.3	-1013	-1034	-760.7
DPG-002*	DPG-102	15.00	1.055	1.034	30.54	34.61	103.4	240	415.2	1034	1055	775.7
DPG-003*	DPG-103	30.00	2.109	2.069	61.08	69.21	206.9	480	830.4	2069	2109	1551
DPG-004*	DPG-104	50.00	3.515	3.448	101.8	115.4	344.8	800	1384	3448	3515	2586
DPG-005*	DPG-105	100.0	7.03	6.895	203.6	230.7	689.5	1600	2768	6895	7031	5172
DPG-006*	DPG-106	200.0	14.06	13.79	407.2	461.4	1379	3200	5536	-	-	-
DPG-007*	DPG-107	300.0	21.09	20.69	610.8	692.1	2069	4800	8304	-	-	-
DPG-008*	DPG-108	500.0	35.15	34.48	1018	1154	3448	8000	-	-	-	-
DPG-009*	DPG-109	1000	70.3	68.98	2036	2307	6895	-	-	-	-	-
DPG-010*	DPG-110	3000	210.9	206.9	6108	6921	-	-	-	-	-	-
DPG-011*	DPG-111*	5000	351.5	344.8	-	-	-	-	-	-	-	-
DPG-020*	-	-14.70	-1.033	-1.013	-29.93	-33.94	-101.4	-235.2	-407.3	-1013	-1034	-760.7
DPG-021*	-	to 15.00	to 1.055	to 1.034	to 30.54	to 34.61	to 103.4	to 240	to 415.2	to 1034	to 1055	to 775.7
DPG-022*	-	-14.70	-1.033	-1.013	-29.93	-33.94	-101.4	-235.2	-407.3	-1013	-1034	-760.7
DPG-023*	-	to 30.00	to 2.109	to 2.069	to 61.08	to 69.21	to 206.9	to 480	to 830.4	to 2069	to 2109	to 1551
DPG-024*	-	-14.70	-1.033	-1.013	-29.93	-33.94	-101.4	-235.2	-407.3	-1013	-1034	-760.7
DPG-025*	-	to 45.00	to 3.164	to 3.103	to 91.63	to 103.8	to 310.3	to 720	to 1245	to 3102	to 3164	to 2327
DPG-026*	-	-14.70	-1.033	-1.013	-29.93	-33.94	-101.4	-235.2	-407.3	-1013	-1034	-760.7
DPG-027*	-	to 60.00	to 4.218	to 4.137	to 122.2	to 138.4	to 413.7	to 960	to 1661	to 4137	to 4218	to 3103
DPG-028*	-	-14.70	-1.033	-1.013	-29.93	-33.94	-101.4	-235.2	-407.3	-1013	-1034	-760.7
DPG-029*	-	to 100.0	to 7.03	to 6.895	to 203.6	to 230.7	to 689.5	to 1600	to 2768	to 6895	to 7031	to 5172

\*Model is not FM approved.

## OPTIONS

To order add suffix:	Description
-NIST	NIST traceable calibration certificate
Example: DPG-002-NIST	

## ACCESSORIES

Model	Description
A-183	Protective rubber boot
A-184	Carrying case



DPG-100 with protective rubber boot

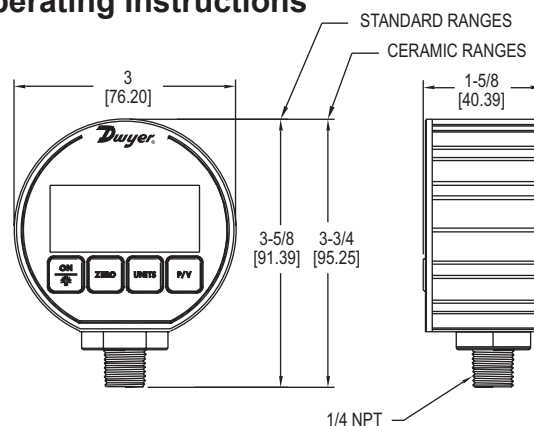


Protective carrying case



## Series DPG-100 Digital Pressure Gage

### Specifications - Installation and Operating Instructions



The **SERIES DPG-100** Digital Pressure Gage has a precise  $\pm 0.25\%$  full scale accuracy. The 4 digit digital display will reduce the potential for errors in readings by eliminating parallax error commonly produced with analog gages.

The DPG-100 is packaged in a durable extruded aluminum case designed to meet NEMA 4/4X. The unit is battery powered and has an auto-shut off to conserve battery life. A four button key pad allows easy access to features without the need to work through complex menus or difficult key combinations. These features include backlight, peak and valley, auto zero and conversion of the pressure units. Readings may be converted to various engineering units. See reverse page for available units.

#### DPG Quick Start Button Operation

For complete detailed instructions on the four button operation see the Operation Chart provided on back.



**On/Backlight:** Push to turn on; Press again for backlight. Press and hold for 5 seconds to turn unit off.



**Zero:** Zeros the display - Press the ZERO button until dashes "—" are seen on the LCD, then release the button. If after pressing zero the display does not re-zero, the unit is no longer meeting specified accuracy and should be sent back to the factory for calibration. Do not use the zero button when pressure is applied.



**Units:** Scroll (see next page for Model/Range Chart).



**P/V:** Peak recorded reading retrieved by initial push of button; push again retrieves the valley or lowest value recorded.

#### INSTALLATION

When installing gage always use 1" hex at the base of the housing to tighten the gage to a mating fitting. **Do not apply wrench to housing.**

#### MAINTENANCE

A "LOW BAT" descriptor indication will appear on the display when batteries need to be replaced.

**Battery Replacement:** Remove the three screws on backplate. Lift backplate off by hand. Replace batteries per polarity indicators. To reassemble, ensure O-ring seats into housing evenly and press until seated completely. Replace screws.



**WARNING** Substitution of components may impair intrinsic safety. Batteries must be changed in a non-hazardous location only. **DO NOT** mix batteries from different manufacturers. **DO NOT** mix old batteries with new batteries. Use 1.5 volt AAA alkaline batteries Duracell® MN2400.



**WARNING** Enclosure parts are constructed of plastic. When cleaning the exterior surfaces use a damp cloth to avoid electrostatic sparking.



**WARNING** Enclosure parts are constructed of aluminum. Enclosure must be protected from mechanical friction and impact with iron/steel to prevent ignition capable sparks.

#### SPECIFICATIONS

**Service:** Liquids and combustible compatible gases (for FM listings see agency approvals below).

**Wetted Materials:** Type 316L SS.

**Housing Materials:** Black polycarbonate front & back cover, anodized aluminum extruded housing with recessed grooves, polycarbonate overlay, Buna-N O-rings, 316L SS sensor construction.

**Accuracy:** 0.25% full scale; Ceramic Ranges: 0.5% full scale;  $\pm 1$  least significant digit @ 70°F (21°C). (Includes linearity, hysteresis, repeatability).

**Pressure Limit:** 2x pressure range for models  $\leq 1000$  psi; 5000 psi for 3000 psi range; 7500 psi for 5000 psi range.

**Enclosure Rating:** Designed to meet NEMA 4/4X (IP65).

**Temperature Limits:** 0 to 130°F

(-18 to 55°C).

**Thermal Effect:** Between 70 to 130°F is 0.016%/F; Between 32 to 70°F is 0.026%/F; Between 10 to 32°F is 0.09%/F; Between 0 to 10°F is 0.50%/F.

**Size:** 3.00" OD x 1.90 deep (max).

**Process Connection:** 1/4" male NPT.

**Weight:** 8.84 oz (275 g).

**Display:** 4 digit (.425 H x .234 W digits).

**Sample Rate:** 2 sec.

**Power Requirements:** (2) AAA alkaline batteries, included, user replaceable.

**Battery Life:** 2000 hours typical; low battery indicator (60 hours in continuous use).

**Auto Shut-Off:** Gage: 60 minute auto shut-off. Auto shut-off may be disengaged; Backlight: 2 minute auto shut-off.

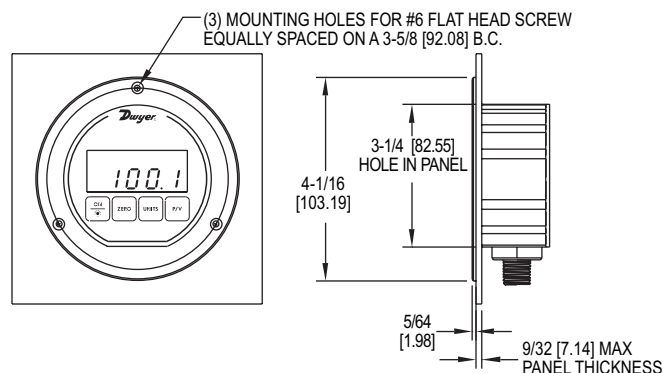
**Agency Approvals:** FM, CE.

**\*Note:** Gages with ceramic sensor are not CE and FM approved.

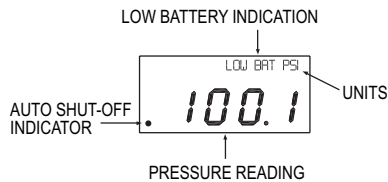
**WARNING: DO NOT** pressurize DPG over maximum allowable pressure limits. Extreme damage can occur if limits are exceeded (see Pressure Limit under Specifications). An overflow "OFL" designator will flash to acknowledge that the gage's pressure range has been exceeded.

#### PANEL MOUNT OPTION

Drill a 3-1/4" (82.55) diameter hole in a panel, locate three mounting holes for a #6 screw 120° apart on a 3-5/8" (92.08) bolt circle.



## DPG-100 DISPLAY



DPG Button Operation		
Button	Operation	Action
	Turn Unit On Turn Backlight On (Auto Shut-Off: 2 Min) Turn Backlight Off Turn Unit Off	Press and hold ON button While gage is on press ON button While backlight is on press ON button While gage is on, press and hold ON button 5 seconds for unit to turn off.
	Zero Gage	With no pressure applied to the gage, press the ZERO button until dashes "---" are seen on the LCD, then release If gage will not zero, then gage is no longer meeting specified accuracy and should be sent back to the factory for recalibration <b>Note:</b> Gage is not to be zeroed while pressure is applied
	Unit Selection	Press UNIT button to change units on gage (Not all units are available for each range, please refer to model/range chart located below for available units)
	View Peak View Valley  Reset Peak & Valley Exit Peak & Valley	Press P/V button to read peak (highest pressure) measurement Press P/V button again to read valley (lowest pressure) measurement  Press and hold P/V button to reset peak and valley Press ON button to exit peak/valley
plus	Disengage Auto Shut-Off	Auto shut-off will turn off an idle gage after 60 minutes. To disengage auto shut-off, press and hold ON button, then press and hold P/V button. A decimal will blink in the lower left hand corner of the display to indicate the auto-shut off is turned off. To turn on auto shut-off, repeat above procedure until decimal point stops blinking

Model/Range Chart											
Model	Range psi	Pressure Ranges									
		kg/cm <sup>2</sup>	bar	in Hg	ft wc	kPa	oz/in <sup>2</sup>	in wc	mbar	cm wc	mm Hg
DPG-100*	-14.70-0	-1.033	-1.013	-29.93	-33.94	-101.4	-235.2	-407.3	-1013	-1034	-760.7
DPG-102	15.00	1.055	1.034	30.54	34.61	103.4	240	415.2	1034	1055	775.7
DPG-103	30.00	2.109	2.069	61.08	69.21	206.9	480	830.4	2069	2109	1551
DPG-104	50.00	3.515	3.448	101.8	115.4	344.8	800	1384	3448	3515	2586
DPG-105	100.0	7.03	6.895	203.6	230.7	689.5	1600	2768	6895	7031	5172
DPG-106	200.0	14.06	13.79	407.2	461.4	1379	3200	5536			
DPG-107	300.0	21.09	20.69	610.8	692.1	2069	4800	8304			
DPG-108	500.0	35.15	34.48	1018	1154	3448	8000				
DPG-109	1000	70.3	68.98	2036	2307	6895					
DPG-110	3000	210.9	206.9	6108	6921						
DPG-111*	5000	351.5	344.8								

**Compound Ranges available:** DPG-120\* Range: 30" Hg-0-15 psi; DPG-121\* Range: 30" Hg-0-30 psi; DPG-122\* Range: 30" Hg-0-45 psi; DPG-123\*: Range 30" Hg-0-60 psi; DPG-124\*: 30" Hg-0-100 psi.

\*Optional ceramic sensor available. Add "C" to the range (Ex. DPG-100C).