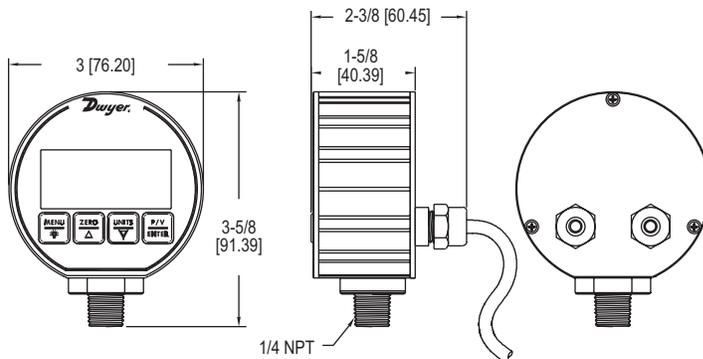




# Series DPG-200 Digital Pressure Gage

## Specifications - Installation and Operating Instructions

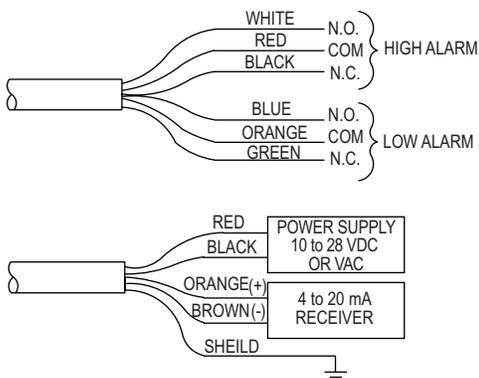


The **Series DPG-200 Digital Pressure Gage** has a precise  $\pm 0.25\%$  full scale accuracy. The 4 digit digital display will reduce the potential for errors in readings by eliminating parallax error commonly produced with analog gages. The DPG-200 is packaged in a durable extruded aluminum case designed to meet NEMA 4X (IP66). The unit is powered by 12 to 24 VDC/VAC and contains two alarm set points along with a 4 to 20 mA process output. A four-button keypad allows easy access to features. These features include backlight, peak and valley, auto zero and conversion of the pressure units.

### 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.

### WIRING



### SPECIFICATIONS

#### DIGITAL GAGE SPECIFICATIONS

- Service:** Liquids and non-combustible compatible gases.
- Wetted Materials:** Type 316L SS.
- Housing:** 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% FS  $\pm 1$  least significant digit. (Includes linearity, hysteresis, repeatability).
- Pressure Limit:** 2x pressure range for models 1000 psi; 5000 psi for 3000 psi range; 7500 psi for 5000 psi range.
- Temperature Limits:** 0 to 158°F (0 to 70°C).
- Process Connection:** 1/4" male NPT.
- Display:** 4 digit (.425 H x .234 W digits).
- Size:** 3.00" OD x 1.90 deep (not including cables).
- Weight:** 8.84 oz (275 g).

#### SWITCH SPECIFICATIONS

- Switch Type:** 2 SPDT Form C contacts.
- Electrical Rating:** 0.5A @ 125 VAC resistive, 1A @ 24 VDC.
- Relay Differential:** 1 least significant digit.
- Electrical Connections:** Two 3 ft (.91 m) cables.
- Mounting Orientation:** Mount in any position.
- Set Point Adjustment:** Via menu.

#### TRANSMITTER SPECIFICATIONS

- Temperature Limits:** 0 to 158°F (0 to 70°C).
- Thermal Effect:** Between 70 to 158°F = 0.016%/°F. Between 0 to 70°F = 0.026%/°F.
- Power Requirements:** 12 to 24 VAC  $\pm 20\%$  50 to 400 HZ, 12 to 24 VDC  $\pm 20\%$ .
- Output Signal:** 4 to 20 mA.
- Loop Resistance:** 600  $\Omega$  maximum.
- Power Consumption:** 0.8 W max.
- Electrical Connections:** 2 three foot cables.
- Enclosure Rating:** Designed to meet NEMA 4X (IP66).

**POWER UP**



**HOME**

- Top line shows units.
- Bottom line shows pressure.
- If pressure is 1% FS below range of instrument the pressure value will alternate LFL on a 1 second interval.
- If pressure is 1% FS above range of instrument the pressure value will alternate with OFL on a 1 second interval.
- Factory set to PSI.

**BUTTON OPERATION**



See menu page.



Zeros display if within ±4% F.S. of zero.

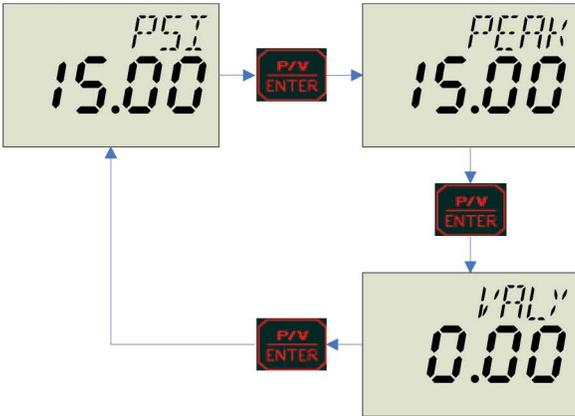


See units chart below.



See peak/valley.

**PEAK VALLEY**



**PEAK**

- Highest pressure since peak and valley was reset.
- Zero button resets both peak and valley to the current pressure.

**VALLEY**

- Lowest pressure since peak and valley was reset.
- Zero button resets both peak and valley to the current pressure.

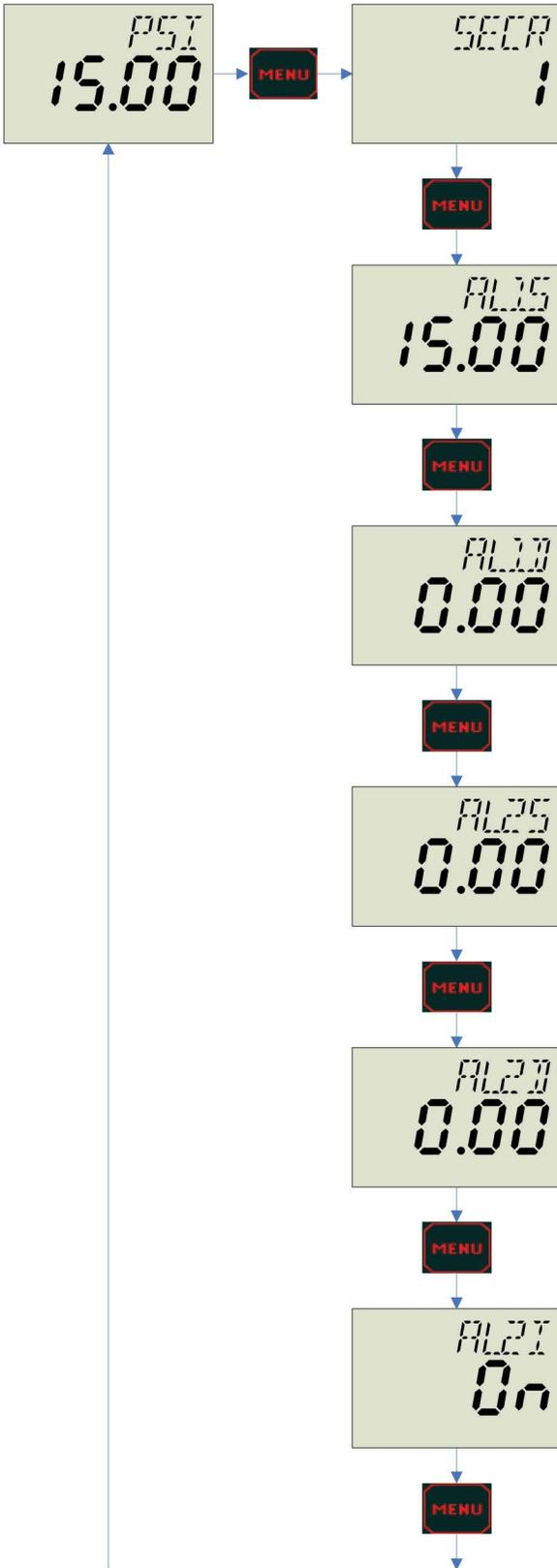
UNITS CHART												
Model	Range psi	Pressure Ranges										
		kg/cm <sup>2</sup>	bar	in Hg	ft wc	ft sw*	kPa	oz/in <sup>2</sup>	in wc	mbar	cm wc	mm Hg
DPG-200	-14.70-0	-1.033	-1.013	-29.93	-33.94	-33.06	-101.4	-235.2	-407.3	-1013	-1034	-760.7
DPG-202	15.00	1.055	1.034	30.54	34.61	33.73	103.4	240	415.2	1034	1055	775.7
DPG-203	30.00	2.109	2.069	61.08	69.21	67.45	206.9	480	830.4	2069	2109	1551
DPG-204	50.00	3.515	3.448	101.8	115.4	112.4	344.8	800	1384	3448	3515	2586
DPG-205	100.0	7.03	6.895	203.6	230.7	224.8	689.5	1600	2768	6895	7031	5172
DPG-206	200.0	14.06	13.79	407.2	461.4	449.7	1379	3200	5536			
DPG-207	300.0	21.09	20.69	610.8	692.1	674.5	2069	4800	8304			
DPG-208	500.0	35.15	34.48	1018	1154	1124	3448	8000				
DPG-209	1000	70.3	68.98	2036	2307	2248	6895					
DPG-210	3000	210.9	206.9	6108	6921	6745						
DPG-211	5000	351.5	344.8									

**Compound Ranges Available:** DPG-220 Range: 30" Hg-0-15 psi; DPG-221 Range: 30" Hg-0-30 psi; DPG-222\* Range: 30" Hg-0-45 psi; DPG-223\*: Range 30" Hg-0-60 psi; DPG-224: 30" Hg-0-100 psi.  
\*feet of seawater @ 4°C



This symbol indicates waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice.

**MENU**



**SECURITY**

- 1=full access, password is 1110.
- 2=protected, password is 1101.
- Factory set to full access.
- All menus except backlight are protected.

**ALARM #1 SETPOINT**

- Activates Alarm #1 relay on increase.
- AL1 indicator and alarm #1 relay turned on when pressure is greater than or equal to setpoint.

**ALARM #1 DIFFERENTIAL**

- AL1 indicator and alarm #1 relay turned off when pressure is less than the setpoint minus the differential.

**ALARM #2 SETPOINT**

- Activates Alarm #2 relay on decrease.
- AL2 indicator and alarm #2 relay turned on when pressure is less than or equal to setpoint.

**ALARM #2 DIFFERENTIAL**

- AL2 indicator and alarm #2 relay turned off when pressure is greater than the setpoint plus the differential.

**ALARM #2 INHIBIT**

- Prevents low alarm on power up.
- When set to "On" alarm #2 is disabled until the pressure is greater than the setpoint plus the differential.
- Factory set to ON.

**MENU BUTTON OPERATION**



Advances menu.  
Hold for 1 second to go back to home page.



Decreases value - top of display begins to blink.  
Hold for 1 second to decrease fast.

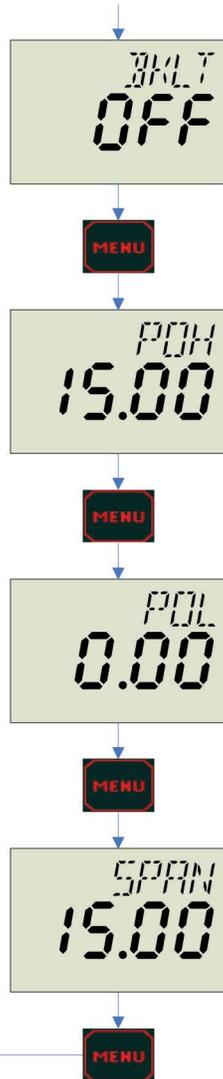


Increases value - top line of display begins to blink.  
Hold for 1 second to increase fast.



Stores value - top line of display stops blinking.  
If menu pressed before enter button pressed the value is lost.

**MENU CONTINUED**



**BACKLIGHT**

- Turns backlight on or off.
- Factory set to off.

**PROCESS OUTPUT HIGH**

- Pressure at which current output is set to 20 mA.
- Factory set to maximum scale.

**PROCESS OUTPUT LOW**

- Pressure at which current output is set to 4 mA.
- Factory set to minimum scale.

**SPAN ADJUSTMENT**

- Display shows pressure using existing span.
- Apply full scale pressure to instrument and hold enter for one second to acquire new span.

**MENU BUTTON OPERATION**



Advances menu.  
Hold for 1 second to go back to home page.



Decreases value - top of display begins to blink.  
Hold for 1 second to decrease fast.

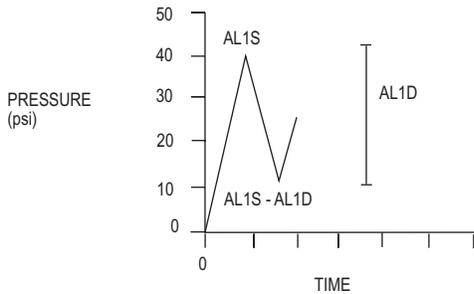


Increases value - top line of display begins to blink.  
Hold for 1 second to increase fast.

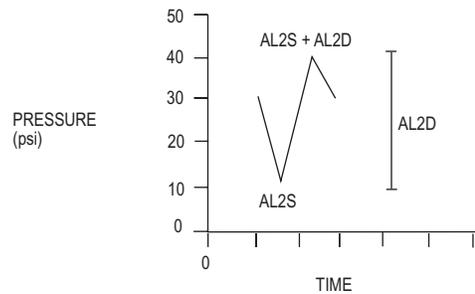


Stores value - top line of display stops blinking.  
If menu pressed before enter button pressed the value is lost.

**MENU BUTTON OPERATION**



AL1S sets the relay on point, and AL1S - AL1D sets the relay off point. The relay's output functions in the direct acting mode, which means the relay activates with an increase in pressure. In the above graph, an instrument with a 50 psi range has the AL1S set at 40. The relay will turn on at 40 psi increase. The AL1D is set at 30. The relay will turn off at 10 psi decrease (40 - 30 = 10).



AL2S sets the relay on point, and AL2S + AL2D sets the relay off point. The relay's output functions in the reverse acting mode, which means the relay activates with a decrease in pressure. In the above graph, an instrument with a 50 psi range has the AL2S relay turn on at 10 psi decrease. The AL2D is set at 30. The relay will turn off at 40 psi increase (10 + 30 = 40).