

INDUSTRIAL DIGITAL PRESSURE GAUGES MODELS PD213, PD214, & PD224



CE

- Digital gauge, pressure switch, & transmitter
- Vacuum, compound pressure, 15 to 20,000 psi
- 0.25% FS Terminal Point Accuracy (0.13% BFSL)
- 5 digit LCD, % bargraph & battery level indication
- Large 0.6" (15.2 mm) or 0.88" (22.4 mm) LCD
- 4-20 mA output & 2 Form C relays
- Three case options: stainless steel, aluminum, or fiberglass reinforced thermoplastic
- NEMA 4, IP65 case
- Battery, loop, or 12-36 VDC powered
- Password protected menus
- Easy-to-use menu options
 - Five backlight settings
 - Twelve engineering units
 - Menu configure feature
 - Update rate
 - Dampen mode
 - Auto off

KEYPAD FUNCTIONS

On/Off: Manually turns unit on and off (auto off options in menu)

Zero/Clear: Zeros display or clears max & min values when values are displayed.

Max/Min ▼ (down) Arrow Key: Displays max & min values, arrow key allows for scrolling through menu items.

Menu Key: Provides access to menu options.

Backlight ▲ (up) Arrow Key (backlight optional): Manually turns backlight on and off (auto off options in menu), arrow key allows for five menu options. ▲ (up) arrow key allows for scrolling through menu options.

Enter: Selects items in the menu.

MENU MODE

Engineering Units: psi, inHg, mmHg, inH₂O (temperature options: 4°C, 20°C, 60°F), mBar, ftH₂O, MPa, kPa, kg/cm², Bar

Configuration Mode: Allows for changes to default settings of gauge including zero disable feature.

Bargraph: Allows for adjustment of bargraph and 4-20 mA output (optional feature).

Backlight: 5 settings: never, 10 sec, 30 sec, 1 min, 5 min

Auto Off: Allows changes to auto off function of pressure gauge, 5 settings: never, 2, 5, 15, 30 minutes.

Display Update Rate: 4 settings: 100 ms, 200 ms, 500 ms, 1 sec

Dampening: 6 settings: none, average, (2, 4, 6, or 8) x 100 ms

Password: Restricts modification of programmed settings.

Field Calibration: Allows for calibration of zero, mid-point, and span (password protected).

PRESSURE RANGES

The following engineering units can be configured to the digital pressure gauge (with legend). To determine proper Pressure Range Code convert engineering units to psi, then select optimum standard pressure range from Pressure Range Code Table.

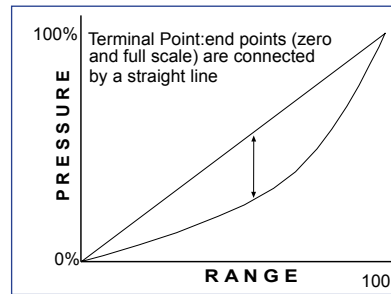
Conversion Chart	
Other Units	psi (multiplier)
inH ₂ O (20°)	0.0360
ftH ₂ O (with three temperature options: 20°F, 60°F, and 4°C)	0.4327
mmHg	0.0193
inHg	0.4911
kg/cm ²	14.2233
mBar	0.0145
Bar	14.5038
kPa	0.1450
MPa	145.038

Example

$$\begin{array}{ccccccc}
 \mathbf{35 \text{ Bar}} & \mathbf{x} & \mathbf{14.5038} & \mathbf{=} & \mathbf{507.06 \text{ psi}} & \mathbf{=} & \mathbf{10} \\
 \textit{Your Range} & & \textit{Multiplier} & & \textit{psi Range} & & \textit{psi Code}
 \end{array}$$

Your Part Number: PD213-BK0-4N-10

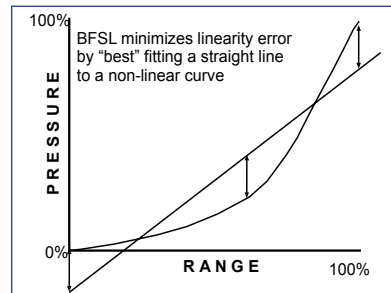
Precision Digital Gauges with Terminal Point Accuracy



BENEFIT

- All points between zero and full scale will be within stated accuracy
- Allows zeroing of gauge at start-up to eliminate any sensor offset

Competitive Digital Gauges with Best Fit Straight Line (BFSL) Accuracy



- Linearity error minimized by "best" fitting a straight line to a non-linear curve.
- BFSL gauges have a zero offset at calibration that must be maintained to ensure accuracy throughout range

ORDERING INFORMATION

Model PD213 • 3" Industrial Digital Pressure Gauge				Pressure Range Code (##)		
Model	Backlight Model	Options Installed	Power	##Code	Range	Units
PD213-0L0-4N-##		4-20 mA Output**	Loop-Pwr	C1	-15/15	Compound psi
PD213-2L0-4N-##	PD213-2K0-4N-##	None	12-36 VDC	C2	-15/30	
PD213-2L2-4N-##	PD213-2K2-4N-##	2 Relays		C3	-15/60	
PD213-2L3-4N-##	PD213-2K3-4N-##	4-20 mA Output**		C4	-15/100	
PD213-2L5-4N-##	PD213-2K5-4N-##	2 Relays + 4-20 mA Output**	Battery	00	-30/0	Compound inHg
PD213-BL0-4N-##	PD213-BK0-4N-##	None		01	5	Pressure psi
Model PD214 • 4½" Industrial Digital Pressure Gauge				02	10	
Model	Backlight Model	Options Installed	Power	03	15	
PD214-0L0-4N-##		4-20 mA Output**	Loop-Pwr	04	30	
PD214-2L0-4N-##	PD214-2K0-4N-##	None	12-36 VDC	05	60	
PD214-2L2-4N-##	PD214-2K2-4N-##	2 Relays		06	100	
PD214-2L3-4N-##	PD214-2K3-4N-##	4-20 mA Output**		07	160	
PD214-2L5-4N-##	PD214-2K5-4N-##	2 Relays + 4-20 mA Output**	Battery	08	200	
PD214-BL0-4N-##	PD214-BK0-4N-##	None		09	300	
Model PD224 • 4½" Industrial Digital Pressure Gauge				10	500	
Model	Backlight Model	Options Installed	Power	11	600	
PD224-0L0-4N-##		4-20 mA Output**	Loop-Pwr	12	800	
PD224-2L0-4N-##	PD224-2K0-4N-##	None	12-36 VDC	13	1,000	
PD224-2L2-4N-##	PD224-2K2-4N-##	2 Relays		15	2,000	
PD224-2L3-4N-##	PD224-2K3-4N-##	4-20 mA Output**		16	2,500	
PD224-2L5-4N-##	PD224-2K5-4N-##	2 Relays + 4-20 mA Output**	Battery	17	3,000	
PD224-BL0-4N-##	PD224-BK0-4N-##	None		18	5,000	
				19	7,000	
				20	8,000	
				21	10,000	
				22	15,000	
				23	20,000	

** Passive 4-20 mA Output
represents pressure range code. See Pressure Range Codes Table for details
½" NPT Connection available for PD214 & PD224 only: Replace -4 with -2 (Example: PD224-2K0-2N-10)

Note: Additional codes will be provided upon request for other ranges listed.

Accessories	
Model	Description
PDA2000	ABS Carrying Case for PD213
PDA2001	Protective Rubber Boot for PD213
PDA2002	Protective Front Cover for PD213
PDA2003	Throttle Screw (Standard Orifice 0.031") for PD214 & PD224
PDA2004	Throttle Plug (Standard Orifice 0.013") for PD213
PDA2005	Panel Mounting Kit for PD214 & PD224

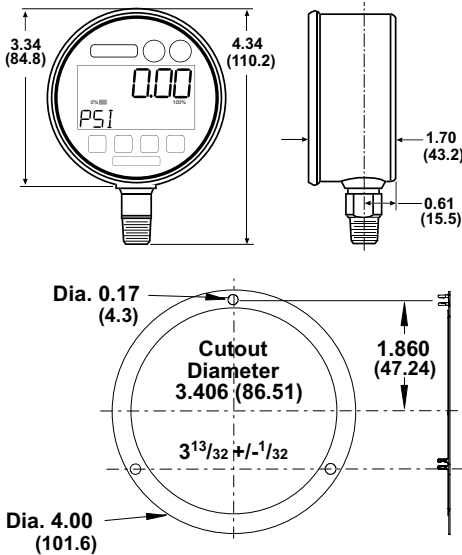
Options for Industrial & Test Gauges				
Code	Description	PD213	PD214	PD224
E	Electropolished	•		
G	Front Flange for Panel Mounting	•		
H	Electropolished & Front Flange	•		
W	Diaphragm Seal for Chlorine Gas	•	•	•
X	Oxygen Service	•	•	•
Y	Accu-Seal Diaphragm		•	•
Z	Oxygen Service & Accu-Seal		•	•

Enter E, G, or H in place of N (Example: PD213-2L0-4G-08)
Enter W, X, Y, or Z before ## code in place of hyphen (-) (Example: PD213-2L0-2FX08)

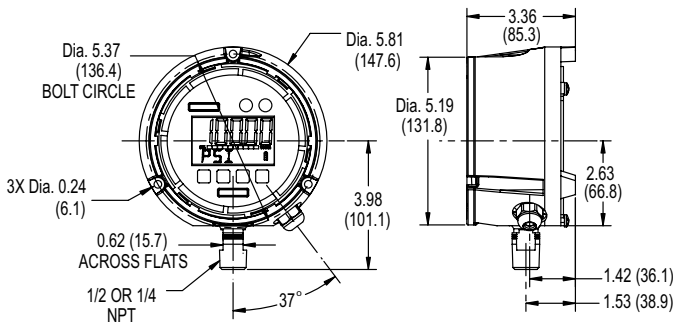
DIMENSIONS

Units: Inch (mm)

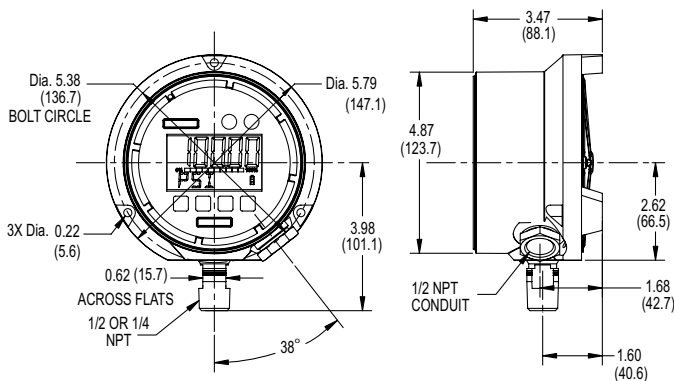
PD213



PD214



PD224



SPECIFICATIONS

Except where noted all specifications apply to operation at +25°C.

General

- Type:** Industrial Digital Pressure Gauge
- Pressure Input:** Vacuum to 20,000 psi & compound; see other engineering units below
- Display:** 5 digit LCD 99,999; PD213 (3"): 0.60" (15.2 mm), PD214 & PD224 (4½"): 0.88" (22.4 mm)
- Accuracy:** 0.25% FS, Terminal Point
- Temperature Drift:** 0.02%/°C zero & span (<0.01%/°C typical)
- Backlight:** Optional; manual or auto off
- Bargraph:** 10-segment %FS, programmable to indicate desired pressure range; and battery level indicator
- Case Size:** PD213: 3" diameter; PD214 & PD224: 4½" diameter
- Case Material:** PD213: 300 Series stainless steel, PD214: Fiberglass reinforced thermoplastic, PD224: Black epoxy coated aluminum
- Case Rating:** NEMA 4, IP65
- Wetted Materials:** 17-4 PH stainless steel sensor; 316 stainless steel socket
- Socket Size:** ¼" or ½" NPT
Note: ½" NPT only with PD214 & PD224
- Socket Location:** Lower connection, 6 o'clock
- Mounting:** Stem (standard), panel (optional)
- Weight:** 3" case: 12.5 oz (354 g), 4½" plastic case: 24.4 oz (692 g)
- Power Options:** Battery, loop-powered, or 12-36 VDC
- Battery Life:** PD213: >1000 hours, PD214 & PD224: >3600 hours
- Operating Temperature:** -10 to 60°C
- Storage Temperature:** -20 to 70°C
- Relative Humidity:** 0 to 90% non-condensing

Relays

- Ratings:** 2 Form C (SPDT); rated 1 A @ 30 VDC, 0.5 A @ 125 VAC
- Deadband:** 0-100% FS, user selectable
- High or Low Alarm:** User may program any alarm for high or low.

4-20 mA Transmitter Output

- Scaling Range:** 0-100% FS
- Transmitter Power Supply:** 12-36 VDC, 2 W max (transmitter supply available with -2L and -2K models)

Your Local Distributor is:



MICROWATT
Making Safety Work

Tollfree in Western Canada: 1-888-388-1592
microwatt.com • mwsales@microwatt.com

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