

INDUSTRIAL DIGITAL PRESSURE GAUGES MODEL PD213, PD214, PD224



PD214

PD213

PD224



FEATURES

- Digital gauge, pressure switch, & transmitter
- Vacuum, compound pressure, 15 to 20,000 psi
- 0.25% FS Terminal Point Accuracy (0.13% BFUL)
- 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
- Intrinsically safe, Class I, Div 1
- Password protected menus
- Easy-to-use menu options
 - Five backlight settings
 - Twelve engineering units
 - Menu configure feature
 - Update rate
 - Dampen mode
 - Auto off

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Industrial Digital Gauge Pressure Ranges

psi	Comp.psi	mmHg (press.)	inHg (press.)	inH ₂ O	mBar	ftH ₂ O	MPa	kPa	Barkg/cm ²	inHg (Vacuum)
15	-15 to 15	800	30	400	1000	60	1	100	1	-30
30	-15 to 30	1000	60	800	1500	160	1.6	160	1.6	
60	-15 to 60	2000	100	1000	2000	200	2.5	250	2.5	
100	-15 to 100	3000	160		2500	300	4	400	4	
160		5000	200		4000	400	6	600	6	
200		10,000	300		5000	600	10	1000	10	
300			400		6000	1000	16	1600	16	
600			600		10,000		25	2500	25	
800			800		15,000		40	4000	40	
1000					20,000		60	6000	60	
1500							100	10,000	100	
2000							140	16,000	160	
3000								25,000	250	
5000								40,000	400	
8000								60,000	600	
10,000									1000	
15,000									1400	
20,000										

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.

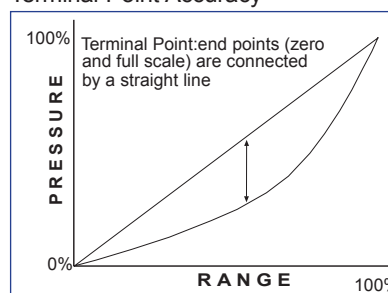
Display Update Rate: 4 settings: 100 ms, 200 ms, 500 ms, 1 sec

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).

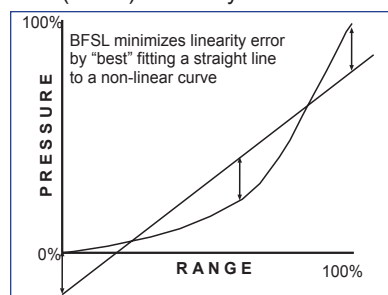
Precision Digital Gauges with Terminal Point Accuracy



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

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ORDERING INFORMATION

Model	Model with Backlight	Description	Power	Pressure Range Code (##)		
				##Code	Range	Units
PD213-0L0-4N-##		Industrial Digital Pressure Gauge 3" Stainless Steel Case	Loop-Powered	C1	-15/15	Compound Pressure psi
PD213-2L0-4N-##	PD213-2K0-4N-##		12-36 VDC	C2	-15/30	
PD213-BL0-4N-##	PD213-BK0-4N-##		Battery	C3	-15/60	
PD214-0L0-4N-##		Industrial Digital Pressure Gauge 4½" Fiberglass Reinforced Thermoplastic	Loop-Powered	C4	-15/100	Compound inHg/psi
PD214-2L0-4N-##	PD214-2K0-4N-##		12-36 VDC	C5	-30/150	
PD214-BL0-4N-##	PD214-BK0-4N-##		Battery	C6	-30/300	
PD224-0L0-4N-##		Industrial Digital Pressure Gauge 4½" Black Painted Aluminum	Loop-Powered	00	-30/0	Vacuum inHg
PD224-2L0-4N-##	PD224-2K0-4N-##		12-36 VDC	01	5	Pressure psi
PD224-BL0-4N-##	PD224-BK0-4N-##		Battery	02	10	
PD224-0L0-4F-##		FM Approved & CSA Certified Industrial Digital Pressure Gauge 4½" Black Painted Aluminum	Loop-Powered	03	15	
PD224-2L0-4F-##			12-36 VDC	04	30	
PD224-BL0-4F-##			Battery	05	60	
PD213-2L2-4N-##	PD213-2K2-4N-##	with 2 Relays	12-36 VDC	06	100	
PD213-2L3-4N-##	PD213-2K3-4N-##	with 4-20 mA Output		07	160	
PD213-2L5-4N-##	PD213-2K5-4N-##	with 2 Relays & 4-20 mA Output		08	200	
PD214-2L2-4N-##	PD214-2K2-4N-##	with 2 Relays		09	300	
PD214-2L3-4N-##	PD214-2K3-4N-##	with 4-20 mA Output		10	500	
PD214-2L5-4N-##	PD214-2K5-4N-##	with 2 Relays & 4-20 mA Output		11	600	
PD224-2L2-4N-##	PD224-2K2-4N-##	with 2 Relays		12	800	
PD224-2L3-4N-##	PD224-2K3-4N-##	with 4-20 mA Output		13	1000	
PD224-2L5-4N-##	PD224-2K5-4N-##	with 2 Relays & 4-20 mA Output		14	1500	
1½" NPT Connection Available for PD214 & PD224 only: Replace -4 with -2 Ordering Example: PD224-2L0-2F-08 PD224: Aluminum case -2L0: 12-36 VDC powered w/o backlight -2F: ½" NPT, FM Approved -08: 200 psi pressure range	Special Features Enter X, Y, Z before ## code in place of hyphen (-) 1. Oxygen Service = X 2. Accu-Seal Diaphragm = Y 3. Oxygen Service & Accu-Seal Diaphragm = Z Note: Accu-Seal for PD214 & PD224 only. 3" SS Case Options Enter E, G, or H in place of N 1. Electropolished = E 2. Front Flange for panel mounting = G 3. Electropolished & Front Flange = H Ordering Example: PD224-2L0-2FX08 X = Oxygen Service			15	2000	
			16	2500		
			17	3000		
			18	5000		
			19	7000		
			20	8000		
			21	10,000		
			22	15,000		
			23	20,000		

Accessories	
Model	Description
PDA2000	ABS Carrying Case 3" Gauges
PDA2001	Protective Rubber Boot 3" Gauges
PDA2002	Protective Front Cover 3" Gauges
PDA2003	Throttle Screw (Standard Orifice 0.031") 4½" Gauge
PDA2004	Throttle Plug (Standard Orifice 0.013") 3" Gauges
PDA2005	Panel Mounting Kit 4½" Gauges
PDA-SSTAG	Stainless Steel Tag
PDN-ADHSTAG	Laminated Paper Tag Label
PDN-CERTCAL3	Certificate of Calibration (as shipped)
PDN-CERTCAL4	Cert of Cal (as received & as shipped)
PDN-CERTCON2	Certificate of Conformance

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

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SPECIFICATIONS

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

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

Approvals: FM & CSA available for PD224 only.

FM Approved & CSA Certified as intrinsically safe with entity, for use in Class I, II, III, Division 1, Groups A, B, C, D, E, F, & G;

T-code = T4. Non-incendive for use in Class I, II, III, Division 2, Groups A, B, C, D, F, & G; Type 4 hazardous (Classified) locations.

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

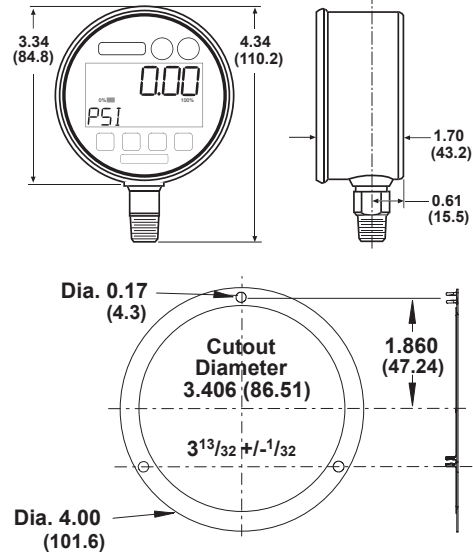
Transmitter Power Supply: 12-36 VDC, 2 W max

(transmitter supply available with -2L and -2K models)

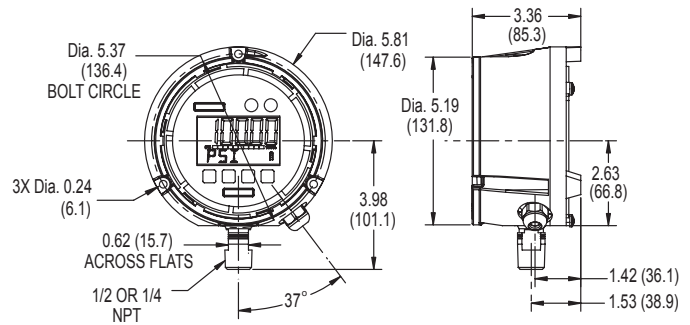
YOUR LOCAL DISTRIBUTOR IS:

PD213

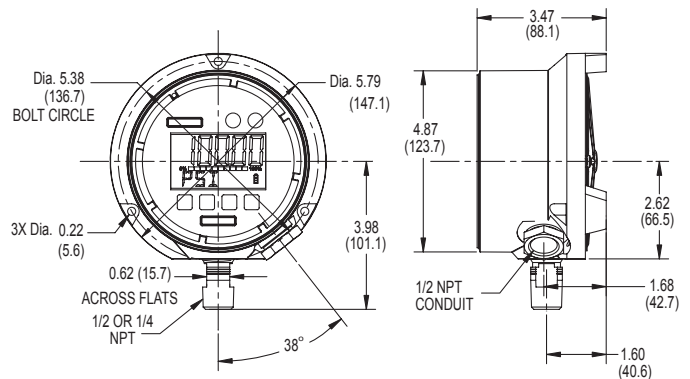
Units: Inch (mm)



PD214



PD224



LDS213_A 06/05

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