

The BetaGauge PI PRO

Digital Test Gauge takes the concept of an analog Test Gauge, and brings it to a new level. The NEW BetaGauge P. I. PRO combines the accuracy of digital technology with the simplicity of an analog gauge and achieves performance, ease-of-use, and a feature set unmatched in the pressure measurement world.

Setup of the BetaGauge P. I. PRO is fast and straightforward, through a menu-driven display, that is simple enough to allow the gauge to be used anywhere in the world.

The BetaGauge P. I. PRO first and foremost, provides 0.05% of full scale accuracy of pressure in any one of eighteen (18) ranges. Readings may be displayed in any one of 23 standard engineering units, or in 1 custom unit you define, to eliminate tedious conversion calculations.

The 5 digit, 0.65" high digital display and companion percent-of-range bar graph provide an easy to read display, even from a distance. The sample rate can be user adjusted to match the measurement required. A power saving mode maximizes battery life to 2,000 hours. Other features include MIN/MAX function, Auto Power Off and backlight control.

Password-protected field calibration of the BetaGauge P. I. PRO may be initiated through the keypad. An RS232 port allows pressure reading data to be extracted directly from the gauge for off-line analysis.

(Requires Martel RS232 cable (P/N C232SJ).) In addition to a ZERO function that compensates for sensor drift, large residual system pressures can be nulled using the TARE adjustment. This adjustment, when combined with the ability to create custom engineering units for display, allows the BetaGauge P.I. PRO to be used in a variety of liquid level and volume measurements, easily reading units of interest, such as gallons in a tank, directly.

BetaGauge PI PRO (Shown with optional pump)



Damping can be set to integrate readings to accommodate pulsating sources, such as plant air. An optional external 24 VDC power input is available for applications where the BetaGauge P. I. PRO will be permanently incorporated into a process line. A protective rubber boot is standard to help protect the BetaGauge P. I. PRO from damage when dropped. The BetaGauge P. I. PRO is available in a self-contained calibration kit, including a hand pressure pump, and associated fittings.

General Features

- Accuracy of $\pm 0.05\%$ of F. S.
- 18 standard pressure ranges available
- Data logging
- Displays in 23 standard or 1 custom engineering unit
- Displays ambient temperature in $^{\circ}\text{C}$ or $^{\circ}\text{F}$
- Large, back-lit, 5-1/2 digit display with 0.65" high digits and 20 segment bar graph
- Adjustable TARE zeros large system offsets
- User-configurable sample rate maximizes measurement performance and battery life
- User-configurable damping smooths readings from pulsating/plant air sources
- Auto Shut-off for extended battery life
- Low battery indicator
- CSA Intrinsically Safe, Class 1, Div. 2 Groups A,B,C, & D; ATEX approved; CE approved
- Available with optional 24 V external power input
- Rubber boot standard on all stand-alone bottom mount gauges

Specifications

Accuracy

- $\pm 0.05\%$ FS positive pressure
- $\pm 0.1\%$ FS for 1.0 psi and 10" w.c.

Temperature Compensation

- 15 $^{\circ}\text{C}$ to 35 $^{\circ}\text{C}$ (59 $^{\circ}\text{F}$ to 95 $^{\circ}\text{F}$) to rated accuracy
- NOTE: For temperatures from -10 $^{\circ}\text{C}$ to 15 $^{\circ}\text{C}$ and 35 $^{\circ}\text{C}$ to 55 $^{\circ}\text{C}$, add .003% FS/ $^{\circ}\text{C}$

Standard Engineering Units

- PSI, Bar, Kg/cm², inH₂O (4 $^{\circ}\text{C}$, 20 $^{\circ}\text{C}$ or 60 $^{\circ}\text{F}$), ft H₂O (4 $^{\circ}\text{C}$, 20 $^{\circ}\text{C}$ or 60 $^{\circ}\text{F}$), cmH₂O (4 $^{\circ}\text{C}$ and 20 $^{\circ}\text{C}$), mH₂O (4 $^{\circ}\text{C}$ and 20 $^{\circ}\text{C}$), Kpa, mBAR, inHg, mmHg, TORR

Media Compatibility

- liquids and gases compatible with 316 stainless steel; except for ranges noted as non-isolated

Environmental

- Operating Temperature -10 $^{\circ}\text{C}$ to +55 $^{\circ}\text{C}$
- Storage -20 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$ (-4 $^{\circ}\text{F}$ to +158 $^{\circ}\text{F}$)

Mechanical

- Dimensions 4.375" x 5.0" x 1.50"
- Input Port 1/4" male NPT

Display

- 5 Digits, 0.65" (16.53 mm) height
- Bar Graph 0 to 100% in 20 segments

Power

- Battery three (3), size AA alkaline batteries
- Battery Life 1,500 hours without backlight; 2,000 hours at slow sample rate; battery life can be displayed on bar graph to indicate the amount of time left
- Low Battery Indicator displayed icon near the end of battery life

Includes: NIST traceable calibration certificate, batteries, and user guide

See page 14 for ordering information

The BetaGauge PI PRO

| BetaGauge PI-PRO Ordering Information | | | | | | |
|---------------------------------------|--------------|----------------|------------------|----------------|-----------------------------|-----------|
| Range | Sensor Type | Standard Gauge | Rear Mount Style | 24 VDC Powered | Rear Mount + 24 VDC Powered | Kit |
| -10...+10" WC (0.4 psi/ 25 mbar) | Non-isolated | 1919996 | Inquire | Inquire | Inquire | NA |
| -30...+30" WC (1 psi/70 mbar) | Non-isolated | 1919402 | 1919458 | 1919459 | 1919460 | NA |
| 0...15 psi/ 0...1 bar | Isolated | 1919157 | 1919164 | 1919203 | 1919211 | 1919219* |
| 0...30 psi/ 2 bar | Isolated | 1919158 | 1919165 | 1919204 | 1919212 | 1919220* |
| -15...15 psi/ -1...1 bar | Non-isolated | 1919445 | 1919446 | 1919447 | 1919450 | 1919452* |
| -15...30 psi/ -1...2 bar | Non-isolated | 1919381 | 1919382 | 1919448 | 1919442 | 1919400* |
| -12...100 psi/ -0.8...7 bar | Isolated | 1919159 | 1919196 | 1919205 | 1919213 | 1919221* |
| -12...300 psi/ -0.8...20 bar | Isolated | 1919303 | 1919355 | 1919449 | 1919398 | 1919453* |
| -12...500 psi/ -0.8...35 bar | Isolated | 1919160 | 1919197 | 1919206 | 1919214 | 1919222* |
| 0...1000 psi/ 0...70 bar | Isolated | 1919178 | 1919198 | 1919207 | 1919215 | 1919223** |
| 0...2000 psi/ 0...140 bar | Isolated | 1919304 | 1919305 | 1919456 | 1919451 | 1919454** |
| 0...3000 psi/ 0...200 bar | Isolated | 1919161 | 1919199 | 1919208 | 1919216 | 1919224** |
| 0...5000 psi/ 0...350 bar | Isolated | 1919162 | 1919200 | 1919209 | 1919217 | 1919434** |
| 0...10000 psi/ 0...700 bar | Isolated | 1919163 | 1919201 | 1919210 | 1919218 | 1919435** |
| 15 psia/ 1 bar(a) | Isolated | 1919684 | Inquire | Inquire | 1919777 | Inquire |
| 30 psia/ 2 bar(a) | Isolated | 1919685 | Inquire | Inquire | Inquire | Inquire |
| 100 psia/ 7 bar(a) | Isolated | 1919686 | Inquire | Inquire | Inquire | Inquire |
| 300 psia/ 20 bar(a) | Isolated | 1919687 | Inquire | Inquire | Inquire | Inquire |



**BetaGauge PI-PRO
Pneumatic Kit**



**BetaGauge PI-PRO
Hydraulic Kit**

Contact:
 Industrial Process Measurement, Inc.
 3910 Park Avenue, Unit 7
 Edison, NJ 08820
 732-632-6400
 support@instrumentation2000.com
<http://www.instrumentation2000.com>