MARTEL ELECTRONICS

BETA CALIBRATORS

*Calibration Technology Starts Here*

# *Precision Digital Pressure Test Gauge*

## *Single-handed process validation*

## 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.

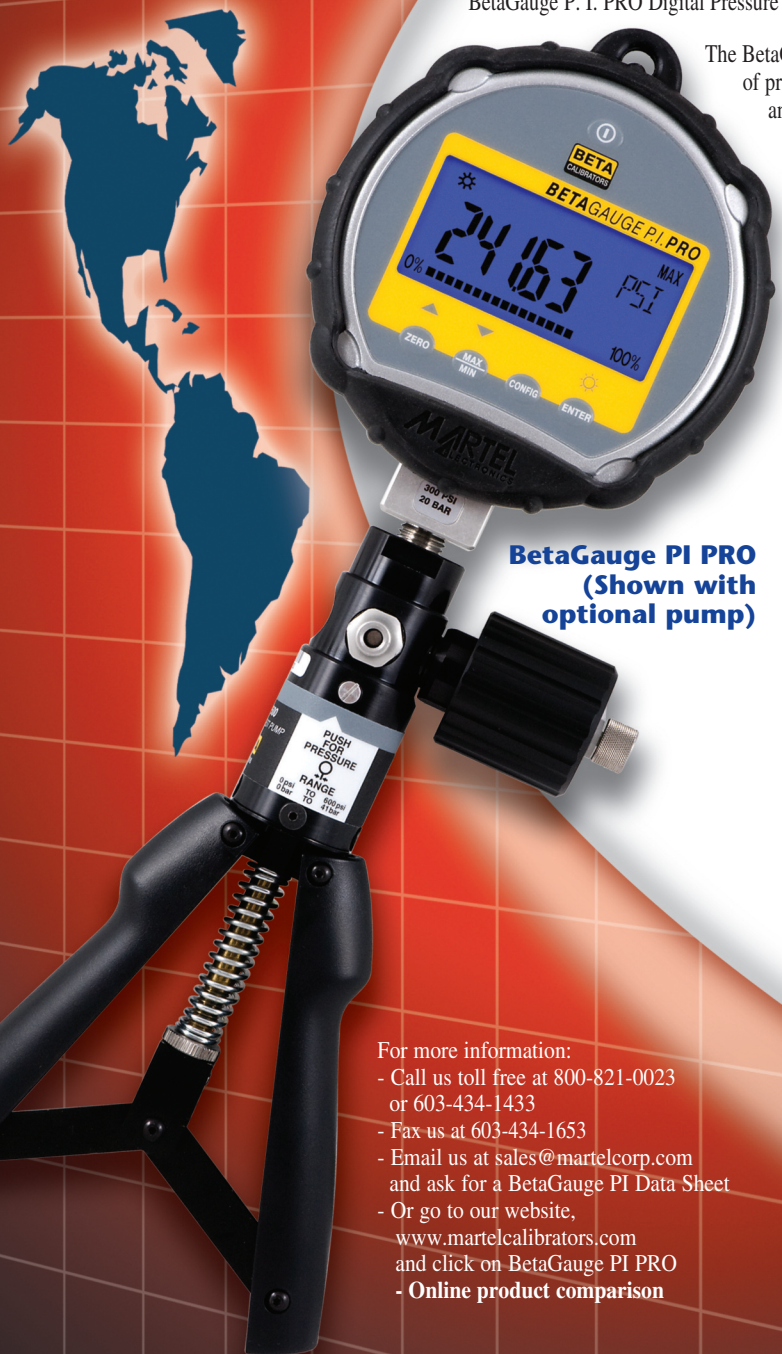
The BetaGauge PI PRO builds on the proven performance of the BetaGauge PI with a new purpose designed Zinc-Aluminum Alloy High Pressure Cast housing. The new housing improves the environmental integrity of the gauge in a lighter and smaller yet more rugged form factor.

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. Ease-of-use, performance, and features set the BetaGauge P. I. PRO Digital Pressure Test Gauge apart, just as you've come to expect from Martel Electronics!

The BetaGauge P. I. PRO first and foremost, provides 0.05% of full scale accuracy of pressure in any one of seventeen (17) ranges. Readings may be displayed in any one of 18 standard engineering units, or in 1 custom unit you define, to eliminate tedious conversion calculations.

The 5-1/2 digit, 0.65" high digital display and companion percent-of-range bar graph provide an easy to read display, even from a distance. A number of features provide additional ease of use. The reading sample rate can be user adjusted to match the type of 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.

*Continued on back*




**BetaGauge PI PRO (Shown with optional pump)**

### General Features

- Accuracy of ±0.05% of F. S. (± 0.04% of Reading for Reference Class Verse)
- Temperature compensated accuracy over 0 to 50 °C
- 17 standard pressure ranges available
- Data logging
- Displays in 18 standard or 1 custom engineering unit
- Displays ambient temperature in °C or °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

For more information:
- Call us toll free at 800-821-0023 or 603-434-1433
- Fax us at 603-434-1653
- Email us at sales@martelcorp.com and ask for a BetaGauge PI Data Sheet
- Or go to our website, www.martelcalibrators.com and click on BetaGauge PI PRO
  **- Online product comparison**

# BetaGauge PI PRO

## Specifications (0 °C to 50 °C, unless otherwise noted)

**Input Pressure Ranges**

10" H20*/20 mBAR; 1 psi*/70 mBAR; 15 psi/1 BAR, 30 psi/2 BAR; 100 psi/7 BAR; 300 psi/20 BAR; 500 psi/30 BAR; 1,000 psi/70 BAR; 2,000 psi/140 BAR; 3,000 psi/200 BAR; 5,000 psi/300 BAR; 10,000 psi/700 BAR; 15,000 psi/1035 BAR; -15 to +15 psi*; -15 to +30 psi*

**Absolute Ranges**

15 psia, 30 psia, 100 psia, 300 psia

**Accuracy**

±0.05 % FS positive pressure
±0.1 % FS for 1.0 psi

**Temperature Compensation**

0 °C to +50 °C (32 °F to +122 °F) to rated accuracy

**Standard Engineering Units**

PSI, Bar, Kg/cm2, inH2O (4 °C, 20 °C or 60 °F), ft H2O (4 °C, 20 °C or 60 °F), cmH2O (4 °C and 20 °C), mH2O (4 °C and 20 °C), Kpa, mBAR, inHg, mmHg, TORR

**Media Compatibility**

liquids and gases compatible with 316 stainless steel; except for ranges marked * above

**Environmental**

| | |
|---|---|
| Operating Temperature | -10 °C to +55 °C |
| Storage | -20 °C to +70 °C (-4 °F to +158 °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: manual, batteries

**MECP500 kit**

**MECP10K kit**

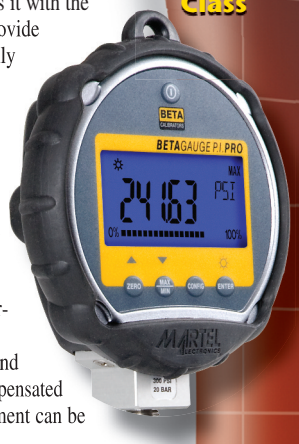
Pump Kits shown with optional BetaGauge PI PRO Digital Test Gauge.

*Continued from front*

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. 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. 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.

**BetaGauge PIR PRO Reference Class**

As with the original high accuracy BetaGauge P.I. PRO gauges, the BetaGauge PIR PRO takes the concept of a simple analog Test Gauge and combines it with the accuracy of digital technology. The new Reference Class gauges provide exceptional performance with ±0.04% of reading accuracy, especially when operated below 50% of their range.




The Reference Class BetaGauge PIR PRO digital test gauges are available in six ranges — 30 psi Compound, 30 psig, 100 psig, 500 psig, 1,000 psig, 3,000 psig, 5,000 psig, and 10,000 psig. Setup of the BetaGauge PIR PRO is fast and straightforward, through a menu-driven display, with minimal text and intuitive functions, that is simple enough to allow the gauge to be used anywhere in the world without the need for multilingual displays. Pressure readings are displayed in any one of 18 standard engineering units, or in user-defined custom units, eliminating tedious conversion calculations. Readings are displayed on a 5-1/2 digit, 0.65" high digital display and companion percent-of-range bar graph. Accuracy is temperature-compensated over a 0 to +50 °C range. The internal temperature sensor measurement can be displayed in degrees Celsius or Fahrenheit.

## Order #

**BetaGauge-PI**

**-xxx**

| | |
|---|---|
| 10" H20*/20 mBAR, xxx = 010; | 1 psi*/70 mBAR, xxx=001; |
| 15.000 psi/1 BAR, xxx = 015; | 30.000 psi/2 BAR, xxx = 030; |
| 100.00 psi/7 BAR, xxx = 100; | 300.00 psi/20 BAR, xxx = 300; |
| 500.00 psi/30 BAR, xxx = 500; | 1,000.00 psi/70 BAR, xxx = 01K; |
| 2,000.0 psi/140 BAR, xxx = 02K; | 3,000.0 psi/200 BAR, xxx = 03K; |
| 5,000.0 psi/300 BAR, xxx = 05K; | 10,000 psi/700 BAR, xxx = 10K; |
| 15,000 psi/1035 BAR, xxx = 15K (Q4 2010); | -15 to +15 psi*, xxx=015C; |
| -15 to +30 psi*, xxx=030C | |

**-x**

Port Position — Bottom (standard); x = __ (leave blank); Back (option); x = RM

**-Kitx**

Kit (includes BetaGauge PI, case, rubber boot, pressure calibration hand pump, hose and fittings)

With MECP500 pneumatic test pump (500 psi and below); Kit5

With MECP10K hydraulic test pump (above 500 psi); Kit3

**-24**

OPTIONAL: External 24 VDC Power Input

ATTENTION: All Rear Mount and 24 VDC External Input gauge configurations are supplied in the previous BetaGauge PI housing. Only the standard bottom mount configured gauges are supplied in the new BetaGauge PI PRO housing.

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