

Precision Digital Pressure Test Gauge

*Single-handed
process
validation*



BetaGauge PI

The BetaGauge PI

Digital Pressure Test Gauge takes the concept of an analog Test Gauge, and brings it to a new level, as only Beta Calibrators can do. The BetaGauge P. I. 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. 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. Ease-of-use, performance, and features set the BetaGauge P. I. Digital Pressure Test Gauge apart, just as you've come to expect from Martel Electronics!

The BetaGauge P. I. first and foremost, provides 0.05% of full scale readings of pressure in any one of eight (8) ranges. Readings may be displayed in any one of seventeen (17) ranges, 18 standard engineering units, or, in 1 custom unit you define, to eliminate tedious conversion calculations.

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General Features

- Accuracy of $\pm 0.05\%$ of F. S.
- Temperature compensated accuracy over 0 to 50 °C
- 17 standard pressure ranges available
- 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
- Rugged stainless steel case meets NEMA 4/IP65
- MIN/MAX recall
- 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 approval pending; 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 brochure
- Or go to our website, www.martelcalibrators.com and click on BetaGauge PI
- **Online product comparison**

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

Input Pressure Ranges

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 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

Continued from front

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 allows the BetaGauge P. I. to enter a "sleep" mode, where the display is frozen between readings, maximizing battery life to 2,000 hours. A MIN/MAX function is provided which instantly recalls the minimum and maximum pressure readings that have been automatically stored by the BetaGauge P. I. An auto power shutoff feature may be enabled for a preset time interval to extend battery life.

Password-protected field calibration of the BetaGauge P. I. 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. 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. 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. is available in a self-contained calibration kit, including a hand pressure pump, and associated fittings.

Order

BetaGauge-PI	
-xxx	
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 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	



MECP500 kit

Pump Kits shown with optional BetaGauge PI Digital Test Gauge.



MECP10K kit



Martel Electronics Corporation

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