

Pressure Modules



High Accuracy Digital Modules

Martel Electronics offers 24 standard BETA Calibrators pressure modules, covering gauge, vacuum, absolute, compound, and differential measurements. All modules are directly compatible with the BetaGauge II, BetaGauge 321 and 311. With the Model BPPA-100 BETA Port Pressure Adapter, the modules are fully compatible with the MC range of Multi-Function Calibrators, and the Martel Electronics 3001 Laboratory/Bench Standard. Pressure ranges may be displayed in any of 13 user-selectable units. Water density correction factors of 4 °C, 20 °C, or 60 °F can be selected for either water column unit. The choice of pressure unit may be restricted by limitations on resolution of the instrument display.

General Features

- 24 standard ranges
- Gauge, vacuum, absolute, compound, and differential measurements
- Accuracy specified over 15 °C to 35 °C range
- Isolated and non-isolated measurements, range dependant

SPECIFICATIONS

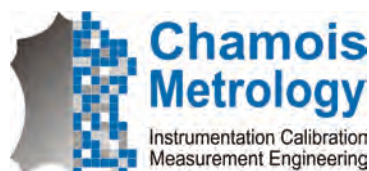
PARAMETER	RANGE	ACCURACY	OVER PRESSURE	NOTES
Gauge (PSIG)	0 to 0.3 (0 to 20 mBar)*	±0.1 %	400 %	
	0 to 1 (0 to 70 mBar)*	±0.05%	400 %	
	0 to 5 (0 to 350 mBar)	±0.025%, ±0.003 psi	400 %	8
	0 to 7.2 (0 to 500 mBar)	±0.035%, ±0.0025 psi	300 %	9 & 7
	0 to 10 (0 to 700 mBar)	±0.025%, ±0.0025 psi	300 %	7
	0 to 15 (0 to 1 Bar)	±0.025%, ±0.0025 psi	300 %	7
	0 to 30 (0 to 2 Bar)	±0.025%	300 %	
	0 to 50 (0 to 3.5 Bar)	±0.03%	300 %	
	0 to 100 (0 to 7 Bar)	±0.025%	300 %	
	0 to 150 (0 to 10 Bar)	±0.035%	200 %	4 & 9
	0 to 300 (0 to 20 Bar)	±0.025%	200 %	
	0 to 500 (0 to 35 Bar)	±0.025%	200 %	
	0 to 1000 (0 to 70 Bar)	±0.05%	200 %	6
	0 to 1500 (0 to 100 Bar)	±0.05%	200 %	4 & 9
Vacuum (PSIG)	0 to -5 (0 to -350 mBar)	±0.025%, ±0.003 psi	400 %	8
	0 to -15 (0 to -1 Bar)	±0.025%, ±0.0025 psi	300 %	7
	0 to 15 (0 to 1 Bar)	±0.025%, ±0.0025 psi	300 %	7
	0 to 30 (0 to 2 Bar)	±0.025%	300 %	
Absolute (PSIA)	0 to 50 (0 to 3.5 Bar)	±0.03%	300 %	
	0 to 100 (0 to 7 Bar)	±0.025%	300 %	
	0 to 300 (0 to 20 Bar)	±0.025%	200 %	
Compound (PSIG)	-15 to 15 (-1 to 1 Bar)	±0.025%, ±0.0025 psi	300 %	
	-15 to 30 (-1 to 2 Bar)	±0.025%, ±0.0025 psi	300 %	7
Differential (PSID) (Note 1)	0 to 5 (0 to 350 mBar)	±0.025%, ±0.003 psi	400 %	5 & 8
	0 to 30 (0 to 2 Bar)	±0.025%	300 %	5
	0 to 50 (0 to 3.5 Bar)	±0.03%	300 %	5

Notes:

1. Accuracy is percent of full scale range, over the 15 °C to 35 °C temperature range. Includes the pressure/temperature hysteresis in psi, where listed, for six months from date of last calibration. The accuracy statement shown in the specification table is the base accuracy from 15 °C to 35 °C. Outside this temperature range, add an additional ±0.0015% of FS per °C. To calculate the allowed deviation of a particular BETA Pressure Module, use the following formula: Deviation = ±%FS, ±T/P H, ±tempco where ±T/P H = thermal/pressure hysteresis in psi where applicable, and ±tempco = ±0.0015% FS/°C when the temperature is outside the 15-35 °C temperature range
2. The Gauge, Vacuum, and Compound type range measurements are relative to atmospheric pressure. The Absolute type is a measurement made relative to absolute zero (perfect vacuum). The Differential type is a measurement made relative to the pressure applied to the low-pressure port of the module.
3. Units for display: pounds per square inch (psi), millibars (mbar), kilopond per square centimeter (kp/cm², also kg/cm²), atmospheres physical (Atmos), kiloPascals (kPa), MegaPascals (MPa), inches of Mercury @ 0 °C (InHg), millimeters of Mercury @ 0 °C (mmHg), inches of water column (InWC), centimeters of water column (cmWC), or one user-defined pressure unit.
4. These extended ranges are derated because the calibrated range of the module does not match the range of the sensor.
5. The maximum static pressure is 200 psig (14 bar).
6. Relative to the calibration standard.
7. Thermal and pressure hysteresis = 0.0025 PSI (0.1724 mBar)
8. Thermal and pressure hysteresis = 0.0030 PSI (0.2068 mBar); all other ranges = no hysteresis
9. 0 to 7.2 PSI, 0 to 150 PSI, and 0 to 1500 PSI are extended ranges.
10. Gauge & Absolute types are isolated and accept any media (*except where noted) compatible with 316SS. Vacuum, Differentiated and Compound types are compatible with pressure media that are clean, dry, non-corrosive air or gas.



All devices can be supplied with a UKAS accredited calibration certificate from our laboratory.



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Pressure Modules

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COMPATIBLE MODELS

3001 Calibrator



BPPA-100

BetaPort-P

MasterCal 990, DMC1400, MC 1200 & 1000



BPPA-100

BetaPort-P

BetaGauge II

(BPPA-100 not required)

BetaGauge 301, 311, 321, 330



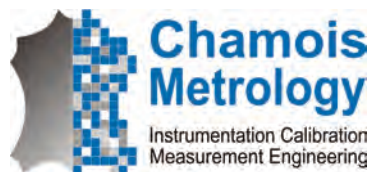
BPPA-100

BetaPort-P



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