



BetaGauge 321 and 311

Highest Precision and Accuracy Available in a Hand-Held Instrument

Features:

- Two isolated, stainless steel, pressure sensors with 0.025% F.S. accuracy (one on 311)
- 27 available pressure ranges
- Temperature-compensation ensures accuracy in field applications
- External pressure module connection supports all BETA Port-P pressure modules (29 ranges) for even more measurement capability
- Pt100 RTD input for temperature measurement, accurate to 0.1°C (0.2°F)
- Measure 4-20 mA input
- Internal 24 V Loop Power Supply can power a transmitter under test
- Measure up to 30 V DC
- Large graphic style LCD with backlight can be configured to display up to 3 inputs simultaneously (i.e. pressure 1, pressure 2, and RTD or any combination of inputs)
- Ideal for gas flow calibration (custody transfer) applications
- Pressure displayed in the user's choice of 19 engineering units
- Switch test on Pressure 1, Pressure 2, or external pressure module
- Operating mode layers support simple measurements to complex applications
- Up to five frequently used setups can be stored; last setup automatically recalled on power-up
- % Error and damping functions
- Small, rugged compact design operates on four (4) standard AA batteries

Description:

Whichever you choose, the single sensor BetaGauge 311, or the dual sensor BetaGauge 321, you'll have everything you need for calibrating pressure anywhere.

Gas custody transfer is the ideal application for the accuracy and capabilities of the BetaGauge 321. Select from two standard configurations: 15 psi/1500 psi, or 30 psi/3000 psi, or create a custom configuration by selecting between any two ranges.



The BetaGauge 311 can be configured by selecting from any range from 0.3, 1, 5, 15, 30, 50, 100, 150, 300, 500, 1000, 1500, 3000, 5000, or 10000 psi. Both are supplied with soft case, AA batteries, manual, NIST-traceable certificate, and test leads.

Both are available in kits including the Pressure Calibrator, Pt100 RTD Probe, AA batteries, manual, NIST-traceable certificate, test leads, and hard-sided carrying case.

Specifications (18 °C to +28 °C, unless otherwise noted)

Ranges

Available Pressure	
PSIG:	0.3*, 1*, 5, 15, 30, 50, 100, 150, 300, 500, 1000, 1500, 3000, 5000, 10000, -15 to 15*, -15 to 30*
PSIA:	15, 30, 100, 150, 300
PSI Differential:	1*, 5*, 30*, 50*, 100*
mA	0 to 24.000 mA
Volts	0 to 30.000 VDC
RTD	-40°C to 105°C (-40°F to 220°F)
Engineering Units	psi, bar, mbar, kPa, kgcm ² , cmH ₂ O@4°C, cmH ₂ O@20°C, mH ₂ O@4°C, mH ₂ O@20°C, inH ₂ O@4°C, inH ₂ O@20°C, inH ₂ O@60°F, mmHg@0°C, inHg@0°C, ftH ₂ O@4°C, ftH ₂ O@20°C, ftH ₂ O@60°F

Accuracy

Pressure	
0.3 psi	±0.1 % FS
1.0 psi	±0.05 % FS
15 to 3000 psi	±0.025 % FS
5, 5000, 10000 psi	±0.035 % FS
mA	±0.015% of rdg ±0.002mA
Volts	±0.015% of reading ±0.002V
RTD input range (Pt100-385)	-40°C to 105°C (-40°F to 220°F)
Temperature Effect	No effect on accuracy on all functions from 15°C to 35°C
	Add ±0.002% F.S./°C for temps outside of 15°C to 35°C

General

Instrument Setup Recall	5; last used on power-up
Environmental	
Operating Temperature	-10 °C to +50 °C
Storage Temperature	-20 °C to +60 °C
Power Requirements	6.0 VDC
Battery	Four (4) standard AA cells
Battery Life	>35 hours, typical usage
Physical	
Dimensions	8.3" H x 3.9"W x 1.8"D (21.082 x 9.906 x 4.572 cm)
Weight	1 lbs, 4 oz. (0.567 kg)
Connectors/Ports	Pressure
	Two, 1/8" NPT
	BetaPort-P pressure module;
	RTD
	Included Accessories soft case, batteries, manual, NIST-traceable certificate, and test leads

Order #	Description and Range
PSI Ranges:	0.3*, 1*, 5, 15, 30, 50, 100, 150, 300, 500, 1000, 1500, 3000, 5000, 10000, -15 to 15*, -15 to 30*
PSIA:	15, 30, 100, 150, 300
PSI Differential:	1*, 5*, 30*, 50*, 100*
Isolated stainless steel pressure ports except those noted with an (*) above	
BG311-C	BetaGauge 311, range in "C" psi
BG311-CK	BetaGauge 311 Kit, range in "C" psi
BG321-15	BetaGauge 321, 15/1500 psi ranges
BG321-30	BetaGauge 321, 30/3000 psi ranges
BG321-C/D	BetaGauge 321, custom C psi/D psi internal pressure ranges
BG321-15K	BetaGauge 321 Kit, 15/1500 psi ranges
BG321-30K	BetaGauge 321 Kit, 30/3000 psi ranges
BG321-C/DK	BetaGauge 321 Kit, with custom C psi/D psi ranges
LTP-100	Pt100 RTD Probe Assembly
BPPA-100	BetaPort-P Pressure Module Adapter



MARTEL ELECTRONICS

Martel Electronics Corporation
Londonderry, NH; Tel: 800-821-0023

Email: sales@martelcalibrators.com Web: www.martelcalibrators.com