

*Calibration Technology Starts Here...*

*Dual sensor;  
triple display, pressure calibrator*

*The new standard  
for custody transfer  
applications*



## BetaGauge 321A/311A

Whichever you choose, the single sensor BetaGauge 311A, or the dual sensor BetaGauge 321A, you'll have everything you need for calibrating pressure anywhere. And the newly improved -A versions provide enhanced features over their predecessors, including a Power-Tool-Tough case, custom engineering units, user-adjustable resolution, and enhanced stability.

Gas custody transfer is the ideal application for the accuracy and capabilities of the BetaGauge 321A. Select from two standard configurations — 15psi/1500psi, or 30psi/3000psi — or create a custom configuration by selecting among any two ranges. The BetaGauge 311A can be configured by selecting from any range from 0.4, 1, 5, 7, 15, 30, 50, 100, 150, 1000, 1500, 3000, and 10000. Both are supplied with soft case, AA batteries, manual, NIST-traceable certificate, and test leads.

Both the BetaGauge 311A and 321A are available in kits including the Pressure Calibrator, Pt100 RTD Probe, AA batteries, manual, NIST-traceable certificate, test leads, and hard-sided carrying case.

### General Features

- Two isolated, stainless steel, pressure sensors with 0.025% FS accuracy (one on 311A)
- 29 available pressure ranges
- Temperature-compensation ensures accuracy in field applications
- Small, power-tool-tough case, and compact design
- External pressure module connection supports all BetaPort-P pressure modules (29 ranges) for even more measurement capability
- Pressure displayed in the user's choice of 19 engineering units plus 2 custom units
- 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
- Switch test on Pressure 1, Pressure 2, or external pressure module
- User interface layers support simple measurements to complex applications
- Up to five frequently used setups to be stored; last setup automatically recalled on power-up
- % Error and damping functions
- Operates on four (4) standard AA batteries

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](mailto:sales@martelcorp.com) and ask for a BetaGauge 321A/311A Pressure brochure
- Or go to our website, [www.martelcalibrators.com](http://www.martelcalibrators.com) and click on BetaGauge 321A or 311A

## Specifications

### Ranges

|                           |  |
|---------------------------|--|
| Available Pressure        |  |
| Gauge (PSIG):             | 0.4*, 1*, 5*, 7, 15, 30, 50, 100, 150, 300, 500, 1000, 1500, 3000, 5000, and 10000 |
| Absolute (PSIA):          | 15, 30, 100, 150, 300  |
| Compound (PSIG):          | -15 to +15, -15 to +30   |
| Differential (PSID/PSIG): | 1*, 5*, 30*, 50*, 100* (BetaGauge 311A only)                                       |
| mA                        | 0 to 24.000 mA   |
| Volts                     | 0 to 30.000 VDC  |
| RTD                       | -50 °C to 105 °C (-40 °F to +220 °F)   |

### Engineering Units

psi, bar, mbar, kPa, kgcm<sup>2</sup>, cmH<sub>2</sub>O@4°C, cmH<sub>2</sub>O@20°C, inH<sub>2</sub>O@4°C, inH<sub>2</sub>O@20°C, inH<sub>2</sub>O@60°F, mmHg@0°C, mmHg@20°C, inHg@0°C, ftH<sub>2</sub>O@4°C, ftH<sub>2</sub>O@20°C, ftH<sub>2</sub>O@60°F

### Accuracy

|                             |   |
|-----------------------------|---|
| Pressure                    |   |
| 0.4 psi                     | ±0.1% FS  |
| 1.0 psi                     | ±0.05 %FS   |
| 15 to 3000 psi              | ±0.025 %FS  |
| 5, 7, 5000, 10000 psi       | ±0.035 %FS  |
| mA                          | ±0.015% of rdg; ±0.002 mA                                   |
| Volts                       | ±0.015% of rdg; ±0.002 V                                    |
| 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 5 °C to 35 °C   |
|                             | Add ±0.002 %FS/°C for temperatures outside of 5 °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 Alkaline AA batteries  
Battery Life >35 hours, typical usage

### Physical

Dimensions 8.3" high x 3.9" wide x 1.8" deep  
(21.082 cm x 9.906 cm x 4.512 cm)  
Weight 1 pound 4 ounces (0.567 kg)

### Connectors/Ports Pressure

Pressure: 1/8" female NPT - Stainless Steel  
RTD: 4 pin LEMO style  
External module: 6 pin LEMO style

Included Accessories: soft case, batteries, manual, NIST-traceable certificate, and test leads

All specifications are subject to change without notice.

## BetaGauge 311A Single Sensor



## BetaGauge 321A Dual Sensor



## BPPA-100 External Pressure Module Adapter

| Order #  | Description and Range  |
|--|--|
| PSI Ranges:  | 0.4*, 1*, 5*, 7, 15, 30, 50, 100, 150, 300, 500, 1000, 1500, 3000, 5000, 10000, -15 to +15*, -15 to +30* |
| PSIA:  | 15, 30, 50, 100, 150, 300  |
| PSI Differential   | 1*, 5*, 30*, 50*, 100*   |
| Isolated stainless steel ports, except those noted with an (*) above |  |
| BG311A-C   | BetaGauge 311A, range in "C" psi   |
| BG311A-CK  | BetaGauge 311A Kit, range in "C" psi   |
| BG321A-15  | BetaGauge 321A, 15 psi/1500 psi ranges   |
| BG321A-30  | BetaGauge 321A, 30 psi/3000 psi ranges   |
| BG321A-C/D   | BetaGauge 321A, custom C psi/D psi ranges  |
| BG321A-15K   | BetaGauge 321A Kit, 15 psi/1500 psi ranges   |
| BG321A-30K   | BetaGauge 321A Kit, 30 psi/3000 psi ranges   |
| BG321A-C/DK  | BetaGauge 321A Kit, custom C psi/D psi ranges  |
| LPT-100A   | Pt100 RTD Probe Assembly   |
| BPPA-100   | BetaPort-P Pressure Module Adapter   |

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