

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

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, kgcm², cmH₂O@4°C, cmH₂O@20°C, inH₂O@4°C, inH₂O@20°C, inH₂O@60°F, mmHg@0°C, mmHg@20°C, inHg@0°C, ftH₂O@4°C, ftH₂O@20°C, ftH₂O@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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technical

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