

BetaGauge 311 Single Sensor Advanced Pressure Calibrator Product Data Sheet

General Description

The BetaGauge 311 is a general purpose, high accuracy pressure calibrator with special features intended to facilitate calibration of mass flow computers. With one internal pressure range and an available adapter for external BetaPort-P pressure modules, the possibilities are extensive. In addition, the 311 has a port to connect a precision RTD probe for the temperature factor calibration required for electronic flow meters (EFMs).

Available Ranges and Engineering Units

The available internal sensor ranges (in PSI) are: 5, 15, 30, 100, 300, 500, 1000, 1500, 3000, 5000 and 10000.

Pressure may be displayed in the user's choice of engineering units, which include PSI, Bar, mBar, kPa, MPa, kg/cm², cm H₂O @ 4°C, cm H₂O @ 20°C, cm H₂O @ 60°F, m H₂O @ 4°C, m H₂O @ 20°C, m H₂O @ 60°F, in H₂O @ 4°C, in H₂O @ 20°C, in H₂O @ 60°F, ft H₂O @ 4°C, ft H₂O @ 20°C, ft H₂O @ 60°F, mm Hg, in Hg and one USER defined unit.

Major Features

- One isolated, stainless steel pressure sensor
- Temperature compensation to ensure field use accuracy
- External pressure module connection supports all BetaPort-P pressure modules (25 ranges)
- Pt100 RTD input for temperature measurement
- Internal 24 V DC loop power supply
- Measure 24 mA or 30 V DC
- Large, backlit, configurable display for 1, 2 or 3 variables
- Switch test on Pressure (internal or external)
- Five (5) frequently used setups and be stored and recalled
- % error and damping functions
- RS-232 port for remote operation
- Compact handheld design
- Powered by 4 AA Alkaline batteries

Performance

Pressure Accuracy

15 PSI to 3000 PSI ±0.025% FS
5, 5000 and 10,000 PSI ±0.035% FS

DC Measurement Accuracy

mA ±0.015% of rdg ± 0.002 mA
Volts ±0.015% of rdg ±0.002 V

Temperature (RTD) Accuracy

RTD ±0.015% of rdg ±0.02 Ohms or
±0.1°C at 0°C for Pt100

Temperature Effect

No effect on accuracy for all functions from 15° to 35°C
Add ±0.002% FS/°C for temperatures outside range



General Specifications

Environmental

Operating Temperature -10° to +50°C
Storage Temperature -20° to +60°C

Power

Battery Four (4) AA Alkaline cells
Battery Life >35 hours continuous typical usage

Physical

Dimensions

8.3" H x 3.9" W x 1.8"D
21 cm H x 10 cm W x 4.6 cm D

Weight

1 lb., 4 oz. (0.57 kg)

Connectors/Ports

Pressure, (1) ? " FNPT, BetaPort-P pressure module, RTD (up to 4 wire), std. banana jacks for mA and V.

Included Accessories

Soft case, batteries, manual, NIST traceable calibration certificate, test leads

Martel Electronics Corporation

1F Commons Drive, Suite 39
Londonderry, NH 03053 USA
www.martelcalibrators.com