

Stevens

Hydrological & Meteorological Systems

Pneumatic Water Level Data Acquisition System VB-2000



FEATURES

- **Auto Zero with Every Measurement Cycle**
- **Digital Temperature Characterization**
- **SDI-12, RS232, or Analog Output**
- **14,000 Readings Logged**
- **High Quality Pressure Transducer, Vented to Atmosphere when Idle**
- **Auto Purge (25 PSI)**
- **Improved Safety - No High Pressure Gas System Required**
- **Tide Gauge Operating Mode Option**
- **Multi-Point Measurement Option**

DESCRIPTION

The VB2000 Pneumatic Water Level Data Acquisition System consists of a high quality temperature compensated pressure transducer, a precision analog and digital controller card, and pneumatic components. The pneumatic design allows the VB2000 to create an internal 25 PSI pressure reservoir and to pressurize the water line orifice

with regulated flow or to periodically purge the orifice with 25 PSI to reduce silting problems. The pressure transducer is vented to atmosphere after every measurement cycle to eliminate long term strain. An analog pressure gauge is included for simple visual monitoring of operation.

The VB2000 functions as an independent data acquisition system to acquire and log up to 14,000 water level readings (almost 5 months of 15 minute data). The VB2000 may also serve as a sensor to another DCP or data logger via the SDI-12 port or the RS232 port. VB2000 setup is performed with a laptop PC running most common communications software. The display option includes large character (0.6") numbers and up / down pushbuttons. It provides a visual stage indication and allows the user to adjust the stage measurement without a PC.

The VB2000 measures the internal temperature at every measurement cycle. The temperature is used to perform additional temperature / pressure compensation from calibration data stored in non-volatile memory during factory calibration.

The VB2000-2 provides tidal data in accordance with the National Ocean Service (NOS) algorithm. It takes 1 second measurements over 3 minutes and calculates water level, standard deviation and outliers for standard NOS compliant tide gauge applications.

Stevens

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SPECIFICATIONS

VB-2000

Measurement

Range	40 Feet of Water (17.35 PSI)
Accuracy	0.1% Full Scale
Resolution	16-bit A/D Converter 0.01 ft or 1 mm Reported
Repeatability	± -0.01 ft

Interface

Serial I/O	SDI-12 RS-232
Voltage Output	0-5 Volt (optional)

Power Supply

Supply Voltage	11 - 14.5 Volts DC	
Supply Current	Compressor	2.7 Amps, Compressor Active (2 to 5 seconds / cycle)
	Measurement	150 mA, Taking Measurements
	Standby	1.5 mA Asleep
	Average	25 mA Average (15 min. readings)

Physical

Enclosure	Fiberglass, NEMA 4X, with Latch and Padlock Hasp	
Desiccant Chamber	35 Cubic Inches Indicating Desiccant	
Standard Configuration	Size	18" x 20" x 9" (W x H x D) 46 cm x 51 cm x 23 cm
	Weight	34 lbs or 15.5 kg
	Orifice Connections	1/4" OD Tubing Connector Other Connectors Available
Tide Gauge Configuration	Size	14" x 16" x 7" (W x H x D) 36 x 41 x 18 cm
	Weight	22 lbs, 10 kg
	Orifice Connections	1/4" NPT Female, Brass Other Connectors Available

Environmental

Operating Temperature	- 40C to + 50C
Humidity	0 to 100%

ORDERING INFORMATION

Model

VB2000-1

VB2000-2

SE-DISP

VB200-AI

Description

Standard Configuration, Compressor, 1 Orifice

Tide Gauge Configuration with Flowmeter, No Compressor

Display for Water Level, Allows Up/Down Stage Adjustment

Additional Measurement Orifices for VB2000-1

Contact Factory for GSA Schedule Information.



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