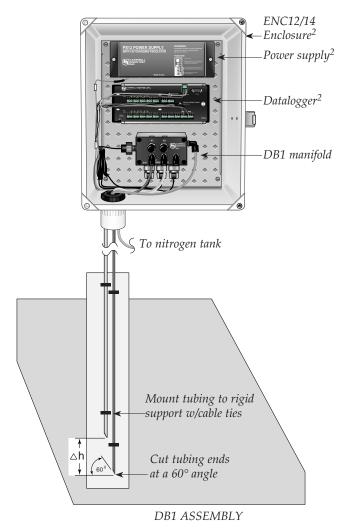
Double Bubbler Liquid Level Sensor Model DB1

The DB1 is a self-calibrating system that measures water level (or other liquids), such as stage measurement in channels and stilling wells. It detects level by measuring the pressure required to force nitrogen bubbles from a pair of submerged tubes. The orifices of the tubes are separated by a fixed vertical distance. The pressure line that is measured is determined by the datalogger, which opens and closes valves on the manifold assembly. A single pressure transducer measures each of the tubes, as well as the atmospheric pressure (see figure below). This technique compensates for temperature effects and long-term drift in the transducer, producing a more accurate measurement.

The DB1 can be measured and controlled by Campbell Scientific's CR10X, CR800, CR1000, or CR3000 dataloggers. Its power consumption typically requires a sealed rechargeable battery that is connected to a charging source (solar panel or ac power).¹



¹For information on analyzing your system's power requirements please request a copy of Campbell Scientific's Power Supply brochure or Application Note.

²DB1 includes manifold only. Datalogger, enclosure, power supply and tubing must be purchased separately.



Ordering Information

DB1-5 0 to 5 psi (0 to 11.5 feet)* measurement range
DB1-15 0 to 15 psi (0 to 34.5 feet)* measurement range
DB1-30 0 to 30 psi (0 to 69 feet)* measurement range

Specifications

Accuracy: $\pm 0.05\%$ of Full Scale Range

Temperature Range: -25° to +50°C

Supply Voltage: 12 Vdc

Valve Current Drain: 40 mA (active)

0 mA (quiescent)

Maximum System Pressure: Option 5: 20 psi

Option 15: 45 psi Option 30: 60 psi

Note: Allowing the system's pressure to exceed the listed pressures could permanently damage the transducer.

Recommended Bubble Rate: 1 to 3 bubble(s)/second

User-Supplied Accessories

Nitrogen bottle (typically 225 ft³) with an automatic pressure-relieved regulator.

0.25" O.D. tubing

^{*}Assumes fresh water measurement.