



## KIT-S-U20-04

### Water Level Data Logger Starter Kit (13')

Combining high accuracy water level measurements with out-of-the-box convenience, this money-saving kit includes everything needed to start logging right away. It is ideal for monitoring water levels and temperatures in wells, streams, lakes and freshwater wetlands.

This kit includes:

U20-001-04 HOB0 data logger (13' range) BASE-U-4 base station with the required coupler BHW-PRO HOB0ware Pro software.



Like other HOB0 Water Level Data Loggers, the 13-foot version offers exceptional value and ease-of-use, with no cumbersome vent tubes or desiccants to maintain.

#### Supported Measurements:

Absolute Pressure, Barometric Pressure, Temperature and Water Level

#### Key Advantages:

- Lightning protection - no long signal wires, and electronics are shielded in stainless steel housing (see the Water Level logger sensor location drawing)
- HOB0ware Pro software provides easy conversion to accurate water level reading, fully compensated for barometric pressure (see demo), temperature, and water density (use barometric pressure data from nearby weather station).
- Multiple-rate sampling (see demo) allows faster sampling at critical times such as when pumping starts or stops.
- Available in four depth ranges
- Ideal for use in wells, streams, lakes, wetlands and tidal areas
- No-vent-tube design for easy reliable deployment
- Durable ceramic pressure sensor

## KIT-S-U20-04 Specifications

### Pressure Sensor

**Operation range:** 0 to 145 kPa (0 to 21 psia); approximately 0 to 4 m (0 to 13 ft) of water depth at sea level, or 0 to 7 m (0 to 23 ft) of water at 3,000 m (10,000 ft) of altitude

**Factory calibrated range:** 69 to 145 kPa (10 to 21 psia), 0° to 40°C (32° to 104°F)

**Burst pressure:** 310 kPa (45 psia) or 18 m (60 ft) depth

**Water level accuracy:**\* Typical error - 0.075% FS, 0.3 cm (0.01 ft) water

**Maximum error:** - 0.15% FS, 0.6 cm (0.02 ft) water

**Raw pressure accuracy:\*\*** 0.3% FS, 0.43 kPa (0.063 psi) maximum error

**Resolution:** < 0.014 kPa (0.002 psi), 0.14 cm (0.005 ft) water

**Pressure response time 90%:** < 1 second

**Thermal response time (90%):** † Approximately 10 minutes in water to achieve full temperature compensation of the pressure sensor

### Temperature Sensor

**Operation range:** -20° to 50°C (-4° to 122°F)

**Accuracy:** 0.37°C at 20°C (0.67°F at 68°F), see Plot A

**Resolution:** 0.1°C at 20°C (0.18°F at 68°F) (10-bit), see Plot A

**Response time (90%):** 3.5 minutes in water (typical)

**Stability (drift):** 0.1°C (0.18°F) per year

### Logger

**Real-time clock:** ± 1 minute per month 0° to 50°C (32° to 122°F)

**Battery:** 2/3 AA, 3.6 Volt Lithium, factory-replaceable

**Battery life (typical use):** 5 years with 1 minute or greater logging interval

**Memory (non-volatile):** 64K bytes memory (approx. 21,700 pressure and temperature samples)

**Dimensions:** 2.46 cm (0.97 inches) diameter, 15 cm (5.9 inches) length; mounting hole 6.3 mm (0.25 inches) diameter

**Weight:** Approximately 210 g (7.4 oz)

**Wetted materials:** 316 stainless steel, Viton® o-rings, acetyl cap, ceramic sensor

**Shock/drop:** Logger is sensitive to shocks. Handle with care and avoid any impact. Always use proper packaging when shipping the logger.

**Logging interval:** Fixed-rate or multiple logging intervals, with up to 8 user-defined logging intervals and durations; logging intervals from 1 second to 18 hours. Refer to HOBOWare software manual.

**Launch modes:** Immediate start and delayed start

**Offload modes:** Offload while logging; stop and offload

**Battery indication:** Battery voltage can be viewed in status screen and optionally logged in datafile. Low battery indication in datafile.

**Environmental Rating:** IP68

The CE Marking identifies this product as complying with the relevant directives in the European Union (EU).

\* With accurate reference water level measurement and Barometric Compensation Assistant data

\*\* Absolute pressure sensor accuracy includes all pressure drift, temperature, and hysteresis-induced errors

† Maximum error due to rapid thermal changes is approximately 0.5%





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