



## HOBO® U20-001-03 Data Logger

### 250-Foot Depth Water Level Data Logger

The HOBO water level data logger features high accuracy at a great price and ease-of-use, with no cumbersome vent tubes or desiccants to maintain. This data logger is ideal for recording water levels and temperatures in shallow wells, streams, lakes and freshwater wetlands.



#### 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 for use in freshwater (see the Water Level logger sensor location drawing)
- HOBOWare Pro software provides easy conversion to accurate water level reading, fully compensated for barometric pressure (see demo) temperature, and water density.
- Multiple-rate sampling (see demo) allows faster sampling at critical times such as when pumping starts or stops.
- Available in 4 depth ranges
- Ideal for use in wells, streams, lakes, wetlands and tidal areas
- No-vent-tube design for easy reliable deployment
- Available in stainless and titanium versions
- Durable ceramic pressure sensor
- 3-point NIST-traceable calibration certificate included

## HOBO U20-001-03 Data Logger Specifications

### Pressure and Water Level Measurements U20-001-03 and U20-001-03-TI

**Operation Range** 0 to 850 kPa (0 to 123.3 psia); approximately 0 to 76.5 m (0 to 251 ft) of water depth at sea level, or 0 to 79.5 m (0 to 262 ft) of water at 3,000 m (10,000 ft) of altitude

**Factory Calibrated Range** 69 to 850 kPa (10 to 123.3 psia), 0° to 40°C (32° to 104°F)

**Burst Pressure** 1200 kPa (174 psia) or 112 m (368 ft) depth

**Water Level Accuracy\*** Typical error:  $\pm 0.05\%$  FS, 3.8 cm (0.125 ft) water  
Maximum error:  $\pm 0.1\%$  FS, 7.6 cm (0.25 ft) water

**Raw Pressure Accuracy\*\***  $\pm 0.3\%$  FS, 2.55 kPa (0.37 psi) maximum error

**Resolution**  $< 0.085$  kPa (0.012 psi), 0.87 cm (0.028 ft) water

**Pressure Response Time (90%)\*\*\***  $< 1$  second; measurement accuracy also depends on temperature response time

### Temperature Measurements (All Models)

**Operation Range**  $-20^{\circ}$  to  $50^{\circ}$ C ( $-4^{\circ}$  to  $122^{\circ}$ F)

**Accuracy**  $\pm 0.44^{\circ}$ C from  $0^{\circ}$  to  $50^{\circ}$ C ( $\pm 0.79^{\circ}$ F from  $32^{\circ}$  to  $122^{\circ}$ F), see Plot A in manual

**Resolution**  $0.10^{\circ}$ C at  $25^{\circ}$ C ( $0.18^{\circ}$ F at  $77^{\circ}$ F), see Plot A in manual

**Response Time (90%)** 5 minutes in water (typical)

**Stability (Drift)**  $0.1^{\circ}$ C ( $0.18^{\circ}$ F) per year

### Logger

**Real-time Clock**  $\pm 1$  minute per month  $0^{\circ}$  to  $50^{\circ}$ C ( $32^{\circ}$  to  $122^{\circ}$ 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)

**Weight** Stainless steel models: approximately 210 g (7.4 oz)  
Titanium models: approximately 140 g (4.8 oz)

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

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

**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 the 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 all relevant directives in the European Union (EU).

\* Water Level Accuracy: With accurate reference water level measurement, known water density, accurate Barometric Compensation Assistant data, and a stable temperature environment.

\*\* Raw Pressure Accuracy: Absolute pressure sensor accuracy includes all sensor drift, temperature, and hysteresis-induced errors.

\*\*\* Changes in Temperature: Allow 10 minutes in water to achieve full temperature compensation of the pressure sensor. Maximum error due to rapid thermal changes is approximately 0.5%.

## Contact Us

Sales (8am to 5pm ET, Monday through Friday)

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