



# HOBO U20-001-03 Fresh Water Level Data Logger (0-76m)

## Product Images



## Short Description

The Water Level data logger can also be used in air to record barometric pressure.

Use the Titanium models in salt water.

Download to the Waterproof Shuttle or Base Station.

The no-vent design eliminates installation/maintenance issues and errors associated with vent tubes, desiccant maintenance, water ingress etc.

## Description

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


## Key Features

- 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 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.

**Supports the following measurements:** Absolute Pressure, Barometric Pressure, Temperature and Water Level

**IMPORTANT** Requires HOBOWare Pro software and either a U-DTW-1 Waterproof Shuttle or the Base-U-4 Optic USB Base Station for configuration and data offload. See Connectivity Options below.

# Additional Information

Country of Manufacture	United States
Explanation	<div>Pressure and Water Level Measurements U20-001-03 and U20-001-03-Ti</div> <div><div>Operation Range</div><div>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</div></div> <div><div>Factory Calibrated Range</div><div>69 to 850 kPa (10 to 123.3 psia), 0° to 40°C (32° to 104°F)</div></div> <div><div>Burst Pressure</div><div>1200 kPa (174 psia) or 112 m (368 ft) depth</div></div> <div><div>Water Level Accuracy*</div><div>Typical error: ±0.05% FS, 3.8 cm (0.125 ft) water Maximum error: ±0.1% FS, 7.6 cm (0.25 ft) water</div></div> <div><div>Raw Pressure Accuracy**</div><div>±0.3% FS, 2.55 kPa (0.37 psi) maximum error</div></div> <div><div>Resolution</div><div>&lt;0.085 kPa (0.012 psi), 0.87 cm (0.028 ft) water</div></div> <div><div>Pressure Response Time (90%***)</div><div>&lt;1 second; measurement accuracy also depends on temperature response time</div></div> <div>Temperature Measurements (All Models)</div> <div><div>Operation Range</div><div>-20° to 50°C (-4° to 122°F)</div></div> <div><div>Accuracy</div><div>±0.44°C from 0° to 50°C (±0.79°F from 32° to 122°F), see Plot A in manual</div></div> <div><div>Resolution</div><div>0.10°C at 25°C (0.18°F at 77°F), see Plot A in manual</div></div> <div><div>Response Time (90%)</div><div>5 minutes in water (typical)</div></div> <div><div>Stability (Drift)</div><div>0.1°C (0.18°F) per year</div></div> <div>Logger</div> <div><div>Real-time Clock</div><div>± 1 minute per month 0° to 50°C (32° to 122°F)</div></div> <div><div>Battery</div><div>2/3 AA, 3.6 Volt lithium, factory-replaceable</div></div> <div><div>Battery Life (Typical Use)</div><div>5 years with 1 minute or greater logging interval</div></div> <div><div>Memory (Non-volatile)</div><div>64K bytes memory (approx. 21,700 pressure and temperature samples)</div></div> <div><div>Weight</div><div>Stainless steel models: approximately 210 g (7.4 oz) Titanium models: approximately 140 g (4.8 oz)</div></div> <div><div>Dimensions</div><div>2.46 cm (0.97 inches) diameter, 15 cm (5.9 inches) length; mounting hole 6.3 mm (0.25 inches) diameter</div></div> <div><div>Wetted Materials</div><div>316 stainless steel, Viton® o-rings, acetyl cap, ceramic sensor</div></div> <div><div>Logging Interval</div><div>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.</div></div> <div><div>Launch Modes</div><div>Immediate start and delayed start</div></div> <div><div>Offload Modes</div><div>Offload while logging; stop and offload</div></div> <div><div>Battery Indication</div><div>Battery voltage can be viewed in status screen and optionally logged in datafile. Low battery indication in datafile.</div></div> <div><div>Environmental Rating</div><div>IP68</div></div> <div><div></div><div>The CE Marking identifies this product as complying with all relevant directives in the European Union (EU).</div></div> <div><div>* Water Level Accuracy: With accurate reference water level measurement, known water density, accurate Barometric Compensation Assistant data, and a stable temperature environment.</div><div><div>** Raw Pressure Accuracy: Absolute pressure sensor accuracy includes all sensor drift, temperature, and hysteresis-induced errors.</div><div><div>*** 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%.</div></div></div></div>
Ideal For	Professional
Brand	Onset HOBO
Onset Product Series	U20
Typical applications	Environmental (Outdoor), Field Research, Water Quality
Measurements	Barometric Pressure, Pressure, Temperature, Water Level

# Additional Options

Connectivity Options	HOBO Universal Optic USB Base Station Base-U-4 (includes Couplers)
	Waterproof Optic Data Shuttle U-DTW-1 (requires HOBOWare Pro)
HOBOWare Pro Software Options	HOBOWare Pro on USB Drive (USB Cable Included)
	HOBOWare Pro on CD (USB Cable Included)
	HOBOWare Pro - Download Only (USB Cable NOT Included)
Well Cap for Mounting HOBO Loggers in Wells	WELL-CAP-01