



HOBO U20L-04 Water Level Data logger (0-4m)

Product Images



Short Description

An accurate, low cost data logger designed to record water level fully compensated for barometric pressure in wells, streams, lakes etc.

Description

The HOBO U20L-04 is a low-cost, research-grade water level data logger for continuously measuring water level and temperature in a wide range of underwater environments. It features 0.1% measurement accuracy, a polypropylene housing for use in both fresh and salt water, and a non-vented design for convenient and

hassle-free deployment.

Key Features

- Ideal for use in both fresh and saltwater environments, including wells, streams, lakes, wetlands, and tidal areas
- For depths up to 4 metres (13 feet)
- Durable ceramic pressure sensor withstands freezing
HOBOWare Pro software provides easy conversion to accurate water level reading, fully compensated for barometric pressure, temperature, and water density in wells, streams, lakes etc
- Can also be used in air to record barometric pressure
- The non-vented design eliminates installation/maintenance issues and errors associated with vent tubes, desiccant maintenance, water ingress etc.

Measures 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	Pressure (Absolute) and Water Level Measurements U20L-04
	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: ±0.1% FS, 0.4 cm (0.013 ft) water Maximum error: ±0.2% FS, 0.8 cm (0.026 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 at a stable temperature; measurement accuracy also depends on temperature response time
	Temperature Measurements
	Operation Range -20° to 50°C (-4° to 122°F)
	Accuracy ±0.44°C from 0° to 50°C (±0.79°F from 32° to 122°F), see Plot A in manual
	Resolution 0.10°C at 25°C (0.18°F at 77°F), see Plot A in manual
	Response Time (90%) 10 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)
	Weight Approximately 154 g (5.43 oz) in air Approximately 53.9 g (1.9 oz) in fresh water
	Dimensions 3.18 cm (1.25 inches) diameter, 15.24 cm (6.0 inches) length; mounting hole 6.3 mm (0.25 inches) diameter
	Wetted Materials Polypropylene housing and lanyard; Viton and Buna-N O-rings; ceramic sensor in acetyl end cap; stainless steel screws suitable for saltwater
	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 <i>HOBOware User's Guide</i> for details.
	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
	CE Compliant 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 20 minutes in water to achieve full temperature compensation of the pressure sensor. Maximum error due to rapid thermal changes is approximately 0.5%.
Ideal For	Professional
Brand	Onset HOBO
Channel(s)	2
Onset Product Series	U20L
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