

Call our friendly team on 01243 558280

EnviroMonitors Ford Lane Business Park Ford West Sussex BN18 0UZ, UK www.enviromonitors.co.u k



# HOBO U20L-01 Water Level Data logger (0-9m)

#### **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-01 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 9 metres (30 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, 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**

Pressure (Absolute) and W==vel Measurements U20L-01         operation Range       0 to 207 kPa (0 to 30 pisa); approximately 0 to 9 of 20 kPa (0 to 30 pisa); or 0 to 12 m(0 s0 of 3000 m(10,000 f) of altitude 13 d00 m(10,000 f) d00 f) water         Burst Pressure       9 to 207 kPa (10 to 30 pisa), or to 40° C(32° to 10 d00 f) water         Raw Pressure Accuracy*       10 kPa (45 pisa) or 18 m (60 f) depth or 100 d00 f) water         Raw Pressure Accuracy*       40.3% F5, 0.62 kPa (0.009 pis) maximum error is 0.2% F5, 2.0 cm (0.06 fI) water         Resolution       -0.02 kPa (0.003 pis), 0.21 cm (0.007 f) water         Resolution       -0.02 kPa (0.003 pis), 0.21 cm (0.007 f) water         Resolution       -0.02 kPa (0.003 pis), 0.21 cm (0.007 f) water         Resolution       -0.02 kPa (0.003 pis), 0.21 cm (0.007 f) water         Resolution       -0.02 kPa (0.003 pis), 0.21 cm (0.007 f) water         Resolution       -0.02 kPa (0.003 pis), 0.21 cm (0.007 f) water         Resolution       -0.02 kPa (0.003 pis), 0.21 cm (0.007 f) water         Resolution       -0.02 kPa (0.003 pis), 0.21 cm (0.07 f) water         Resolution       -0.02 kPa (0.003 pis), 0.21 cm (0.07 f) wa		
Operation Rangeof water depth at seal level, or o to 12 m (0 to 40 at 3,000 m (10,000 ft) of altitudeFactory Calibrated Range69 to 207 kPa (10 to 30 psia), 0° to 40°C (32° to 13 Burst PressureBurst Pressure310 kPa (45 psia) or 18 m (60 ft) depthWater Level Accuracy*7ypical error: ±0.1% FS, 1.0 cm (0.03 ft) water Maximum error: ±0.2% FS, 2.0 cm (0.06 ft) water Raw Pressure Accuracy**Raw Pressure Accuracy*±0.3% FS, 0.62 kPa (0.09 psi) maximum error esolutionPressure Response Time (90%)*** Response Time (90%)***<1 second at a stable temperature; measureme also depends on temperature; response time also depends on temperature response timeAccuracy±0.44°C from 0° to 50°C (±0.79°F from 32° to 12 A in manualResponse Time (90%)-20° to 50°C (±0.79°F from 32° to 12 A in manualResponse Time (90%)0.10°C at 25°C (0.18°F at 77°F), see Plot A in maru A in manualResponse Time (90%)0.10°C (at 25°C (0.18°F at 77°F), see Plot A in maru A in manualExplanation0.10°C (at 25°C (0.18°F at 77°F), see Plot A in maru A in manualExplanation0.10°C (at 25°C (0.18°F at 77°F), see Plot A in maru A in manualExplanation0.10°C (at 25°C (0.18°F at 77°F), see Plot A in maru A in manualExplanation0.10°C (at 25°C (0.18°F at 77°F), see Plot A in maru A in manualExplanation0.10°C (at 25°C (0.18°F at 77°F), see Plot A in maru A in manualExplanation0.10°C (at 25°C (0.18°F at 77°F), see Plot A in maru A in manualExplanation10 minutes in water (typical)Explanation10 minutes in water (typical)	Pressure (Absolute) and Water Level Measurements U20L-01	
Burst Pressure       310 kPa (45 psia) or 18 m (60 ft) depth         Water Level Accuracy*       Typical error: 40.1% FS, 1.0 cm (0.03 ft) water Maximum error: 40.2% FS, 2.0 cm (0.06 ft) water Maximum error: 40.2% FS, 2.0 cm (0.06 ft) water Maximum error: 40.2% FS, 2.0 cm (0.06 ft) water Resolution         Raw Pressure Accuracy**       40.3% FS, 0.62 kPa (0.09 psi) maximum error Resolution         Pressure Response Time (90%)***       41 second at a stable temperature; measureme also depends on temperature; measureme also depends on temperature response time         Coperation Range       -20° to 50°C (4° to 122°F)         Accuracy       #0.44°C from 0° to 50°C (±0.79°F from 32° to 12 A in manual         Resolution       0.10°C at 25°C (0.18°F at 77°F), see Plot A in mar A in manual         Response Time (90%)       0.10°C at 25°C (0.18°F at 77°F), see Plot A in mar A in manual         Response Time (90%)       0.10°C at 25°C (0.18°F at 77°F), see Plot A in mar A in manual         Response Time (90%)       0.10°C at 25°C (0.18°F at 77°F), see Plot A in mar A in manual         Response Time (90%)       0.10°C at 25°C (0.18°F at 77°F), see Plot A in mar A in manual         Explanation       0.10°C at 25°C (0.18°F at 77°F), see Plot A in mar A in manual		
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(90%)***also depends on temperature response timeImage: 1Image: 1Operation Range-20° to 50°C (-4° to 122°F)Accuracy $0.44^{\circ}C$ from 0° to 50°C (±0.79°F from 32° to 122°C)Resolution $0.10^{\circ}C at 25^{\circ}C (0.18°F at 77°F), see Plot A in markResponse Time (90%)10 minutes in water (typical)Stability (Drift)0.10^{\circ}C (18°F) per yearExplanation10^{\circ}C (0.18°F) per yearReal-time Clock10 minute per month 0° to 50°C (32° to 122°F)$		
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)         Resolution       0.10°C at 25°C (0.18°F at 77°F), see Plot A in mark         Response Time (90%)       10 minutes in water (typical)         Stability (Drift)       0.1°C (0.18°F) per year         Logger       Interpretender 100°C (32° to 122°F)	nt accuracy	
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Response Time (90%)     10 minutes in water (typical)       Stability (Drift)     0.1°C (0.18°F) per year       Logger     Logger       Real-time Clock     ±1 minute per month 0° to 50°C (32° to 122°F)	2°F), see Plot	
Stability (Drift)     0.1°C (0.18°F) per year       Logger     Logger       Real-time Clock     ±1 minute per month 0° to 50°C (32° to 122°F)	ıual	
Explanation     Logger       Real-time Clock     ±1 minute per month 0° to 50°C (32° to 122°F)		
Explanation Real-time Clock ±1 minute per month 0° to 50°C (32° to 122°F)		
Battery2/3 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)	Ł	
WeightApproximately 154 g (5.43 oz) in air Approximatoz) in fresh water	əly 53.9 g (1.9	
Dimensions3.18 cm (1.25 inches) diameter, 15.24 cm (6.0 in mounting hole 6.3 mm (0.25 inches) diameter	:hes) length;	
Polypropylene housing and lanyard; Viton and E Wetted Materials rings; ceramic sensor in acetyl end cap; stainles: suitable for saltwater		
Logging Interval       Fixed-rate or multiple logging intervals, with up defined logging intervals and durations; logging from 1 second to 18 hours. Refer to the HOBOwn Guide for details.	intervals	
Launch Modes Immediate start and delayed start		
Offload Modes Offload while logging; stop and offload		
Battery IndicationBattery voltage can be viewed in status screen alogged in datafile. Low battery indication in data		
Environmental Rating: IP68		
Image: Second	∕ing with all	
Ideal For Professional		
Brand Onset HOBO		
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