



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

Country of Manufacture	United States																																																		
Explanation	<div>Pressure (Absolute) and Water Level Measurements U20L-01</div> <table><tr><td>Operation Range</td><td>0 to 207 kPa (0 to 30 psia); approximately 0 to 9 m (0 to 30 ft) of water depth at sea level, or 0 to 12 m (0 to 40 ft) of water at 3,000 m (10,000 ft) of altitude</td></tr><tr><td>Factory Calibrated Range</td><td>69 to 207 kPa (10 to 30 psia), 0° to 40°C (32° to 104°F)</td></tr><tr><td>Burst Pressure</td><td>310 kPa (45 psia) or 18 m (60 ft) depth</td></tr><tr><td>Water Level Accuracy*</td><td>Typical error: ±0.1% FS, 1.0 cm (0.03 ft) water Maximum error: ±0.2% FS, 2.0 cm (0.06 ft) water</td></tr><tr><td>Raw Pressure Accuracy**</td><td>±0.3% FS, 0.62 kPa (0.09 psi) maximum error</td></tr><tr><td>Resolution</td><td><0.02 kPa (0.003 psi), 0.21 cm (0.007 ft) water</td></tr><tr><td>Pressure Response Time (90%)*</td><td><1 second at a stable temperature; measurement accuracy also depends on temperature response time</td></tr></table> <div>Temperature Measurements</div> <table><tr><td>Operation Range</td><td>-20° to 50°C (-4° to 122°F)</td></tr><tr><td>Accuracy</td><td>±0.44°C from 0° to 50°C (±0.79°F from 32° to 122°F), see Plot A in manual</td></tr><tr><td>Resolution</td><td>0.10°C at 25°C (0.18°F at 77°F), see Plot A in manual</td></tr><tr><td>Response Time (90%)</td><td>10 minutes in water (typical)</td></tr><tr><td>Stability (Drift)</td><td>0.1°C (0.18°F) per year</td></tr></table> <div>Logger</div> <table><tr><td>Real-time Clock</td><td>±1 minute per month 0° to 50°C (32° to 122°F)</td></tr><tr><td>Battery</td><td>2/3 AA, 3.6 Volt lithium, factory-replaceable</td></tr><tr><td>Battery Life (Typical Use)</td><td>5 years with 1 minute or greater logging interval</td></tr><tr><td>Memory (Non-volatile)</td><td>64K bytes memory (approx. 21,700 pressure and temperature samples)</td></tr><tr><td>Weight</td><td>Approximately 154 g (5.43 oz) in air Approximately 53.9 g (1.9 oz) in fresh water</td></tr><tr><td>Dimensions</td><td>3.18 cm (1.25 inches) diameter, 15.24 cm (6.0 inches) length; mounting hole 6.3 mm (0.25 inches) diameter</td></tr><tr><td>Wetted Materials</td><td>Polypropylene housing and lanyard; Viton and Buna-N O-rings; ceramic sensor in acetyl end cap; stainless steel screws suitable for saltwater</td></tr><tr><td>Logging Interval</td><td>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.</td></tr><tr><td>Launch Modes</td><td>Immediate start and delayed start</td></tr><tr><td>Offload Modes</td><td>Offload while logging; stop and offload</td></tr><tr><td>Battery Indication</td><td>Battery voltage can be viewed in status screen and optionally logged in datafile. Low battery indication in datafile.</td></tr><tr><td>Environmental Rating:</td><td>IP68</td></tr><tr><td></td><td>The CE Marking identifies this product as complying with all relevant directives in the European Union (EU).</td></tr></table>	Operation Range	0 to 207 kPa (0 to 30 psia); approximately 0 to 9 m (0 to 30 ft) of water depth at sea level, or 0 to 12 m (0 to 40 ft) of water at 3,000 m (10,000 ft) of altitude	Factory Calibrated Range	69 to 207 kPa (10 to 30 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, 1.0 cm (0.03 ft) water Maximum error: ±0.2% FS, 2.0 cm (0.06 ft) water	Raw Pressure Accuracy**	±0.3% FS, 0.62 kPa (0.09 psi) maximum error	Resolution	<0.02 kPa (0.003 psi), 0.21 cm (0.007 ft) water	Pressure Response Time (90%)*	<1 second at a stable temperature; measurement accuracy also depends on temperature response time	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	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. 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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