



HOBO U20L-02 Water Level Data logger (0-30m)

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-02 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 30 metres (100 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
- The self-contained non-vented design eliminates installation/maintenance issues and errors associated with vent tubes, desiccant maintenance, water ingress etc.

Measures: Water Level, Temperature, Barometric Pressure

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. Please see Connectivity Options below.

Additional Information

Country of Manufacture	United States																																																
Explanation	<div><div>Pressure (Absolute) and Water Level Measurements U20L-02</div><table><tr><td>Operation Range</td><td>0 to 400 kPa (0 to 58 psia); approximately 0 to 30.6 m (0 to 100 ft) of water depth at sea level, or 0 to 33.6 m (0 to 111 ft) of water at 3,000 m (10,000 ft) of altitude</td></tr><tr><td>Factory Calibrated Range</td><td>69 to 400 kPa (10 to 58 psia), 0° to 40°C (32° to 104°F)</td></tr><tr><td>Burst Pressure</td><td>500 kPa (72.5 psia) or 40.8 m (134 ft) depth</td></tr><tr><td>Water Level Accuracy*</td><td>Typical error: ±0.1% FS, 3.0 cm (0.1 ft) water Maximum error: ±0.2% FS, 6.0 cm (0.2 ft) water</td></tr><tr><td>Raw Pressure Accuracy**</td><td>±0.3% FS, 1.20 kPa (0.17 psi) maximum error</td></tr><tr><td>Resolution</td><td><0.04 kPa (0.006 psi), 0.41 cm (0.013 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><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><div><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></table></div><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. ** 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%.</div></div></div>	Operation Range	0 to 400 kPa (0 to 58 psia); approximately 0 to 30.6 m (0 to 100 ft) of water depth at sea level, or 0 to 33.6 m (0 to 111 ft) of water at 3,000 m (10,000 ft) of altitude	Factory Calibrated Range	69 to 400 kPa (10 to 58 psia), 0° to 40°C (32° to 104°F)	Burst Pressure	500 kPa (72.5 psia) or 40.8 m (134 ft) depth	Water Level Accuracy*	Typical error: ±0.1% FS, 3.0 cm (0.1 ft) water Maximum error: ±0.2% FS, 6.0 cm (0.2 ft) water	Raw Pressure Accuracy**	±0.3% FS, 1.20 kPa (0.17 psi) maximum error	Resolution	<0.04 kPa (0.006 psi), 0.41 cm (0.013 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																																																
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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