

U20L-04 • U20L-01 • U20L-02



HOBO Water Level Data Logger

USB Configuration & Data Offload

Data logger with USB offload. Delivers research-grade data for continuous monitoring of water level and temperature at depths of up to 13, 30, or 100 feet in a wide range of underwater environments; Freshwater or saltwater.

Important Information

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 compatible items below.

Supported Measurements

Absolute Pressure, Barometric Pressure, Water Level, Water Temperature

Features

- Self-contained, non-vented design enables easy deployment
- Ideal for use in both freshwater and saltwater environments, including wells, streams, lakes, wetlands, and tidal areas
- Depths up to 13, 30, or 100 feet depending on model
- 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

Note: A calibration certificate is not offered for this logger. If you require a NIST-traceable calibration certificate, please see the U20-001-01 (freshwater) or U20-001-01-Ti (saltwater).

What's in the box

- HOBO U20L-0x Water Level Data Logger

Contact Us

Sales (8am to 5pm ET, Monday through Friday)

- Email sales@onsetcomp.com
- Call 1-508-759-9500
- In U.S. toll free 1-800-564-4377
- Fax 1-508-759-9100

Onset Computer Corporation
470 MacArthur Boulevard
Bourne, MA 02532

Technical Support (8am to 5pm ET, Monday through Friday)

- Contact Product Support www.onsetcomp.com/support/contact
- Call 1-508-759-9500
- In U.S. toll free 1-877-564-4377

HOBO Water Level Data Logger (U20L-0x) Specifications

Pressure (Absolute) and Water Level Measurements U20L-01

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, 0° to 40°C (10 to 30 psia, 32° to 104°F)
Burst Pressure	310 kPa or 18 m depth (45 psia or 60 ft depth)
Water Level Accuracy*	Typical error: $\pm 0.1\%$ FS, 1.0 cm (0.03 ft) water Maximum error: $\pm 0.2\%$ FS, 2.0 cm (0.06 ft) water
Raw Pressure Accuracy**	$\pm 0.3\%$ FS, 0.62 kPa (0.09 psi) maximum error
Resolution	<0.02 kPa water (0.007 ft water)
Pressure Response Time (90%)***	<1 second at a stable temperature; measurement accuracy also depends on temperature response time

Pressure (Absolute) and Water Level Measurements U20L-02

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: $\pm 0.1\%$ FS, 3.0 cm (0.1 ft) water Maximum error: $\pm 0.2\%$ FS, 6.0 cm (0.2 ft) water
Raw Pressure Accuracy**	$\pm 0.3\%$ 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

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 (All Models)

Operation Range	-20° to 50°C (-4° to 122°F)
Accuracy	±0.44°C from 0° to 50°C , see manual for plot (±0.79°F from 32° to 122°F , see manual for plot)
Resolution	0.10°C at 25°C , see manual for plot (0.18°F at 77°F , see manual for plot)
Response Time (90%)	10 minutes in water (typical)
Stability (Drift)	0.1°C per year (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 acetal 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 HOBOWare User's Guide 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

