

U20-001-04 • U20-001-04-Ti



HOBOb 13-Foot Water Level Data Logger

Records water level and temperature up to 13-ft depths; narrow range provides best accuracy in shallow waters. Available in stainless-steel for shallow wells, streams, lakes, and freshwater wetlands and in titanium for saltwater/brackish wetlands and tidal areas.

Important Information

Requires HOBObware 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

- Lightning protection - no long signal wires, and electronics are shielded in a metal housing
- HOBObware Pro software provides easy conversion to accurate water level reading, fully compensated for barometric pressure, temperature, and water density
- Multiple-rate sampling allows faster sampling at critical times such as when pumping starts or stops
- Available in four depth ranges
- Ideal for use in wells, streams, lakes, wetlands, and tidal areas
- No-vent-tube design for easy reliable deployment
- Available in stainless and titanium versions
- Durable ceramic pressure sensor
- 3-point NIST-traceable calibration certificate included

What's in the box

- HOBOb U20-001-04 or U20-001-04-Ti Water Level Data Logger (13-foot depth)

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 13-Foot Water Level Data Logger (U20-001-04) Specifications

Pressure and Water Level Measurements U20-001-04 and U20-001-04-Ti

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: $\pm 0.075\%$ FS, 0.6 cm (0.02 ft) water Maximum error: $\pm 0.15\%$ FS
Raw Pressure Accuracy**	$\pm 0.3\%$ 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; measurement accuracy also depends on temperature response time

Temperature Measurements (All Models)

Operation Range	-20° to 50°C (-4° to 122°F)
Accuracy	$\pm 0.44^\circ\text{C}$ from 0° to 50°C ($\pm 0.79^\circ\text{F}$ 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%)	5 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	Stainless steel models: approximately 210 g (7.4 oz) Titanium models: approximately 140 g (4.8 oz)
Dimensions	2.46 cm (0.97 inches) diameter, 15 cm (5.9 inches) length; mounting hole 6.3 mm (0.25 inches) diameter
Wetted Materials	316 stainless steel, Viton® o-rings, acetyl cap, ceramic sensor
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 software manual.
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

* 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 10 minutes in water to achieve full temperature compensation of the pressure sensor. Maximum error due to rapid thermal changes is approximately 0.5%.

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