



## HOBO<sup>®</sup> U23-001A Data Logger

### U23 Pro v2 Temperature/Relative Humidity

The HOBO Pro v2 Temperature/Relative Humidity data logger is a weatherproof data logger with built-in temperature and relative humidity sensors. The Relative Humidity sensor provides superior durability in humid environments.




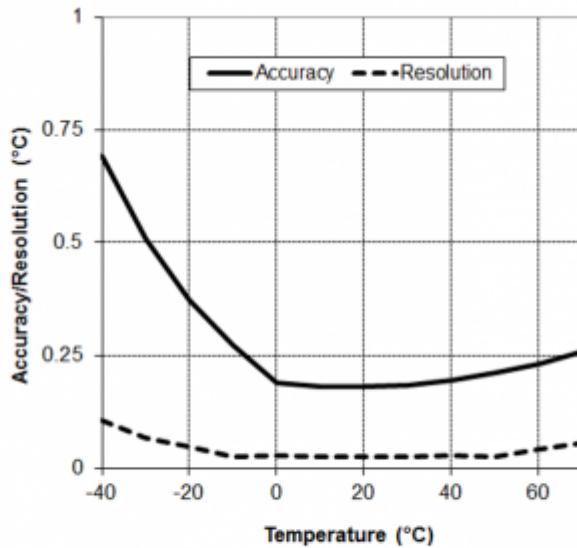
#### Key Advantages:

- Weatherproof housing for use in outdoor or condensing environments
- High accuracy
- Replaceable Relative Humidity sensor provides fast response and superior recovery from condensing conditions
- Small-diameter external sensor versions for measurements in tight spaces
- Optic USB interface for fast and reliable download
- Compatible with HOBOWare and HOBOWare Pro software for logger setup, graphing and analysis (HOBOWare Pro is required when using the U-DTW-1 Waterproof shuttle)

## HOBO U23-001A Data Logger Specifications

<b>Temperature Sensor</b>	
Operation Range	U23-001A internal sensor: -40 to 70°C (-40 to 158°F) U23-002A external temperature sensor: -40 to 70°C (-40 to 158°F) U23-003 and U23-004 external sensors: -40 to 100°C (-40 to 212°F), with tip and cable immersion in fresh water up to 50°C (122°F) for one year
Accuracy	U23-001A and U23-002A: ±0.25°C from -40 to 0°C (±0.45 from -40 to 32°F), ±0.2°C from 0 to 70°C (±0.36 from 32 to 158°F) U23-003 and U23-004: ±0.21°C from 0° to 50°C (±0.38°F from 32° to 122°F); see Plot A
Resolution	U23-001A and U23-002A: 0.04°C (0.072°F) U23-003 and U23-004: 0.02°C at 25°C (0.04°F at 77°F); see Plot A
Response Time (Typical to 90%)	U23-001A internal sensor: 10 minutes in air moving 1 m/sec U23-002A external temperature sensor: 3 minutes, 45 seconds in air moving 1 m/sec U23-003 and U23-004 external sensors: 3 minutes in air moving 1 m/sec; 30 seconds in stirred water
Drift	U23-001A and U23-002A: <0.01°C (0.018°F) per year U23-003 and U23-004: <0.1°C (0.18°F) per year
<b>Relative Humidity Sensor (U23-001A, U23-002A only)</b>	
Operation Range	0 to 100% RH, -40° to 70°C (-40° to 158°F) Exposure to conditions below -20°C (-4°F) or above 95% RH may temporarily increase the maximum RH sensor error by an additional 1%
Accuracy	±2.5% from 10% to 90% RH typical to a maximum of ±3.5% including hysteresis at 25°C (77°F); below 10% and above 90% ±5% typical
Resolution	0.05%
Response Time (Typical to 90%)	U23-001A: 40 minutes in air moving 1 m/sec with protective cap U23-002A: 15 seconds in air moving 1 m/sec
Drift	<1% per year typical
<b>Logger</b>	
Operation Range	-40° to 70°C (-40° to 158°F)
Real-time Clock	±1 minute per month 0° to 50°C (32° to 122°F)
Battery	1/2 AA, 3.6 Volt lithium, user-replaceable (HP-B)
Battery Life (Typical Use)	3 years with 1 minute or greater logging interval
Memory (Non-Volatile)	64K bytes memory (approx. 21,000 temperature and RH measurements)
Materials	All models: ASA styrene polymer housing and mounting clamp; polypropylene protective cap; Buna-N o-ring(s); U23-001A, U23-002A only: ASA styrene polymer RH sensor cap; modified hydrophobic polyethersulfone membrane
Cables	U23-001A: No cables U23-002A: One 184 cm (6 ft) PVC cable; sensor diameter 1 cm (0.38 in.) U23-003: Two 184 cm (6 ft) PVC cables; sensor diameter 0.5 cm (0.20 in.) U23-004: One 184 cm (6 ft) PVC cable; sensor diameter 0.5 cm (0.20 in.)
Environmental Rating	Electronics housing is NEMA 6P equivalent (tolerant of brief submergence); Units with RH sensors are NEMA 4 equivalent (splash-resistant)
Launch Modes	Immediate start; delayed start
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
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.
Weight	U23-001A: 57 g (1.5 oz); U23-002A: 118 g (3.1 oz); U23-003: 138 g (3.7 oz); U23-004: 102 g (2.7 oz)
Dimensions	Housing measures 10.2 x 3.8 cm (4.0 x 1.5 in.)
NIST Certificate	Temperature certificate available for additional charge
	The CE Marking identifies this product as complying with all relevant directives in the European Union (EU).



**Plot A**  
**(applies to U23-003 and U23-004 models only)**

## Contact Us

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

- ▶ Email [sales@onsetcomp.com](mailto:sales@onsetcomp.com)
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- ▶ In U.S. toll free 1-800-564-4377
- ▶ Fax 1-508-759-9100

Technical Support (8am to 6pm ET, Monday through Friday)

- ▶ Contact Product Support [www.onsetcomp.com/support/contact](http://www.onsetcomp.com/support/contact)
- ▶ Call 1-508-759-9500
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