ONSET®

HOBO® U23-004 Data Logger

U23 Pro v2 External Temperature Data Logger

The HOBO Pro v2 Temperature/External Temperature data logger is a weatherproof data logger with an external soil/water temperature sensor on a 6-foot cable useful for situations where just one temperature probe is required. An internal temperature sensor is also included.

Supported Measurements:

Temperature

Key Advantages:

- Weatherproof housing for use in outdoor or condensing environments
- High accuracy
- 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

HOBO U23-004 Data Logger Specifications

Temperature Sensor
Operation range internal sensors: -40° to 70°C (-40° to 158°F)
U23-002 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: ±0.21°C from 0° to 50°C (±0.38°F from 32° to 122°F); see Plot A
Resolution: 0.02°C at 25°C (0.04°F at 77°F); see Plot A

Response Time (typical to 90%)
U23-001 internal sensor: 40 minutes in air moving 1 m/sec
U23-002 external temperature sensor: 5 minutes 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

Stability (drift): < 0.1°C (0.18°F) per year

Relative Humidity Sensor (U23-001, U23-002 only)
Operation range: 0-100% 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. See Plot B for full range.
Resolution: 0.03%

Response Time (typical to 90%)
U23-001: 40 minute in air moving 1 m/sec with protective cap
U23-002: 5 minutes in air moving 1 m/sec with protective cap

Stability (drift): < 1% per year typical

Logger
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 (part # 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)
U23-001, U23-002 only: ASA styrene polymer RH sensor cap; modified hydrophobic polyethersulfone membrane

Cables
U23-001: No cables
U23-002: 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 (refer to HOBOware software manual)
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
U23-001: 57 g (1.5 oz)
U23-002: 118 g (3.1 oz)

U23-003: 138 g (3.7 oz)
U23-004: 102 g (2.7 oz)

Dimensions: Housing measures 10.2 ⨉ 3.8 cm (4.0 ⨉ 1.5 in.)
NIST certificate: Temperature certificate available for additional charge

The CE Marking identifies this product as complying with the relevant directives in the European Union (EU).

Contact Us

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