

HOBO U23 Pro v2 External Temperature Data Logger - U23-004



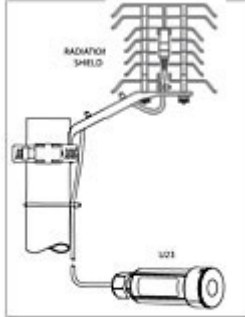
Measures:

Temperature

Features:

Qty	1-9	10-99	100+
\$US	\$145	\$135	\$123

Contact Onset at 1-800-564-4377



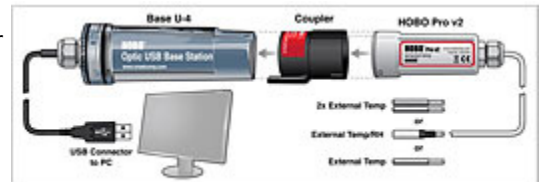
Sensor mounted in solar radiation shield - [click to zoom](#)

- 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

Description:

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.

Features:



Optical Interface for data transfer - [click to zoom](#)

Detailed Specifications:

Temperature Sensor

Operation range Internal sensors: -40Â° to 70Â°C (-40Â° to 158Â°F)
 U23-002 external temperature sensor: -40Â° to 70Â°C (-40Â° to 158Â°F)
 U23-003 and U23-004 external sensors: -40Â° to 100Â°C (-40Â° to 212Â°F), with tip and cable immersion in fresh water up to 50Â°C (122Â°F) for one year

Accuracy: Â±0.21Â°C from 0Â° to 50Â°C (Â±0.38Â°F from 32Â° to 122Â°F); see Plot A
 Resolution: 0.02Â°C at 25Â°C (0.04Â°F at 77Â°F); see Plot A

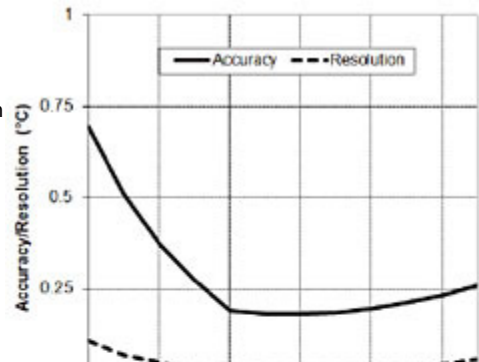
Response time

(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): < 0.1Â°C (0.18Â°F) per year

Relative Humidity Sensor (U23-001, U23-002 only)

Operation range 0-100% RH, -40Â° to 70Â°C (-40Â° to 158Â°F) Exposure to conditions below -20Â°C (-4Â°F) or above 95% RH may temporarily increase the maximum RH sensor error by an additional 1%



Accuracy: $\hat{A}\pm 2.5\%$ from 10% to 90% RH (typical), to a maximum of $\hat{A}\pm 3.5\%$ 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°C to 70°C (-40° to 158°F)

Real-time clock $\hat{A}\pm 1$ 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)

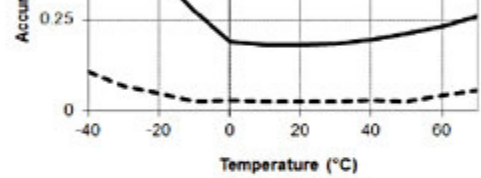
U23-003: 138 g (3.7 oz)

U23-004: 102 g (2.7 oz)

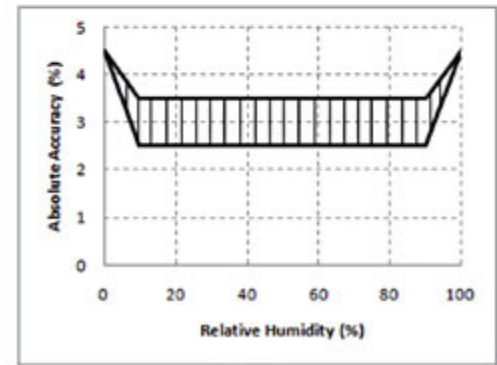
Dimensions: Housing measures 10.2 \hat{A} — 3.8 cm (4.0 \hat{A} — 1.5 in.)

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).



Plot A



Plot B

HOBO® Data Loggers

1-800-LOGGERS