

outdoor

HOBO® Weather Station & HOBO Micro Station

The AE50 award-winning HOBO Weather Station and HOBO Micro Station data loggers offer easy configuration and dependable research-grade measurements at a reasonable cost. Choose either the 4-input HOBO Micro Station for its small size and low price, or the 15-channel HOBO Weather Station for maximum expandability.

Both loggers are easily configured with Onset's wide range of plug-in smart sensors or input adapters for third-party sensors, pages 32 to 34. Complete your system with remote communications options, mounting tripods and accessories on pages 34 to 35.

Common Features:

- Smart sensors simply plug in and are ready for logging—no calibration or complex wiring
- Runs for one year on 4 user-replaceable AA batteries (typical)
- HOBOWare® (Windows and Mac) software for system launch, data analysis and file export
- Flexible remote download options are easy to connect, and provide on-demand or automated data offload.
- Select only the measurements and data logger size you need
- Up to 15 inputs
- Scalable to a variety of applications—choose from 2-m or 3-m tripods, or mount the Micro Station on a 2x4 for monitoring microclimates
- Large 512K memory for long-term deployments
- Optional data transmission (with Remote Site Manager software) via email or to an internet FTP site (active mode). Pager wireless option sends alert messages via cell phone text message or email
- Loggers and sensors undergo rigorous environmental testing
- Low-battery warnings
- Non-volatile EEPROM memory retains data even if batteries fail
- Detailed specifications for every sensor



The HOBO Weather Station is well suited to long-term deployments in remote sites.

Smart sensors are specified for total accuracy—no hidden error terms

Flexible mounting—each sensor can be positioned at correct height to meet industry standards

Sensor mounting accessories provide proper spacing to avoid interference and insure good accuracy



The HOBO Micro Station's small size is perfect for microclimate monitoring.



Expanding or reconfiguring the HOBO Weather Station or HOBO Micro Station is as simple as plugging in, or unplugging, smart sensors.

Smart Sensors (specifications on pages 32 to 34)

- Temperature
- Temperature/RH
- Wind Speed & Direction
- Wind Speed
- Rainfall
- Soil Moisture
- Solar Radiation
- PAR
- Barometric Pressure (for Weather Station only)
- Leaf Wetness
- 4-20 mA Input Adapter
- Voltage Input Adapter
- Pulse Input Adapter



outdoor

Common Specifications:

Memory: 512K non-volatile data storage

Memory Modes: Stop when full, Wrap around when full

Logging Interval: 1 second to 18 hours, user-specified interval

Battery Life: 1 year typical use (up to 10 sensors with 10-min or longer logging interval)

Approximate Battery Run Times			
Sampling Interval	1 to 4 sensors	5 to 10 sensors	10 to 15 sensors
1 minute	12 months	9 to 12 months	7 to 10 months
10+ minutes	12 months	12 months	9 to 12 months

Operating Range and Battery Type: Four standard AA alkaline batteries included (for operating conditions -20° to 50°C (-4° to 122°F)); optional AA lithium batteries available (for operating conditions -40° to 70°C (-40° to 158°F)); Note – when selecting batteries, keep in mind that the logger can be up to 17°C (30°F) hotter than ambient if it is in full sun.

Time Accuracy: 0 – 2 seconds for the first data point and +/-5 seconds per week at 25°C (77°F)

Data Type: Supports measurement averaging for sensors with this feature

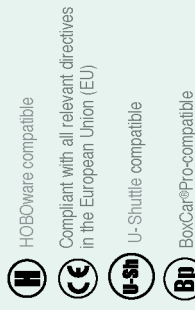
Logger Start Modes: Immediate, Push-button, or Delayed start options

Operational Indicators: 7 LEDs provide logging and network status

Data Offload Options: Current reading while logging; offload data while logging or when stopped

Offload Speed: 2 1/2 minutes for full 512K offload

Sensor network cable length: 100 meters (328 ft) maximum



HOBO Weather Station

up to 15 inputs for maximum system flexibility

10 sensor inputs, expandable to 15 with optional 1-to-2 sensor adapters

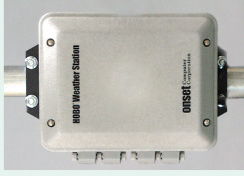
Logger Size/Weight: 18 x 23 x 10 cm (7 x 9 x 4"); 0.9 kg (2 lbs)

Data Communication: RS-232 via internal jack or weatherproof external connector

Mounting: Mast 4.1 cm (1 5/8" maximum diameter), available 2- and 3-meter tripods, or post mount

Enclosure & Access: Weatherproof, hinged door secured by four screws

Has room for up to 10 voltage or 4-20mA input adapters



HOBO Micro Station compact and low-cost

4 sensor inputs (up to 15 measurement channels possible, as some sensors provide more than 1 measurement)

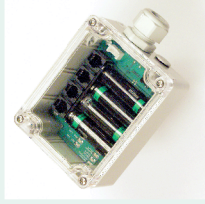
Logger Size/Weight: 8.9 x 11.4 x 5.4 cm (3.5 x 4.5 x 2.125"); 0.5 kg (1 lb)

Data Communication: RS-232 via internal jack accessed through removable weatherproof plug; Optional Adapter Cable (CABLE-HWS-F) required for connection to Onset remote communications accessories or Weatherproof Communications Cables.

Mounting: Mount on flat surface 3.5" or wider; optional mounting kit for use on 4.1-cm- (1 5/8") diameter masts

Enclosure & Access: Weatherproof; cover secured by four screws

Has room for up to 2 voltage or 4-20mA input adapters



HOBO Weather Station and HOBO Micro Station Ordering

Description Part No.

HOBO Weather Station Logger H21-001

HOBO Weather Station Data Logger & Smart Sensor Kit (see details pg 35) H21-SYS-A

HOBO Micro Station Logger H21-002

HOBO Micro Station Mast Mounting Kit M-MKA

HOBO Micro Station Grounding Wire (required for use with Wind Speed/Direction sensor or tripod mounting) CABLE-HMSG

Micro Station Adapter Cable (Includes Grounding Wire) CABLE-HWS-F

Lithium Batteries HWSB-LI

Software & Communication

HOBOWare software and a Serial Interface Cable are required for operation of HOBO Weather Station loggers. For use with USB ports a USB-Serial Adapter is also required (pg 49).*

HOBOWare (Windows) Software BHW-PC

HOBOWare (Mac) Software BHW-MAC

Serial Interface Cable CABLE-PC-3.5

USB-Serial Adapter CABLE-USB232

HOBO U-Shuttle (optional) U-DT-1

*The HOBO Weather Station and HOBO Micro Station are also compatible with BoxCar® Pro 4.3 software.

Weatherproof Comm. Cable 2 m CABLE-HWS2
17 m CABLE-HWS17

Outdoor Smart Sensor Specifications

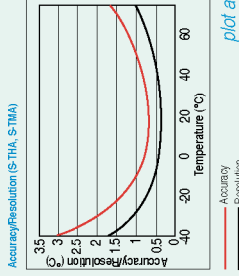
Temperature/RH* (Part # S-THA-M0XX)

Measurement Ranges: -40° to 75°C (-40° to 167°F); 0 to 100% RH from 0° to 50°C (32° to 122°F)
 Accuracy: ± 0.7° @ 25°C (1.3° @ 77°F); (see plot a) ± 3% RH over the range of 0° to 50°C (32° to 122°F); ± 4% in condensing environments 0° to 30°C (32° to 86°F)
 Resolution: 0.4° @ 25°C (0.7° @ 77°F); 0.5% RH @ 25°C (77°F)
 Drift: < 0.1°C (0.2°F) temp per year (typical); ± 1% RH per year; additional reversible RH drift up to 3% can occur when average RH exceeds 70%

Environment: RH sensor designed for outdoor environments with cyclical high/low humidity levels. Intermittent condensation permitted at temperatures < 30°C (86°F). Operation outside sensor failure, or repeated sensor saturation will cause premature sensor failure. Protect sensor from rain, splashing, mist and airborne chemicals such as salt and ammonia.
 Temperature Sensor Operating Range: -40° to 75°C (-40° to 167°F)

Response time: Temp: 8 minutes, RH: 5 minutes — typical to 90% in 2 m/sec airflow

Data channels: 2
 Measurement Averaging: No
 Housing: Stainless steel
 Dimensions: 1.6 cm x 8.6 cm (0.625" x 3.5")
 Cable lengths: 2 m, 6 m, 17 m (6.5', 20', 56')
 Weight: 60 g, 140 g, 370 g (2 oz, 5 oz, 13 oz)



plot a

8-bit Temperature* (Part # S-TMA-M0XX)

Measurement Range: -40° to 75°C (-40° to 167°F)
 Accuracy: ± 0.7° @ 25°C (1.3° @ 77°F) (see plot a)
 Resolution: 0.4° @ 25°C (0.7° @ 77°F)

Drift: < 0.1°C (0.2°F) per year
 Environment: Sensor tip and cable rated for 1-year immersion in fresh water ≤ 50°C (122°F)

Response time: < 2 minutes typical to 90%, in 2 m/sec airflow
 # Data channels: 1
 Measurement Averaging: No
 Housing: Stainless steel sensor tip
 Dimensions: 0.7 x 3.8 cm (0.28 x 1.5")
 Cable lengths: 2 m, 6 m, 17 m (6.5', 20', 56')
 Weight: 90 g, 140 g, 300 g (3.3 oz, 5.2 oz, 11.2 oz)—varies with length

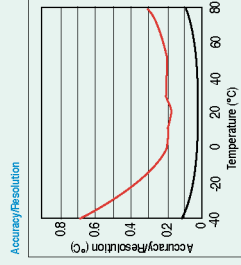


12-Bit Temperature* (Part # S-TMB-M0XX)

Measurement Range: -40° to 75°C (-40° to 167°F)
 Accuracy: ± 0.2° C from 0° to 50° C (± 0.36° F from 32° to 122° F)

Resolution: 0.03° C from 0° to 50° C (± 0.054° F from 32° to 122° F) (see plot b)
 Drift: < 0.1° C (0.2° F) per year
 Environment: Sensor tip and cable rated for 1-year immersion in fresh water ≤ 50° C (122° F)

Response Time: < 2 minutes typical to 90% in 2 m/sec airflow
 # Data channels: 1
 Measurement Averaging: Yes
 Housing: Stainless steel sensor tip
 Dimensions: 0.7 x 3.8 cm (0.28 x 1.5")
 Cable Lengths: 2 m, 6 m, 17 m (6.5', 20', 56')
 Weight: 90 g, 140 g, 300 g (3.3 oz, 5.2 oz, 11.2 oz)—varies with cable length



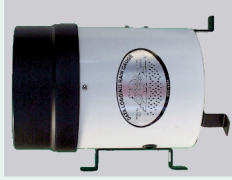
plot b

Rainfall

(0.01")*: Part # S-RGA-M00X, 0.2 mm: S-RGB-M00X

Mechanism: Tipping bucket, stainless steel shaft with brass bearings
 Measurement Range: 10 cm/hr or 0 to 5" per hour, maximum 4000 tips per interval
 Resolution: 0.2 mm (RGB) and 0.01" (RGA) models
 Calibration Accuracy: ± 1.0% at up to 20 mm/hour or up to 1"/hour
 Calibration: Annual calibration; calibrate in field by user or return to factory
 # Data channels: 1
 Housing: Aluminum housing and collector
 Dimensions: 22.8 x 15.4 cm (9 high x 6" diameter), 154 mm (6.06") receiving orifice
 Cable lengths: 2 m, 6 m (6.5', 20')
 Weight: 1 Kg (2 lbs)

Note: Comes with side bracket for post or tripod mount and feet for surface mount.



Wind Speed & Direction (Part # S-WCA-M003)

Measurement Range: 0-44 m/s (0-99 mph), Direction 0-358°, 2° dead band
 Speed Accuracy: greater of ± 0.5 m/s (1.1 mph) or ± 4% of reading
 Direction Accuracy: ± 5°

Resolution: 0.19 m/s, Direction 1.4 degrees
 Starting threshold: ≤ 0.5 m/s, (1.1 mph)
 Distance constant: 3 m (9.8), Direction: 0.8 m (2.6)
 Measurements: Average wind speed and direction, highest 3-second gust

Data channels: 3
 Housing: Anodized aluminum and stainless steel, fiberglass reinforced thermoplastic cups, shielded stainless steel ball bearings, wind vane with metal bushings
 Service Life: 2 to 5 year life typical
 Dimensions: 317 x 419 cm (12.5" x 16.5")
 Cable length available: 3 m (9.8')
 Weight: 700 g (1.5 lbs)

Note: Survival to 54 m/sec (120 mph). Cross arm recommended for mounting (pg. 34).



Wind Speed (Part # S-WSA-M003)

Measurement Range: 0 to 45 m/s (0 to 100 mph)
 Accuracy: ± 1.1 m/s (2.4 mph) or ± 4% of reading, whichever is greater
 Resolution: 0.38 m/s
 Starting threshold: ≤ 1 m/s (2.2 mph)
 Distance constant: 3 meters (9.8')
 Measurements: Average wind speed and highest 2 second gust in logging interval
 # Data channels: 2
 Housing: 3 cup anemometer with TEFLON® bearings, hardened beryllium shaft
 Service Life: > 5 year life typical
 Dimensions: 19.0 x 8.1 cm (7.5 x 3.2")
 Cable length available: 3 m (10')
 Weight: 300 g (10 oz)
 Note: Survival to 120 mph (54 m/sec). Cross arm (pg 34) or pole mount recommended (2x hose clamps required for pole mount)



Barometric Pressure for HOBO Weather Station (Part # S-BPA-CM10)

Measurement Range: 660 mb to 1070 mb (19.47 to 31.55 inHg)
 Accuracy: ± 1.5 mbar (0.044 inHg) over full pressure range at 25°C (77°F); additional temperature induced error of ± 2.5 mbar (0.074 inHg) over -10° to 60°C (14° to 140°F)
 Resolution: 0.1 mbar (0.003 inHg)
 Drift: Typical ± 0.6 mb (0.018 inHg) per year, maximum < 2.5 mb (0.074 inHg) per 6 months
 Measurement: Average over logging interval, user-defined sampling interval from 1 second
 # Data channels: 1
 Dimensions: 4.5 x 4.8 x 1.6 cm (1.75 x 1.88 x 0.63")
 Cable lengths available: 10 cm (4")
 Weight: 30 g (1 oz)

Note: Use inside logger enclosure to protect from direct exposure to the weather.



* Note: Radiation Shield (M-FSA) strongly recommended for use in sunlight. (pg. 34.)

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Photosynthetically Active Radiation (PAR) (Part # S-LIA-M003)

Measurement Range: 0 to 2500 $\mu\text{mol}/\text{m}^2/\text{sec}$,

Spectral Range: 400 to 700 nm

Accuracy: $\pm 5 \mu\text{mol}/\text{m}^2/\text{sec}$ or $\pm 5\%$, whichever is greater in sunlight.

Additional temperature induced error $\pm 0.75 \mu\text{mol}/\text{m}^2/\text{sec}/\text{degree C}$ from 25°C. Cosine corrected 0–80 degrees; Azimuth Error < 2% error at 45 degrees, 360 degree rotation.

Resolution: 2.5 $\mu\text{mol}/\text{m}^2/\text{sec}$

Drift: $\leq \pm 2\%$ per year

Calibration: factory recalibration

Measurement: average over logging interval, user-defined sampling interval from 1 second

Data channels: 1

Housing: anodized aluminum housing with acrylic diffuser and O-ring seal

Dimensions: 4.1 cm high x 3.2 cm diameter (1.63" x 1.25")

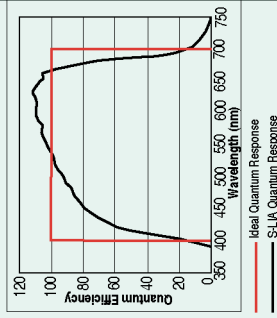
Weight: 120 g (4 oz)

Cable lengths available: 3 m (9.8')

Note: Light sensor bracket (M-LBA) and light sensor level (M-LLA) recommended (pg. 34)



Quantum Efficiency Curve (S-LIA-M003)



Silicon Pyranometer (Solar Radiation) (Part # S-LIB-M003)

Measurement Range: 0 to 1280 W/m^2

Accuracy: $\pm 10 \text{ W}/\text{m}^2$ or $\pm 5\%$, whichever is greater in sunlight. Additional temperature induced error $\pm 0.38 \text{ W}/\text{m}^2 / \text{°C}$ from 25°C (0.21 $\text{W}/\text{m}^2 / \text{°F}$ from 77°F)

Resolution: 1.25 W/m^2

Spectral Range: 300 to 1100 nm

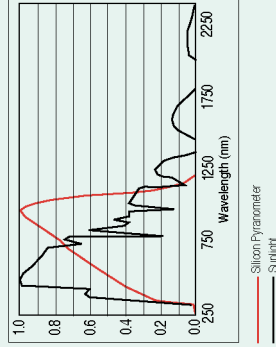
Cosine Response Error: $\pm 5\%$, 0–70 degrees, $\pm 10\%$, 70–80 degrees (from vertical)

Azimuth Error: $\leq 2\%$ error at 45 degrees from vertical, 360 degree rotation

Drift: $\leq \pm 2\%$ per year



Response Curve



Calibration: factory recalibration available

Measurement: average over logging interval, user-defined sampling interval from 1 second

Data channels: 1

Housing: anodized aluminum housing with acrylic diffuser and O-ring seal

Dimensions: 4.1 cm high x 3.2 cm diameter (1.63" x 1.25")

Weight: 120 g (4 oz)

Cable length available: 3 m (9.8')

Note: Light sensor bracket (M-LBA) and light sensor level (M-LLA) recommended.

12-bit 4-20mA Input Adapter (Part # S-CIA-CM14)

Measurement Range: 4–20 mA

(measures down to 0 mA to detect error conditions)

Measurement Accuracy: $\pm 40 \mu\text{A} \pm 0.3\%$ of reading

Resolution: 4.93 μA

Input Impedance: 124 ohms

Differential input

Choice of non-switched or switched input to save external battery power

Sensor Trigger Source: Voltage: 2.5 V $\pm 2.4\%$; maximum current: 1 mA

Trigger Timing: Warm-up Time: 300 ms $\pm 3\%$ (fixed)

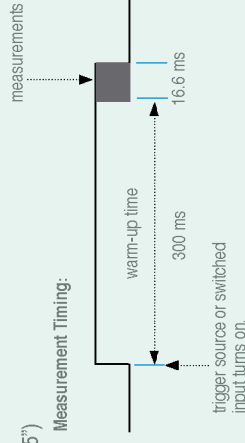
Measurement Time: 16.6 ms $\pm 3\%$ to filter out 60 Hz noise

Data channels: 1

Dimensions: 4.5 x 4.8 x 1.6 cm (1.8 x 1.9 x 0.6")

Weight: 25 g (0.88 oz)

Cable length: 14 cm (5.5")



12-bit Voltage Input Adapter (Part # S-VIA-CM14)

Measurement Range: 0–5 V DC

Measurement Accuracy: $\pm 10 \text{ mV} \pm 0.3\%$ of reading

Resolution: 1.221 millivolts

Measurement Averaging: yes

Input Impedance: 1 megohms

Sensor Trigger Open Collector: maximum sink current: 115 mA; 30 V max

Sensor Trigger Source: Voltage: 2.5 V $\pm 2.4\%$; maximum current: 1 mA

Trigger Timing: Warm-up Time: 10.3 ms $\pm 3\%$ (fixed)

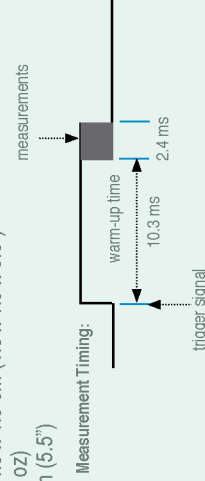
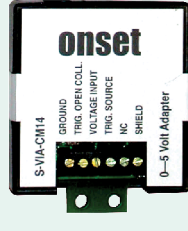
Measurement Time: 2.4 ms $\pm 3\%$

Data channels: 1

Dimensions: 4.5 x 4.8 x 1.6 cm (1.8 x 1.9 x 0.6")

Weight: 25 g (0.88 oz)

Cable length: 14 cm (5.5")



Pulse Input Adapters

(Part # S-UCA-M006 and S-JCB-M006)

The Pulse Input Adapters are ideal for connecting a wide range of sensors with pulse outputs such as tipping-bucket rain gauges, flow meters, power meters and gas meters. These adapters count the number of pulses per logging interval.

Electronic Switch Version (S-UCA-M006)

Compatibility: electronic switch closures, such as FET or open-collector outputs, or CMOS-level logic signals

Maximum input frequency: 120 Hz (120 pulses per second)

Lockout time: 45 $\mu\text{s} \pm 10\%$

Preferred pulse polarity*: active low

Contact Closure Version (S-JCB-M006)

Compatibility: contact closures, such as tipping-bucket rain gauges or reed switches

Maximum input frequency: 2 Hz (2 pulses per second)

Lockout time (for switch debounce): 327 ms $\pm 10\%$

Preferred switch type*: normally-open

Measurement Range: 0–4093 counts per logging interval (data must be exported for conversion to other units)

Minimum pulse width: 1 ms

Maximum input voltage: 3.6V

Minimum input voltage: -0.3V

Logic levels: low $\leq 0.6\text{V}$; high $\geq 2.7\text{V}$

Edge detection: falling edge

Input/Output impedance: 100 kilohms

User connection: 2-wire input (24 AWG wire; 2 wire nuts included)

Cable length: 6.5m (21 ft)

Weight: 310 g (11 oz)

Data Channels: 1

* Pulses of opposite polarity can be used, but battery usage rate will be higher.

All smart sensors are CE compliant when used with H21-00X loggers

smart sensors continued on pg 34

outdoor Smart Sensor Specifications

Leaf Wetness—NEW (Part # S-LWA-M003)

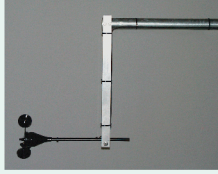


Measurement Range: 0 (dry) to 100% (wet)
 Sensor Type: Capacitive Grid
 No coating required
 Interchangeability between sensors
 (over the range 10-90%): $\pm 10\%$
 Repeatability: $\pm 5\%$
 Resolution: 0.59%
 Stability: $< \pm 5\%$ per year
 Operating Range: -40° to 70°C , (-40° to 158°F)
 # Data channels: 1
 Measurement averaging: No
 Dimensions:

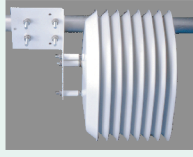
Sensor plate: 4.7 x 5.1 cm (1.8 x 2.0")
 Tube: 12.2 cm length x 1.8 cm diameter (4.8" x 0.7")
 Cable length: 3m (9.8')
 Weight: 127 g (4.5 oz) for sensor, and 290 g (10.2 oz) with mounting bracket
 Mounting bracket:
 20 cm long (8")
 Sensor can be positioned at any angle between 0° and 90° degrees (vertical).
 For mounting on Onset tripods or masts 3.2 to 4.1 cm (1 1/4 to 1 5/8"), Cross Arms (Part # M-CAA or M-CAB), or flat surfaces. U-bolt and tie-wraps included.

Sensor Mounting Accessories

Smart Sensor Extension Cables (Part # S-EXT-M0XX) Use individually or connected together to optimize sensor placement. Weatherproof cables available in 5, 10 and 25 m lengths with anti-snag RJ11 connectors. A weatherproof housing is required for outdoor connections (Part# S-EXT-CASE).



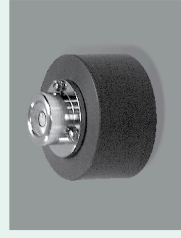
Cross Arm (Half: Part # M-CAB; Full: M-CAA)
 For use with Onset tripods or masts (pg 35), the cross arm assures unobstructed wind measurement. Half cross arm (49 cm or 19.2") provides mounting for one wind sensor. Full cross arm (91 cm or 36") offers additional sensor mounting hole/clamp.



Solar Radiation Shield (Part # M-RSA)
 Preassembled for quick deployment, the solar radiation shield is recommended for temperature and RH measurement accuracy in locations exposed to direct or reflected solar radiation. Mounts on tripods, masts or flat vertical surfaces.



Light Sensor Bracket (Part # M-LBA)
 The light sensor bracket is designed for use with tripods, masts or flat surfaces. Use to avoid obstructions and shadows that could affect your PAR or solar radiation measurements. Includes levelling screws.



Light Sensor Level (Part # M-LLA)
 Simply drop the light sensor level over the PAR or solar radiation sensor to determine if the sensor is level. Purchase one for use on any number of light sensors.

Smart Sensor Ordering

Description	Part No.
Temperature/RH Sensor	
2 m cable	S-THA-M002
6 m cable	S-THA-M006
17 m cable	S-THA-M017
12-Bit Temperature	
2 m cable	S-TMB-M002
6 m cable	S-TMB-M006
17 m cable	S-TMB-M017
8-Bit Temperature	
2 m cable	S-TMA-M002
6 m cable	S-TMA-M006
17 m cable	S-TMA-M017
Wind Speed/Direction	S-WCA-M003
Wind Speed	S-WSA-M003
Rain Gauge (0.1")	
2 m cable	S-RGA-M002
6 m cable	S-RGA-M006
Rain Gauge (0.2 mm)	
2 m cable	S-RGB-M002
6 m cable	S-RGB-M006
Soil Moisture Sensor	S-SMA-M003
Leaf Wetness Sensor	S-LWA-M003
PAR Sensor	S-LLA-M003
Silicon Pyranometer	S-LIB-M003
Barometric Pressure	S-BFA-CM10
4-20 mA Adapter*	S-CIA-CM14
0-5 VDC Adapter*	S-VIA-CM14
Pulse Input Adapter	
Electronic Switch	S-UCA-M006
Contact Closure	S-UCB-M006
Leaf Wetness Smart Sensor w/ bracket	
S-LWA-M003	
1-to-2 sensor adapter for Weather Station	S-ADAPT

Sensor Mounting Accessories

Smart Sensor Extension Cables (optional for use individually or combined)
 5 m length S-EXT-M005
 10 m length S-EXT-M010
 25 m length S-EXT-M025
 Weatherproof Connection Housing (required for outside connections)
 S-EXT-CASE
 Half Cross Arm M-CAB (recommended for use with wind sensors)
 Full Cross Arm M-CAA (recommended for use with wind sensors if additional sensor mounting area desired)
 Solar Radiation Shield M-RSA (for use with temperature and temp/RH sensors)
 Light Sensor Bracket M-LBA (for mounting PAR or solar radiation sensors on masts or flat vertical surfaces)
 Light Sensor Level M-LLA (recommended for installing PAR and solar radiation sensors)

Note: HOBO® Micro Station has 4 sensor inputs. HOBO Weather Station has 10 inputs, expandable to 15. Use of more than 10 sensors in a HOBO Weather Station requires one 1-to-2 sensor adapter for each sensor over 10. Both loggers have a 15 data channel maximum. For quantities over 99, call for pricing.
 * Sensor cables should be shielded, 3.2 to 3.8mm diameter (0.125 to 0.15")

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HOB0® Weather Station Tripods & Kits

HOB0 Weather Station Kits include our most popular Weather Station components pre-packaged for your ordering convenience.

HOB0 Weather Station Data Logger & Smart Sensor Kit

(Part # H21-SYS-A)

A basic “starter” system, this kit incorporates the HOB0 Weather Station Data Logger, Temperature/RH (S-THA-M002) and Wind Speed and Direction smart sensors (S-WCA-M003). This Kit includes recommended sensor mounting accessories; the Half Cross Arm (M-CAB) for the Wind Speed and Direction smart sensor and the Solar Radiation Shield (M-RSA) for the Temperature/RH sensor. Additional smart sensors can be added and will be recognized by the logger when plugged in. Software is sold separately.

2 Meter Tripod (Part # M-TPB)

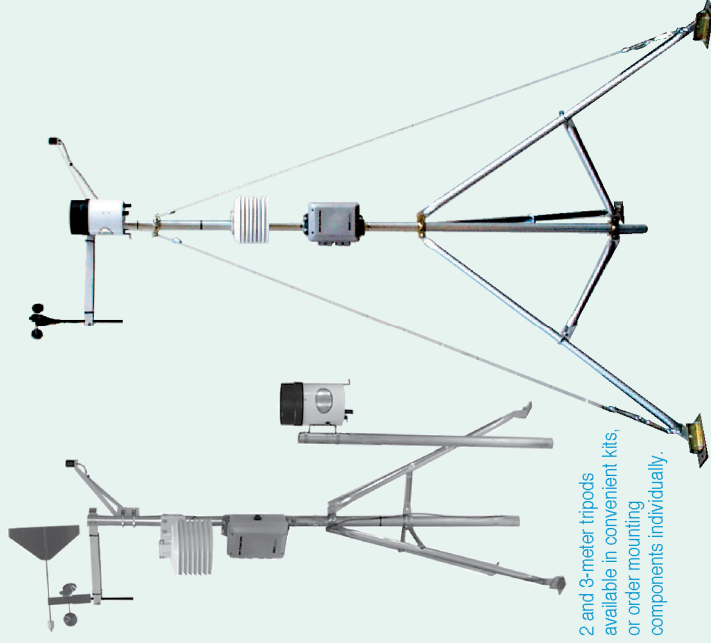
Cross Arm height range: 1.72 to 2.13 m (5.6' to 7')
Leg Height (to top of legs): 0.81 m (2.7')
Mast Diameter: 4.1 cm (1.63")
Tripod footprint: 51 cm (20")
Weight: 12.8 lbs.
Maximum slope: not adjustable for sloping surfaces

Note: Cross Arms, logger, sensors and radiation shield sold separately— or see Weather Station Kit above

Complete 2-Meter Tripod Kit

(Part # M-TPB-KIT)

Everything you'll need for a 2-meter tripod configuration of the HOB0 Weather Station or HOB0 Micro Station. The Kit includes a 2-meter tripod (M-TPB), Grounding Kit (M-GKA), Guy Wire Kit (M-GWA), 1/2" Stake Kit (M-SKA) for guy wires, 1/4" Stake Kit for tripod (M-SKB) and Mast Level (M-MLA).



2 and 3-meter tripods available in convenient kits, or order mounting components individually.

3 Meter Tripod (Part # M-TPA)

Cross arm height range: 2.74 to 3.20m (9 to 10.5')
Leg height (to top of legs): 1.32 m (4.3')
Mast diameter: 4.1 cm (1.63")
Tripod footprint: 91 cm (3')
Weight: 28 lbs.
Maximum slope: 13 degrees for installation on moderately uneven ground

Note: Cross arms, logger, sensors and radiation shield sold separately— or see Weather Station Kit at left.

Complete 3-Meter Tripod Kit

(Part # M-TPA-KIT)

This kit includes everything needed for a 3-meter tripod for your HOB0 Weather Station or HOB0 Micro Station. The 3-meter tripod (M-TPA) accommodates moderately sloping terrain. The Kit includes Grounding Kit (M-GKA), Guy Wire Kit (M-GWA), 1/2" Stake Kit (M-SKA) and Mast Level (M-MLA).

HOB0 Weather Station Kits & Accessories Ordering

HOB0 Weather Station Kits

Description Part No.

HOB0 Weather Station Data Logger & Smart Sensor Kit H21-SYS-A

HOB0ware software and a Serial Interface Cable are required for operation of HOB0 Weather Station loggers. For use with USB ports, a USB-Serial Adapter is also required (pg 49).

HOB0ware (Windows) Software BHW-PC
HOB0ware (Mac) Software BHW-MAC
Serial Interface Cable CABLE-PC-3.5
USB-Serial Adapter CABLE-USB232

HOB0 U-Shuttle (optional) U-DT-1

*The HOB0 Weather Station and HOB0 Micro Station are also compatible with BoxCar® Pro 4.3 software.

Complete 3-Meter Tripod Kit M-TPA-KIT
Complete 2-Meter Tripod Kit M-TPB-KIT

Tripods/Masts and Accessories

Description	Part No.
2 m Tripod with Mast (1/4" Stake Kit recommended)	M-TPB
3 m Tripod with Mast (1/2" Stake Kit recommended)	M-TPA
3 m Mast (1 5/8" diameter)	M-MPA
1.5 m Mast	M-MPB
Guy Wire Kit (for locations with winds > 50 mph or mounting rain gauge on tripods; requires 1/2" stake kit for use with 2 m tripod or 3 m mast)	M-GWA
1/4" Stake Kit	M-SKB
1/2" Stake Kit	M-SKA
Grounding Kit (recommended for locations prone to lightning; does not provide protection from direct strikes)	M-GKA
Mast Level (recommended for installing masts or tripods)	M-MLA