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 26 to 27. Complete your system with remote communications options, mounting tripods and accessories on pages 28-32.

Common Features:

Easy to Use

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)
BoxCar® Pro 4.3 software for system launch, data analysis, and file export
Optional battery-powered Radio Modem and Remote Modem are easy to connect, and provide on-demand or automated data offload.

Versatile

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).

Reliable

Loggers and sensors undergo rigorous environmental testing
Low-battery warnings
Non-volatile EEPROM memory retains data even if batteries fail

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

Research-Grade Accuracy

Detailed specifications for every sensor
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

Smart Sensors (specifications on pages 26-27)

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

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.

onset TEL: 1-800-LOGGERS (564-4377), FAX: 508-759-9100, sales@onsetcomp.com, www.onsetcomp.com

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

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

BoxCar®Pro-compatible

Compliant with all relevant directives in the European Union (EU)

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 cm x 23 cm x 10 cm (7" width x 9" height x 4" depth); 0.9 kg (2 lbs)

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

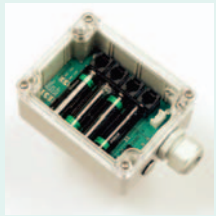
Mounting: Mast 4.1 cm (1 5/8" maximum diameter), available 2- and 3-meter tripods, or post mount

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



$199

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

Logger Size/Weight: 8.9 cm x 11.4 cm x 5.4 cm (3.5" width x 4.5" height x 2.125" depth); 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 logger $399

HOBO Weather Station and HOBO Micro Station Ordering

Description	Part No.	Qty. 1-4	5-24	25-49	50-99
HOBO Weather Station Logger (includes manual)					
	H21-001	$399	$379	$359	$339
HOBO Weather Station Data Logger & Smart Sensor Kit (see details pg 29)					
	H21-SYS-A	$1149	$1092	$1034	$977
HOBO Micro Station Logger					
	H21-002	$199	$189	$179	$169
HOBO Micro Station Logger Manual					
	MAN-H21-002	No Charge			
HOBO Micro Station Mast Mounting Kit					
	M-MKA	$25	$24	$23	$21
HOBO Micro Station Grounding Wire (required for use with Wind Speed/Direction sensor or tripod mounting)					
	CABLE-HWS-G	$19	$18	$17	$16
Micro Station Adapter Cable (includes Grounding Wire)					
	CABLE-HWS-F	$45	$43	$41	$38
Lithium Batteries	HWSB-LI	$20	$19	$18	$17

Software & Communication		Qty.1-9	10-99	100+
BoxCar Pro 4.3* Starter Kit				
	BCP4.3-ON	$95	$88	$81
USB-Serial Adapter				
	CABLE-USB232	$45	$42	$38

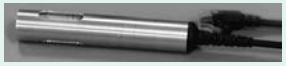
		Qty. 1-4	5-24	25-49	50-99
Weatherproof Comm. Cable					
2 m	CABLE-HWS2	$20	$19	$18	$17
17 m	CABLE-HWS17	$40	$38	$36	$34

**BoxCar Pro 4.3 Starter Kit is required to operate the HOBO Weather Station and HOBO Micro Station. Each Starter Kit includes software, PC interface cable and software manual. Use with USB port requires USB-Serial Adapter (pg. 43) and BoxCar Pro 4.3+.*

outdoor
Smart Sensor Specifications

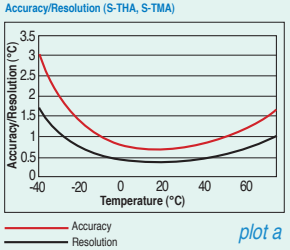
Temperature/RH* (Part # S-THA-M0XX)

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)



$135

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 stated limits, 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 8.9 cm (0.625" x 3.5")
Cable lengths: 2 m, 6 m, 17 m (6.5', 20', 56')



plot a

Weight: 60 g, 140 g, 370 g (2 oz, 5 oz, 13 oz)

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)

$75

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 cm 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

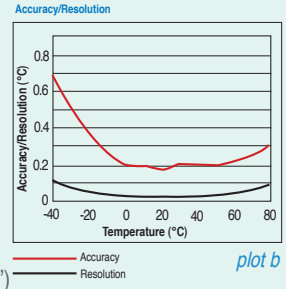
*Note: Radiation Shield (M-RSA) strongly recommended for use in sunlight.(pg. 28.)

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)

$90

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')



plot b

Weight: 90 g, 140 g, 300 g (3.3 oz, 5.2 oz, 11.2 oz)—varies with cable length

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 cm x 15.4 cm (9" high x 6" diameter), 154 mm (6.06") receiving orifice

$385

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.

Soil Moisture (Part # S-SMA-M003)

Measurement Range: 0 to 0.405 m^3/m^3 volumetric water content (0 to 40.5 %)
Accuracy: ±0.031 m^3/m^3 (±3%) for most soils, 0° to 50°C (32° to 122°F); ±0.011 m^3/m^3 (±1%) with soil-specific calibration
Resolution: 0.0004 m^3/m^3 (0.04%)
Environment: -40° to 50°C (-40° to 122°F)
Data channels: 1
Measurement Averaging: Yes
Service Life: 3-5 years typical

$150

Probe Dimensions: 25.4 x 3.2 x 0.15 cm (10 x 1.25 x 0.06 ")
Cable length: 3.0 m (9.8 ft)
Weight: 112 grams (4 oz)

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

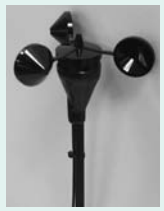
Measurement Range: 0-44 m/s (0-99 mph), Direction 0-358°, 2° dead band
Speed Accuracy: greater of ± 0.5 m/s (1.1 mph) or ±4% of reading
Direction Accuracy: ±5°
Resolution: 0.19 m/s, Direction 1.4 degrees
Starting threshold: ≤0.5 m/s, (1.1 mph)
Distance constant: 3 m (9.8'), Direction: 0.8 m (2.6')
Measurements: 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 cm x 419 cm (12.5" x 16.5")
Cable length available: 3 m (9.8')
Weight: 700 g (1.5 lbs)

$495

Note: Survival to 54 m/sec (120 mph). Cross arm recommended for mounting (pg. 28).

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)



$199

Note: Survival to 120 mph (54 m/sec). Cross arm (pg 28) 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 cm x 4.8 cm x 1.6 cm (1.75" x 1.88" x 0.63")
Cable lengths available: 10 cm (4")
Weight: 30 g (1 oz)

$119

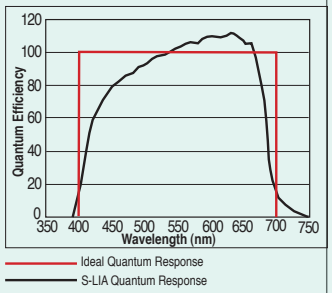
Note: Use inside logger enclosure to protect from direct exposure to the weather.

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

$210

Measurement Range: 0 to 2500 µmol/m²/sec,
Spectral Range: 400 to 700 nm
Accuracy: ± 5 µmol/m²/sec or ± 5%, whichever is greater in sunlight. Additional temperature induced error ± 0.75 µmol/m²/sec/degree C from 25°C. Cosine corrected 0—80 degrees; Azimuth Error < 2% error at 45 degrees, 360 degree rotation.
Resolution: 2.5 µmol/m²/sec
Drift: < ± 2% per year
Calibration: factory recalibration
Measurement: average over logging interval, user-defined sampling interval from 1 second

Quantum Efficiency Curve (S-LIA-M003)



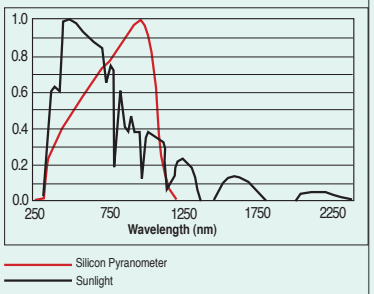
Data channels: 1
Housing: anodized aluminum housing with acrylic diffuser and O-ring seal
Dimensions: 4.1 cm height x 3.2 cm diameter (1.63" x 1.25")
Weight: 120 g (4 oz)
Cable lengths available: 3 m (9.8')
Note: Light sensor bracket (M-LBA) and light sensor level (M-LLA) recommended (pg. 28)

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

$199

Measurement Range: 0 to 1280 W/m²
Accuracy: ± 10 W/m² or ± 5%, whichever is greater in sunlight. Additional temperature induced error ± 0.38 W/m² /°C from 25°C (0.21 W/m² /°F from 77°F)
Resolution: 1.25 W/m²
Spectral Range: 300 to 1100 nm
Cosine Response Error: ± 5%, 0-70 degrees, ± 10%, 70-80 degrees (from vertical)
Azimuth Error: <± 2% error at 45 degrees from vertical, 360 degree rotation
Drift: <± 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.

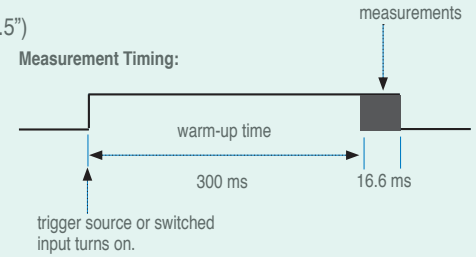
12-bit 4-20mA Input Adapter (Part # S-CIA-CM14)

Measurement Range: 4-20 mA (measures down to 0 mA to detect error conditions)
Measurement Accuracy: ±40µA ±0.3% of reading
Resolution: 4.93 µA
Measurement Averaging: yes
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 ±2.4%; maximum current: 1 mA
Trigger Timing:
Warm-up Time: 300 ms ±3% (fixed)
Measurement Time:
16.6 ms ±3% to filter out 60 Hz noise

$79

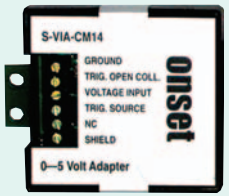
Data channels: 1
Dimensions: 4.5 x 4.8 x 1.6 cm (1.8 x 1.9 x 0.6")
Weight: 25 g (0.88 oz)
Cable length:14 cm (5.5")

Measurement Timing:



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

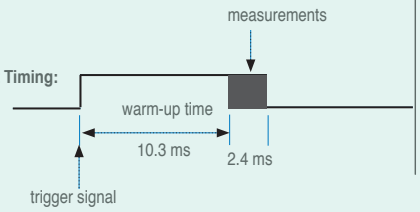
Measurement Range: 0-5 V DC
Measurement Accuracy: ±10mV ±0.3% of reading
Resolution: 1.221 millivolts
Measurement Averaging: yes
Input impedance: 1 megohms
Sensor Trigger Open Collector: maximum sink current: 115 mA; 30 V max
Sensor Trigger Source: Voltage: 2.5 V ±2.4%; maximum current: 1 mA
Trigger Timing:
Warm-up Time: 10.3 ms ±3% (fixed)
Measurement Time: 2.4 ms ±3%



$69

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")

Measurement Timing:



$65

Pulse Input Adapters

(Part #'s S-UCA-M006 and S-UCB-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 µs ±10%
Preferred pulse polarity*: active low

Contact Closure Version (S-UCB-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 +/-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 ≤ 0.6V; high ≥2.7V
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.

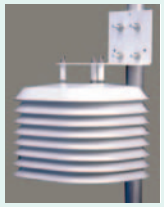
Sensor Mounting Accessories

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 29), 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.

M-CAB $30, M-CAA $45

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.



M-RSA $90

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.

M-LBA $20

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.

M-LLA $20

Smart Sensor Ordering

Description	Part No.	Qty. 1-4	5-24	25-49	50-99
Temperature/RH Sensor					
2 m cable	S-THA-M002	$135	$128	$122	$115
6 m cable	S-THA-M006	$145	$138	$131	$123
17 m cable	S-THA-M017	$155	$147	$140	$132
12-Bit Temperature					
2 m cable	S-TMB-M002	$90	$86	$81	$77
6 m cable	S-TMB-M006	$100	$95	$90	$85
17 m cable	S-TMB-M017	$110	$105	$99	$94
8-Bit Temperature					
2 m cable	S-TMA-M002	$75	$71	$68	$64
6 m cable	S-TMA-M006	$85	$81	$77	$72
17 m cable	S-TMA-M017	$95	$90	$86	$81
Wind Speed/Direction	S-WCA-M003	$495	$470	$446	$421
Wind Speed	S-WSA-M003	$199	$189	$179	$169
Rain Gauge (.01"),					
2 m cable	S-RGA-M002	$385	$366	$347	$327
6 m cable	S-RGA-M006	$395	$375	$356	$336
Rain Gauge (0.2 mm),					
2 m cable	S-RGB-M002	$385	$366	$347	$327
6 m cable	S-RGB-M006	$395	$375	$356	$336
Soil Moisture Sensor	S-SMA-M003	$150	$143	$135	$128
PAR Sensor	S-LIA-M003	$210	$200	$189	$179
Silicon Pyranometer	S-LIB-M003	$199	$189	$179	$169
Barometric Pressure	S-BPA-CM10	$119	$113	$107	$101
4-20 mA Adapter*	S-CIA-CM14	$79	$75	$71	$67
0-5 VDC Adapter*	S-VIA-CM14	$69	$66	$62	$59
Pulse Input Adapter					
Electronic Switch	S-UCA-M006	$65	$62	$59	$55
Contact Closure	S-UCB-M006	$65	$62	$59	$55
1-to-2 sensor adapter for Weather Station	S-ADAPT	$5	$5	$4	$4

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")*

Sensor Mounting Accessories

Description	Part No.	Qty. 1-4	5-24	25-49	50-99
Smart Sensor Extension Cables (optional for use individually or combined)					
5 m length	S-EXT-M005	$25	$24	$23	$21
10 m length	S-EXT M010	$30	$29	$27	$26
25 m length	S-EXT-M025	$40	$38	$36	$34
Weatherproof Connection Housing *(required for outside connections)*	S-EXT-CASE	$20	$19	$18	$17
Half Cross Arm *(recommended for use with wind sensors)*	M-CAB	$30	$29	$27	$26
Full Cross Arm *(recommended for use with wind sensors if additional sensor mounting area desired)*	M-CAA	$45	$43	$41	$38
Solar Radiation Shield *(for use with temperature and temp/RH sensors)*	M-RSA	$90	$86	$81	$77
Light Sensor Bracket *(for mounting PAR or solar radiation sensors on masts or flat vertical surfaces)*	M-LBA	$20	$19	$18	$17
Light Sensor Level *(recommended for installing PAR and solar radiation sensors)*	M-LLA	$20	$19	$18	$17

HOBO Weather Station Tripods & Kits

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

HOBO Weather Station Data Logger & Smart Sensor Kit

(Part # H21-SYS-A—$1149)

A basic "starter" system, this kit incorporates the HOBO 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. BoxCar® Pro 4.3 software is sold separately.

2 Meter Tripod (Part # M-TPB—$40)

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—$150)

Everything you'll need for a 2-meter tripod configuration of the HOBO Weather Station or HOBO 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—$140)

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—$240)

This kit includes everything needed for a 3-meter tripod for your HOBO Weather Station or HOBO Micro Station. The 3-meter tripod (M-TPA) accommodates moderately sloping terrain. The Kit includes Grounding Kit (M-GKA), Guy Wire Kit (M-GWA), ½" Stake Kit (M-SKA) and Mast Level (M-MLA).

HOBO Weather Station Kits & Accessories Ordering

HOBO Weather Station Kits

Description	Part No.	Qty. 1-4	5-24	25-49	50+
HOBO Weather Station Data Logger & Smart Sensor Kit	H21-SYS-A	$1149	$1092	$1034	$977
Complete 3-Meter Tripod Kit	M-TPA-KIT	$240	$228	$216	$204
Complete 2-Meter Tripod Kit	M-TPB-KIT	$150	$143	$135	$128

Tripods/Masts and Accessories

Description	Part No.	Qty. 1-4	5-24	25-49	50+
2 m Tripod with Mast (1/4" Stake Kit recommended)	M-TPB	$40	$38	$36	$34
3 m Tripod with Mast (1/2" Stake Kit recommended)	M-TPA	$140	$133	$126	$119
3 m Mast (1 5/8" diameter)	M-MPA	$40	$38	$36	$34
1.5 m Mast	M-MPB	$20	$19	$18	$17
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	$35	$33	$32	$30
1/4" Stake Kit	M-SKB	$10	$10	$9	$9
1/2" Stake Kit	M-SKA	$25	$24	$23	$21
Grounding Kit *(recommended for locations prone to lightning; does not provide protection from direct strikes)*	M-GKA	$29	$28	$26	$25
Mast Level *(recommended for installing masts or tripods)*	M-MLA	$12	$11	$11	$10