HOBO U30 Remote Monitoring Systems

- **Web-based environmental monitoring**
- **All electronics housed within a research-grade, tamperproof enclosure**
- **Setup is quick and easy with plug-and-play sensors**
- **GSM Cellular, Wi-Fi and non-wireless options available**

Available Models Include:

HOBO® U30/GSM

- Internet access to real-time data
- Double weather proof, tamperproof enclosure
- Connect sensors, plug in battery, and go!

HOBO U30/Wi-Fi

- Connect sensors, plug in battery, and go!
- Ruggedized hardware, with integrated Wi-Fi
- Get notified of problems via cell phone or e-mail

HOBO U30/NRC

- Fast data offload via direct USB
- Optional analog inputs with sensor excitation

HOBO U30/ETH

- Remote access to real-time data over Ethernet
- Connect sensors, plug in battery, and go!

Learn More:
See specifications on page 6
See comparison chart on page 8
See pricing on pages 14-15

Research-grade dependability

The HOBO Remote Monitoring Systems deliver high accuracy measurements you can count on — in even the harshest environmental conditions. All at a fraction of the cost of competitive solutions.

Incorporating patented technology, all systems' electronics are housed within a rugged double-weatherproof, tamperproof enclosure. This provides twice the protection and ensures years of reliable monitoring performance.

The HOBO Remote Monitoring System offers GSM cellular, Wi-Fi and non-wireless communications options.

Fast, easy deployment

The systems' plug-and-play architecture enables any combination of Smart Sensors to be plugged in without extensive user programming, wiring, or calibration.

See our outdoor monitoring systems comparison chart on page 8.
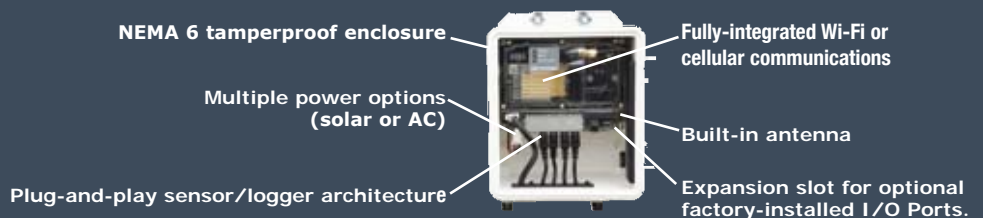
Wide range of measurements

The HOBO U30 Remote Monitoring System can be configured with any of the following research-grade Smart Sensors (see page 9 for details):

- Temperature
- Relative Humidity
- Rainfall
- Soil Moisture
- Wind Speed & Direction
- Leaf Wetness
- PAR
- Solar Radiation
- Pulse Input
- Barometric Pressure

An optional analog sensor port provides two analog inputs, and power with user-selectable warm-up time.

NEMA 6 tamperproof enclosure

Multiple power options (solar or AC)

Plug-and-play sensor/logger architecture

Fully-integrated Wi-Fi or cellular communications

Built-in antenna

Expansion slot for optional factory-installed I/O Ports.

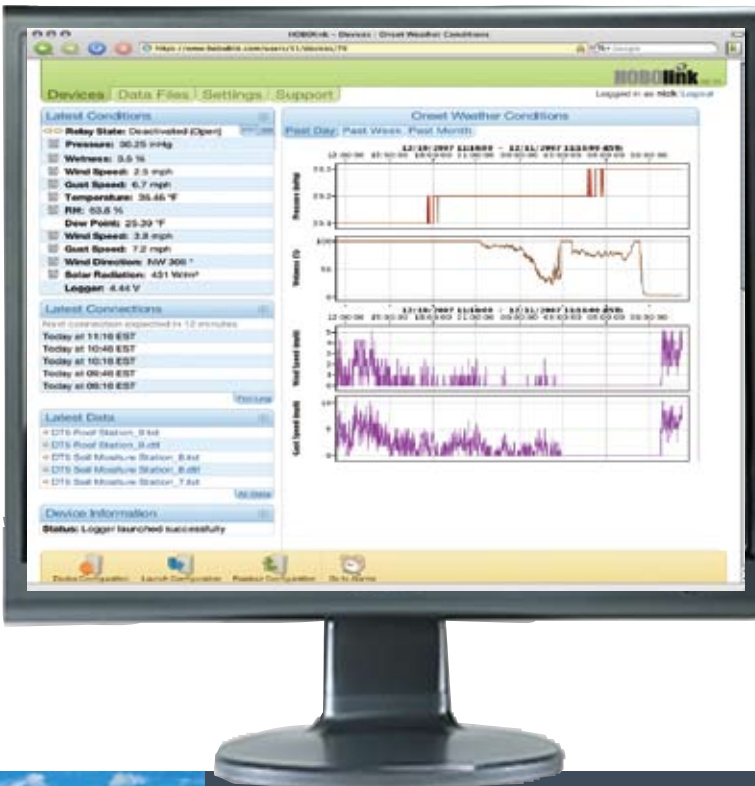## HOBOlink®

HOBOlink is a web-enabled software designed for HOBO U30 GSM, Ethernet, and Wi-Fi models. It allows you to easily access current and historical data, set alarm notifications, and relay activations, quickly view your data, and manage and control your HOBO U30 Remote Monitoring Systems.

A secure web-based platform, HOBOlink provides users with password-protected accounts and 128-bit encrypted connection. You can keep your data entirely private, or make it accessible to others with a "Public Access" feature. Data can be provided in either text or HOBOware® Pro format.

Network Compatible

at&t

T··Mobile·
authorized dealer

HOBOlink can automatically notify you via cell phone text message or e-mail when conditions exceed user-defined limits or if there is a sensor failure or low battery.

Technical Specifications

GSM Wireless Communication	Quad-Band GSM/GPRS 850/900/1800/1900 MHz
Wi-Fi Wireless Communication	2.412 - 2.484 GH_3 IEEE 802.11 b/g
Alarm Relay	Can be activated, deactivated or pulsed on user-defined sensor alarms. The relay can be configured as normally open or normally closed, (30V, 1A Max)
Alarm Notification Latency	Logging interval plus 2 to 4 minutes (typical)
Certifications	FCC Certified. Check www.onsetcomp.com for the latest certifications. CE
Smart-Sensor Inputs	5 or 10
Data Channels	Maximum of 15 (some sensors use more than one data channel)
Sensor Network Cable Length	100 m (328 ft) maximum
Normal Operating Range	-20 to 40°C (-4 to 104°F)
Extended Operating Range	-40 to 60°C (-40 to 140°F) see battery life, Note: the GSM module will not communicate below -30°C (-22°F)
Local Communication	USB
Data Storage Memory	512K bytes local storage in non-volatile flash memory
Operational Indicators	LEDs show status of sensors, logging, alarms, and remote communication
Logging Interval	1 minute to 18 hours, user-specified
Station-to-Internet Upload Interval	10 minutes minimum, user-specified
Power	An Onset solar panel (1.2 w, 3 w, 6 w) or AC adapter is required
Battery Type	4 Volt, 10 AHr, Rechargeable Sealed Lead Acid
Battery Life	Typical 3-5 years depending upon conditions of use. Regular operation outside of the normal operating range will reduce battery life to 1-2 years
Environmental Rating	Weatherproof; tested to NEMA 6
Dimensions	17.8 H x 11.7 D x 19.3 W cm (7.0 H x 4 .6 D x 7.6 W inches)
Weight	2 kg (4.30 lbs)
Mounting	Up to 1.63 in (4.1 cm) mast or wall mount
Enclosure Access	Hinged door secured by two latches, which can be further secured with user-supplied padlocks

Optional Analog Sensor Port

Inputs	2 channels - User-configured as either 0-20 mA or 0-20 VDC
Sensor Power	Switched 12 VDC, up to 50 mA: user-selectable warm-up from 5 milliseconds to 2 minutes
Scaling	Linear scaling to user units
Accuracy	±0.25% full scale

Designed for stand-alone datalogging applications, HOBO Weather Stations offer reliable monitoring performance at industry-leading prices. Both the 15-channel HOBO Weather Station and 4-channel HOBO Micro Station accept Onset's full suite of plug-and-play Smart Sensors, and are battery-powered for up to one year.

The HOBO Weather/Micro Station can be configured with any of the following research-grade Smart Sensors (see page 9 for details):

- **Temperature**
- **Relative Humidity**
- **Rainfall**
- **Soil Moisture**
- **Wind Speed & Direction**
- **Leaf Wetness**
- **Barometric Pressure**
- **PAR**
- **Solar Radiation**
- **Pulse Input**
- **Voltage Input**
- **4-20mA Input**

HOBO Weather Station

H21-001
18 x 23 x 10 cm
(7 x 9 x 4 in)
0.9 kg (2 lbs)

- Up to 15 inputs for maximum system flexibility
- 10 sensor inputs, expandable to 15 with optional 1-to-2 sensor adapters
- Up to 10 voltage or 4-20 mA input adapters
- Built-in weatherproof communication port for use with remote communication accessories
- Mast mounting brackets included

HOBO Micro Station

H21-002
8.9 x 11.4 x 5.4 cm
(3.5 x 4.5 x 2.125 in)
0.5 kg (1 lb)

- Compact and low-cost with 4 sensor inputs
- Up to 2 voltage or 4-20mA input adapters
- Optional Adapter Cable (CABLE-HWS-F) required for connection to Onset-approved remote communications accessories
- Mount on 3.5 inch wide post; use optional mast mounting kit (M-MKA) for tripod (either CABLE-HWS-G or CABLE-HWS-F is required for mast mounting to provide proper grounding)

Common Specifications

Memory:	512K non-volatile data storage
Logging interval:	1 second to 18 hours, user-selectable
Battery life:	1 year (typical) — up to 10 sensors with 10-minute or longer logging interval
Operating range and battery type:	-20° to 50°C (-4° to 122°F) 4-AA alkaline batteries — standard -40° to 70°C (-40° to 158°F) 4-AA lithium batteries — optional
Sensor network cable length:	100 m (328 ft) maximum CE

Several remote communications options are available for the HOBO Weather Station and Micro Station. See onsetcomp.com for details.

Learn More:
See pricing and ordering information on pages 13

HOBO Outdoor Monitoring Systems

	HOBO Remote Monitoring System/GSM	HOBO Remote Monitoring System/Wi-Fi	HOBO Remote Monitoring System/Ethernet	HOBO Remote Monitoring System/NRC	HOBO Weather Station	HOBO Micro Station
Poduct Number	U30-GSM	U30-WIF	U30-ETH	U30-NRC	H21-001	H21-002
Price						
Remote Communications	Yes	Yes	Yes	No	No	No
Internet access to real-time data	Yes	Yes	Yes	No	No	No
Enclosure	Double weatherproof tamperproof	Double weatherproof tamperproof	Double weatherproof tamperproof	Double weatherproof tamperproof	Weatherproof	Weatherproof
Fully-integrated, expandable communications	Yes	Yes	Yes	No	No	No
* Solar power with rechargeable batteries	Yes*	Yes*	Yes	Yes*	No	No
Optional analog inputs with configurable sensor power	2	2	2	2	No	No
Smart Sensor compatible	Yes	Yes	Yes	Yes	Yes	Yes
# of inputs	5 expandable to 15	5 expandable to 15	5 expandable to 15	5 expandable to 15	10 expandable to 15	4
USB connectivity	Yes	Yes	Yes	Yes	Requires Adapter	Requires Adapter
Operating Range	- 20 to 40C normal operation - 40 to 60C extended range (some limitations)	-20 to 40C normal operation - 40 to 60C extended range (some limitations)	- 20 to 40C normal operation - 40 to 60C extended range (some limitations)	- 20 to 40C normal operation - 40 to 60C extended range (some limitations)	- 20 to 50C standard - 40 to 70C with optional Lithium batteries	- 20 to 50C standard - 40 to 70C with optional Lithium batteries
Battery Life Without External Power:	30 days (1hr connection interval)	30 days (1hr connection interval)	30 days (1hr connection interval)	6 months (typical)	1 year (typical)	1 year (typical)
Data Storage Memory:	Unlimited in HOBOlink	Unlimited in HOBOlink	Unlimited in HOBOlink	500,000 measurements	500,000 measurements	500,000 measurements

* Solar panel purchased separately.

Wind Speed & Direction
S-WCA-M003
3 m (9.8 ft) Cable

	Speed	Direction
Range:	0 to 44 m/s (0 to 99 mph)	0 to 358°, 2° dead band
Accuracy:	Greater of ± 0.5 m/s (1.1 mph) or ± 4% of reading	±5°
Resolution:	0.19 m/s (0.42 mph)	1.4°
Starting threshold:	≤0.5 m/s, (1.1 mph)	
Data channels:	3 (average wind speed, direction, and highest 3-sec gust)	

Survival to 54 m/s (120 mph)

Cross arm recommended for mounting. Grounding wire required for using this sensor with H21-002 Micro Station. Either the CABLE-HWS-G or CABLE-HWS-F can be used.

Wind Speed
S-WSA-M003
3 m (9.8 ft) Cable

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)
Data channels:	2 (average wind speed and highest 2 sec gust)

Survival to 54 m/sec (120 mph)

Cross arm or pole mount recommended (2x hose clamps required for pole mount). not recommended for use with The HOBO Remote Monitoring System.

Barometric Pressure
S-BPA-CM10
10 cm (4 in) Cable

Range:	660 mbar to 1070 mbar (19.47 to 31.55 in. Hg)
Accuracy:	± 3.0 mbar (0.088 in. Hg) over full pressure range at 25°C (77°F) Additional temperature induced error of ± 5.0 mbar (0.148 in. Hg)
Resolution:	0.1 mbar (0.003 in. Hg)

Use inside logger enclosure to protect from direct exposure to the weather; not recommended for use with The HOBO Remote Monitoring System.

Barometric Pressure
S-BPB-CM50
50 cm (20 in) Cable

Range:	660 mbar to 1070 mbar (19.47 to 31.55 in. Hg)
Accuracy:	± 3.0 mbar (0.088 in. Hg) over full pressure range at 25°C (77°F) Additional temperature induced error of ± 5.0 mbar (0.148 in. Hg)
Resolution:	0.1 mbar (0.003 in. Hg)

Includes cable ties for mast mounting
Recommended for use with The HOBO Remote Monitoring System.

Photosynthetically Active Radiation (PAR)
S-LIA-M003
3 m (9.8 ft) Cable

Range:	0 to 2500 µmol/m^2/sec
Spectral range:	400 to 700 nm
Accuracy:	± 5 µmol/m^2/sec or ± 5%, whichever is greater in sunlight, Cosine corrected 0 to 80 degrees
Resolution:	2.5 µmol/m^2/sec

Light sensor bracket (M-LBB) and light sensor level (M-LLA) recommended.

Silicon Pyranometer
S-LIB-M003
3 m (9.8 ft) Cable

Range:	0 to 1280 W/m^2
Spectral range:	300 to 1100nm
Accuracy:	± 10 W/m^2 or ± 5%, whichever is greater in sunlight, Cosine corrected 0 to 80 degrees
Resolution:	1.25 W/m^2

Light sensor bracket (M-LBB) and light sensor level (M-LLA) recommended.

Temperature/RH
S-THB-M00x
2 m, 8 m, (6.5 ft, 26 ft)
cable lengths available

Ranges:	-40° to 75°C (-40° to 167°F); 0 to 100% RH from -40° to 75°C (-40° to 167°F)
Accuracy:	± 0.2° @ 25°C (±0.36° @ 77°F); ± 2.5% typical, 3.5% maximum, from 10 - 90% RH
Resolution:	0.02° @ 25°C (0.04° @ 77°F); 0.1% RH @ 25°C (77°F)
Response time:	Temp: 8 minutes, RH: 5 minutes (to 90% in airflow of 1 m/s)
Data channels:	2

Solar radiation shield (RS3) recommended for accurate temperature measurements in sunlight.

12-bit Temperature
S-TMB-M0xx
2 m, 6 m, 17 m
(6.5 ft, 20 ft, 56 ft)
cable lengths available

Range:	-40° to 75°C (-40° to 167°F)
Accuracy:	± 0.2° from 0° to 50°C (±0.36° from 32° to 122°F)
Resolution:	0.03° from 0° to 50°C (0.054° from 32° to 122°F)
Environment:	Sensor tip and cable rated for 1-year immersion in fresh water ≤ 50°C (122°F)
Response time:	< 3 minutes (to 90% in airflow of 1 m/s)

Solar radiation shield (RS3) recommended for accurate temperature measurements in sunlight.

NIST-traceable temperature accuracy certification service available for all temperature sensors.

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

Rainfall
0.2 mm: S-RGB-M002
0.01in: S-RGA M002
Cable 2 m (6.5 ft)

Mechanism:	Tipping bucket, with 154 mm (6.06 in) receiving orifice
Range:	Up to 12.7 cm/hr or 5 in/h, maximum 4000 tips per interval
Resolution:	0.2 mm (S-RGB) and 0.01 in. (S-RGA)
Calibration accuracy:	±1.0% at up to 20 mm/hour or 1 in/hour

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

Leaf Wetness
S-LWA-M003
Sensor Plate 4.7 x 5.1 cm
(1.8 x 2.0 in)
Tube 12.2 cm x 1.8 cm diameter
(4.8 x 0.7 in) Cable 3 m (9.8 ft)

Range:	0 (dry) to 100% (wet)
Sensor Type:	Capacitive Grid
Repeatability:	±5%
Resolution:	0.59%

Includes mounting bracket. Adjustable angle allows better matching to leaf characteristics.

Soil Moisture-ECHO-20
S-SMA-M005
254 x 32 x 1.0 mm
(10 x 1.25 x 0.04 in)
Cable 5 m (16 ft)

Range:	0 to 0.40 m^3/m^3 volumetric water content
Accuracy:	Typical: ±0.041 m^3/m^3 (±4%) up to 1ds/m, ±0.020 m^3/m^3 (±2%) with soil-specific calibration
Resolution:	±0.0004 m^3/m^3 (±0.04%)

Soil Moisture-ECHO-10
S-SMB-M005
152 x 32 x 1.0 mm
(6 x 1.25 x 0.04 in)
Cable 5 m (16 ft)

Range:	0 to 0.40 m^3/m^3 volumetric water content
Accuracy:	Typical: ±0.041 m^3/m^3 (±4%) up to 1ds/m, ±0.020 m^3/m^3 (±2%) with soil-specific calibration
Resolution:	±0.0006 m^3/m^3 (±0.06%)

Soil Moisture-ECHO-5
S-SMC-M005
89 x 15 x 1.5 mm
(3.5 x 0.62 x 0.06 in)
Cable 5 m (16 ft)

Range:	-0.401 to 2.574 m^3/m^3 volumetric water content (full scale)
Accuracy:	Typical: ±0.031 m^3/m^3 (±3%) up to 8 ds/m, ±0.020 m^3/m^3 (±2%) with soil-specific calibration
Resolution:	±0.0007 m^3/m^3 (±0.07%)

4-20mA Input Adapter
S-CIA-CM14

Range:	0-20 mA
Accuracy:	±0.1 mA
Resolution:	±4.93 µA
	Choice of non-switched or switched input to save external battery power
Sensor trigger:	2.5 V

0-5V Input Adapter
S-VIA-CM14

Range:	0-5V DC
Accuracy:	±0.025V
Resolution:	1.221 millivolts
Sensor trigger:	Open collector or 2.5V

Pulse Input Adapter
Electronic Switch Version
S-UCC-M006

Compatibility:	Electronic switch closures (FET, open-collector outputs, or CMOS-level logic)
Maximum input frequency:	120Hz (120 pulses per second)
Range:	0-65,533 counts per logging interval
User connection:	2-wire input (24 AWG wire; 2 wire nuts included)
Preferred pulse polarity:	Active low

Pulse Input Adapter
Contact Closure Version
S-UCD-M006
6.5 m (21 ft) Cable

Compatibility:	Contact closures (tipping-bucket rain gauges or reed switches)
Maximum input frequency:	2Hz (2 pulses per second)
Range:	0-65,533 counts per logging interval
User connection:	2-wire input (24 AWG wire; 2 wire nuts included)
Preferred switch type:	Normally-open

- **Tripods and masts provide convenient system deployment**
- **Sensor mounting accessories provide proper spacing for accurate measurements**
- **Kits available for ordering convenience**

2 Meter Tripod*
#M-TPB
- Height range: 1.72 to 2.13 m (5.6 to 7 ft)
- Mast diameter: 4.1 cm (1.63 in)
- Weight: 5.8 kg (12.8 lbs)
  - *M-GKA Grounding Kit is recommended when using tripods in exposed locations.*

2 Meter Tripod Kit
#M-TPB-KIT
- 2-meter tripod (M-TPB)
- Grounding Kit (M-GKA)
- Guy Wire Kit (M-GWA)
- 1/2 in. Stake Kit (M-SKA) for guy wires
- 1/4 in. Stake Kit for tripod (M-SKB)
- Mast Level (M-MLA)

3 Meter Tripod*
#M-TPA
- Height range: 2.74 to 3.20 m (9 to 10.5 ft)
- Mast diameter: 4.1 cm (1.63 in)
- Weight: 12.7 kg (28 lbs)
- Maximum slope: 13 degrees for installation on moderately uneven ground
  - *M-GKA Grounding Kit is recommended when using tripods in exposed locations.*

3 Meter Tripod Kit
#M-TPA-KIT
- 3-meter tripod (M-TPA)
- Grounding Kit (M-GKA)
- Guy Wire Kit (M-GWA)
- 1/2 in. Stake Kit (M-SKA) for guy wires
- Mast Level (M-MLA)

Cable Caddy
M-CDY
- Extends sensor cable life by securing extra cables inside it
- Provides a convenient place to mount the S-BPB barometric pressure sensor
- Includes U-bolt for mast mounting and 4 cable ties

Half Cross Arm
M-CAB
Half cross arm (49 cm or 19.2 in)

Solar Radiation Shield
RS3
Pre-assembled
For S-THBs, S-TMBs
includes clamp for mast mounting.

Light Sensor Bracket
M-LBB
Includes leveling screws
and u-bolts for mast mounting

Light Sensor Level
M-LLA
Purchase one for use on any number of light sensors.

Smart Sensor Extension Cables
S-EXT-M0xx
5 m, 10 m, 25 m
(16 ft, 33 ft, 82 ft)
cable lengths available
Use individually or connected together to optimize sensor placement. A weatherproof housing is required for outdoor connections
(Part# S-EXT-CASE $21).
Limited to 100 meters per data logger.

HOBO Weather Stations

HOBO Weather Station Logger	H21-001
HOBO Micro Station Logger	H21-002
HOBO Micro Station Mast Mounting Kit	
	M-MKA
HOBO Micro Station Grounding Wire	
	CABLE-HWS-G

(required for Wind Speed/Direction sensor or tripod mounting)

Micro Station Adapter Cable	CABLE-HWS-F

(includes Grounding Wire)

Lithium Batteries, 4 pack	HWSB-LI

Radio Modem, Remote Modem, Software and Accessories

2 m Weatherproof Comm. Cable	
	CABLE-HWS2
17 m Weatherproof Comm. Cable	
	CABLE-HWS17
Lithium Batteries, 4 pack	HWSB-LI

(for Remote Modem)

HOBO Micro Station Adapter Cable

CABLE-HWS-F

(required to connect remote communication to Micro Station)

SolarStream products are purchased directly from Upward Innovations at www.upwardinnovations.com.

Common to all Systems

Smart Sensor Ordering

Temperature/RH:

2 m cable	S-THB-M002
8 m cable	S-THB-M008

Temperature:

2 m cable	S-TMB-M002
6 m cable	S-TMB-M006
17 m cable	S-TMB-M017
Wind Speed/Direction	S-WCA-M003
Wind Speed	S-WSA-M003

Rain Gauge: (.01 in)

2 m cable	S-RGA-M002

Rain Gauge: (0.2 mm)

2 m cable	S-RGB-M002
Soil Moisture (ECH0-20)	S-SMA-M005
Soil Moisture (ECH0-10)	S-SMB-M005
Soil Moisture (ECH0-5)	S-SMC-M005
Leaf Wetness	S-LWA-M003
PAR	S-LIA-M003
Silicon Pyranometer	S-LIB-M003

Pulse Input Adapter:

-Electronic Switch	S-UCC-M006
-Contact Closure	S-UCD-M006
4-20mA Input Adapter	S-CIA-Cm14
0-5v Input Adapter	S-VIA-Cm14

HOBO Remote Monitoring System has 15 input data channels. The total smart-sensor cable length is limited to 100 m.

Sensor Mounting Accessories

Smart Sensor Extension Cables limited to 100 m of total cable length per logger *(optional for use individually or combined)*.

5 m length	S-EXT-M005
10 m length	S-EXT M010
25 m length	S-EXT-M025

Sensor Mounting Accessories (continued)

Weatherproof Connection Housing

S-EXT-CASE

(required for outside connections)

Half Cross Arm	M-CAB

(recommended for use with wind sensors)

Solar Radiation Shield	RS3

(for use with temperature and temp/RH sensors)

Light Sensor Bracket	M-LBB

(for mounting PAR and solar radiation sensors on masts or flat vertical surfaces)

Light Sensor Level	M-LLA

(recommended for installing PAR and solar radiation sensors)

Tripod/Masts and Accessories

2 m Tripod with Mast

(M-SKB recommended)	M-TPB
Complete 2 Meter Tripod Kit	M-TPB-KIT

3 m Tripod with Mast

(M-SKA recommended)	M-TPA
Complete 3 m Tripod Kit	M-TPA-KIT
1.5 m Mast	M-MPB
3 m Mast	M-MPA
Guy Wire Kit	M-GWA
1/4 in Stake Kit	M-SKB
1/2 in Stake Kit	M-SKA
Grounding Kit	M-GKA

(does not provide protection from direct lightning strikes)

Mast Level	M-MLA

(recommended for installing masts or tripods)

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HOBO Remote Monitoring Systems with GSM Communications	GSM Cellular to Internet	U30-GSM - ___ - __ -S100 - ___	
Sensor Port Options	No sensor port	000	included
	2-channel analog sensor port	VIA	
Smart Sensor Input Options	5 smart sensor inputs	05	included
	10 smart sensor inputs	10	
Battery Option	10 Ah rechargeable battery	S100	included
HOBOlink/T-Mobile Data Service*	10 minute calling (100MB)	102	
	20 calls per day (5 MB)	104	
	1 call per day (0.5 MB)	105	
HOBOlink/AT&T Data Service*	10 minute calling (50 MB)	202	
	20 minute calling (20 MB)	203	
	20 calls per day (5 MB)	204	
	1 call per day (0.5 MB)	205	

See onsetcomp.com for the latest selection of service plans.
*Early termination fees apply. A $200 fee will be assessed for terminating the service plan within 30 days. No refund will be applied for terminating the plan after 30 days.

HOBO Remote Monitoring Systems with Wi-Fi Communications**	Wi-Fi to Internet **	U30-WIF - ___ - __ - ____ - ___	
Sensor Port Options	No sensor port	000	included
	2-channel analog sensor port	VIA	
Smart Sensor Input Options	5 smart sensor inputs	05	included
	10 smart sensor inputs	10	
Battery Option	4.5 Ah rechargeable battery	S045	included
	10 Ah rechargeable battery required when using analog sensor port for sensor power	S100	
HOBOlink Data Service	10 minute upload (1 sec log)	001	
	10 minute upload (1 min log)	002	
	1 hr uploads (5 min log)	003	included

See onsetcomp.com for the latest selection of service plans.
***Pre-N routers are Preliminary and should not be used with U30 Wi-Fi Remote Monitoring Systems.*

HOBO Remote Monitoring Systems with Ethernet Communications	Ethernet to Internet	U30-ETH - ___ - __ - ____ - ___	
Sensor Port Options	No sensor port	000	included
	2-channel analog sensor port	VIA	
Smart Sensor Input Options	5 smart sensor inputs	05	included
	10 smart sensor inputs	10	
Battery Option	4.5 Ah rechargeable battery	S045	included
	10 Ah rechargeable battery required when using analog sensor port for sensor power	S100	
HOBOlink Data Service	10 minute upload (1 sec log)	001	
	10 minute upload (1 min log)	002	
	1 hr uploads (5 min log)	003	included

See onsetcomp.com for the latest selection of service plans.

HOBO Remote Monitoring Systems without remote communications	No remote communication	U30-NRC - ___ - __ - ____ - 000	
Sensor Port Options	No sensor port	000	included
	2-channel analog sensor port	VIA	
Smart Sensor Input Options	5 smart sensor inputs	05	included
	10 smart sensor inputs	10	
Battery Options	4.5 Ah rechargeable battery	S045	included
	10 Ah rechargeable battery required when using analog sensor port for sensor power	S100	
Data Plan	No data plan needed	000	N/A

Software (one required)   HOBOware Pro (Windows®/Mac®)   BHW-PRO-CD

Power Source Options

1.2 Watt Solar Panel — for sunny locations and/or locations with low data transfer requirements (readout every 2 hours or longer) — SOLAR-1.2W

3.0 Watt Solar Panel — for moderately sunny locations and/or medium data transfer requirements (such as hourly readout). — SOLAR-3W

6.0 Watt Solar Panel — for cloudy locations and/or high data transfer requirements (faster than 15 minute readouts) — SOLAR-6W

AC Power Adapter — (120V, 60Hz) for locations with AC power available the adapter is not weatherproof. — AC-U30

AC Power Adapter (EU) — (240V, 50Hz) for locations with AC power available the adapter is not weatherproof. — AC-U30-EU

Smart Sensors

Temperature
2-m cable	S-TMB-M002
6-m cable	S-TMB-M006
17-m cable	S-TMB-M017

Temp/RH
2-m cable	S-THB-M002
8-m cable	S-THB-M008
Wind Speed/Directiion	S-WCA-M003
Rain Gauge: (.01 in)	S-RGA-M002
Rain Gauge: (0.2 mm)	S-RGB-M002
Soil Moisture (ECHO 20)	S-SMA-M005
Soil Moisture (ECHO 10)	S-SMB-M005
Soil Moisture (ECHO 5)	S-SMC-M005
Leaf Wetness	S-LWA-M003
PAR	S-LIA-M003
Solar Radiation	S-LIB-M003
Barometric Pressure	S-BPB-CM50

Pulse Input Adapter:
-Electronic Switch	S-UCC-M006
-Contact Closure	S-UCD-M006

Sensors that requre Pulse Input Adapter

kWh
Wye config 208/240	T-WNB-3Y-208
Delta/Wye config 208/240	T-WNB-3D-240
Delta/Wye config 480	T-WNB-3D-480

Veris kWh
1-phase, 300 Amp	T-VER-8051-300
3-phase, 800 Amp	T-VER-8053-800
Pulse Input Adapter	S-UCC-M006

Sensors that require Analog Sensor Port

Ashcroft Gauge Pressure
100 psig	T-ASH-G2-100
200 psig	T-ASH-G2-200
500 psig	T-ASH-G2-500

Differential Air Pressure
0.25 in WC	T-SET-265-R25
1 in WC	T-SET-265-001
2.5 in WC	T-SET-265-2R5
5 in WC	T-SET-265-005
10 in WC	T-SET-265-010
CO_2/Temp	TEL-7001
CO_2/Temp Port Cable	CABLE-2070
kW	T-VER-8044-100
Duct-Mount Temp/RH	T-VAI-HMD-40Y
DC Amperage	T-VER-H970-080

Sensors that require True RMS Adapter

TRMS Module	S-FS-TRMSA-D

AC Amperage
0-5 Amp	T-MAG-SCT-005
0-20 Amp	T-MAG-SCT-020
0-50 Amp	T-MAG-SCT-050
0-100 Amp	T-MAG-SCT-100
0-200 Amp	T-MAG-SCT-200
0-600 Amp	T-MAG-SCT-600

AC Voltage
0-150 Volt	T-MAG-SPT-150
0-300 Volt	T-MAG-SPT-300
0-600 Volt	T-MAG-SPT-600

Tripod/Masts and Accessories

2m Tripod with Mast (M-SKB recommended)	M-TPB
Complete 2 Meter Tripod Kit	M-TPB-KIT
3m Tripod with Mast (M-SKA recommended)	M-TPA
Complete 3 Meter Tripod Kit	M-TPA-KIT
3 m Mast	M-MPA
1.5 m Mast	M-MPB
Guy Wire Kit	M-GWA
1/4 in. State Kit	M-SKB
1/2 in. State Kit	M-SKA
Grounding Kit	M-GKA

(does not provide protection from direct lightning strikes)

Mast Level	M-MLA

(recommended for installing masts or tripods)

Half Cross Arm	M-CAB

(recommended for use with wind sensors)

Solar Radiation Shield	RS3

(for use with temperature and temp/RH sensors)

Light Sensor Bracket	M-LBB

(for mounting PAR and solar radiation sensors on masts or flat vertical surfaces)

Light Sensor Level	M-LLA

(recommended for installing PAR and solar radiation sensors)

Smart Sensor Extension Cables
(total cable length of all sensor cables is limited to 100 m (300 ft)
2-m length	S-EXT-M002
5-m length	S-EXT-M005
10-m length	S-EXT-M010
25-m length	S-EXT-M025
1 to 2 Sensor Adapter	S-ADAPT-5

This allows a single Smart Sensor input to branch to two Smart Sensors.

Weatherproof Connection Housing	S-EXT-CASE

(required for outside connections)

Cable Caddy	M-CDY
Smart Sensor Extension	S-ADAPT-6