

Data Logging Systems Outdoor Environment

The HOBO U30 is a 15-channel data logging system for a broad range of energy and weather monitoring applications. Available in GSM, WiFi, Ethernet and stand-alone versions.

Supported Measurements

Energy: AC Current, AC Voltage, Air Velocity, Amp Hour (Ah), Carbon Dioxide, Compressed Air Flow , DC Current, DC Voltage, Differential Pressure, Gauge Pressure, kW, kWh, Power Factor (PF), Pulse Input, Temperature, Volatile Organic Compound (VOC), Volt-Amp Reactive (VAR), Volt-Amp Reactive Hour (VARh), Volt-Amps (VA), Volts (V), Water Flow, Watt Hours (Wh), Watts (W), 4-20mA, Amps (A), Relative Humidity

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

Key Advantages

- Web-based and stand-alone options available
- Plug-and-play Smart Sensors enable rapid deployment
- Double weatherproof, tamperproof enclosure designed for use in harsh environments
- Alarm capabilities via text, email
- Optional analog inputs with configurable sensor power
- Options for battery, solar, or AC power with battery backup

HOBO U30 Remote Monitoring System

*15 Channel Web-based Monitoring System/
Stand-alone Weatherstation*



Specifications: see next page

Model	U30-xxx	
Normal operating range	-20°C to 40°C	
Extended operating range	-40 to 60°C - see "Rechargeable Battery service Life" for impact of operations in extended operating range	
Sensor Inputs	5 standard; option to expand to 10	
Smart Sensor Compatibility	Compatible with most Onset smart sensors	
Data Channels	Maximum of 15 (some sensors use more than one data channel)	
Input Range	User-configurable: 0–20 mA DC, 0-2.5 VDC, 0-5 VDC, 0-10 VDC, or 0–20 VDC	
Alarm Output Relay	Can be configured to be activated, deactivated or pulsed on user-defined sensor alarms. The relay can be configured as normally open or normally closed, and is rated for 30 V and 1 amp max.	
Expansion Slot	One expansion slot is available for factory-installed expansion port.	
Local Communication	Full Speed USB via USB mini-B connector	
Size / Weight	17.8 H x 11.7 D x 19.3 W cm / 2 kg	
Materials	Outer Enclosure: Polycarbonate/PBT blend with stainless steel hinge pins and brass inserts Inner Enclosure: Polycarbonate with brass inserts U-Bolts: Steel with zinc dichromate finish Gaskets: Silicone rubber Cable entry channel: EPDM rubber Cable entry bars: Aluminum with ABS plastic thumb screws	
Data Storage Memory	Nonvolatile flash data storage, 512K bytes local storage	
Memory Modes	Stop when full, wrap around when full	
Operational Indicators	Up to seven (depending upon options) status lights provide basic diagnostics	
Logging Interval	1 second to 18 hours, user-specified interval	
Battery Type	4 Volt, 10 AHr Rechargeable sealed lead-acid	
Rechargeable Battery Service Life	Typical 3–5 years depending upon conditions of use. Operation within the extended operating range (but outside the normal range) will reduce battery service life.	
Time Accuracy	0 to 2 seconds for the first data point and ±5 seconds per week at 25°C	
Environmental Rating	Weatherproof enclosure, tested to NEMA 6. <i>(Requires proper installation of cable channel system)</i>	
Mounting	3.8 cm mast or wall mount	
Enclosure Access	Hinged door secured by two latches with eyelets for securing with user-supplied padlocks	
Alarm Notification Latency	Logging interval plus 2–4 minutes (typical). <i>Onset is not responsible for failed connections or undelivered mail/text messages.</i>	
Alarm Output Relay	One relay contact closure can be configured as normally open, normally closed, or pulsed.	
Voltage	30 V Current: 1 amp max.	
Sensor Network Cable Length	100 m maximum	
External Power	External power is required. The system optionally accepts the following Onset solar panels: SOLAR-1.2W, SOLAR-3W, SOLAR-6W. Alternatively it accepts an AC power adapter: AC-U30	
Part nrs.		
U30-GSM	Wireless Radio GSM Antenna Antenna Connector FCC Specification	Quad-Band GSM 850/900/1800/1900 MHz Internal Quad-Band Reverse Polarity SMA Approved for use in the USA, Contains FCC ID QIPTC65 Note: The GSM radio module will not communicate below -30°C
U30-WIF	Network Standards Frequency Range Antenna Connector Data Rates Radio Security Max. receive level Receiver Sensitivity Antenna Type	IEEE 802.11b ; IEEE 802.11g - NOTE: Pre-N routers are Preliminary and should not be used with an Onset U30 Wi-Fi Remote Monitoring Systems at this time. 2.412 – 2.484 GHz 1, no diversity supported. 1, 2, 5.5, 11Mbps (802.11b) 6, 9, 12, 18, 24, 36, 48, 54Mbps (802.11g) <i>Number of Selectable Sub-channels:</i> Up to 14 channels. Profiles available will include USA, France, Japan, Spain, Canada and "Other" (multiple countries) <i>Modulations:</i> OFDM, DSSS, DBPSK, DQPSK, CCK , 16QAM, 64QAM <i>Antenna Connector:</i> 1 WEP 64/128, WPA – PSK, TKIP, AES end-to-end encryption -10 dBm (with PER < 8%) -72dBm for 54Mbps -87 dBm for 11Mbps -89 dBm for 5.5Mbps -90 dBm for 2.0Mbps -92 dBm for 1.0Mbps Internal Antenna with Reverse SMA connector
U30-ETH	Interface Encryption RJ 45 Jacks	Ethernet 10Base-T or 100Base-TX (Using external RJ45 Jack) 256-bit AES Rijndael encryption 1
U30-NRC	Stand-alone	15 Channel Energy Monitoring and Weather Station

**HOBO U30-NRC Weather Station
Starter Kit- U30-NRC-SYS-B**

The new HOBO Weather Station Starter Kit combines our most rugged data logging weather station with out-of-the-box convenience. The U30/NRC accepts up to 10 plug-and-play Smart Sensors. Just plug in your sensor and it's automatically recognized – no programming, wiring or calibration necessary.

With this kit you can measure temperature, relative humidity, wind speed/direction. Simply select the HOBO Weather Station starter system and your choice of either a 2-Meter or 3-Meter Tripod Kit and go!

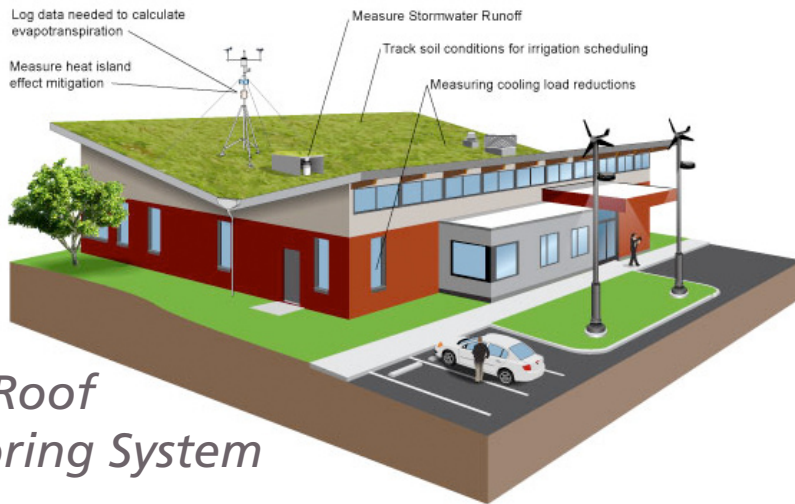


Kit includes

- HOBO U30 NRC data logger with 10 inputs (U30-NRC-000-10-S100-000)
- 1.2W Solar Panel - SOLAR-1.2W
- Temperature/RH Smart Sensor with 2-meter cable S-THB-M002
- Wind Speed Smart Sensor with 3-meter cable S-WSA-M003
- Wind Direction Smart Sensor with 3-meter cable S-WDA-M003
- Full Crossarm for Wind Speed/Direction sensors - M-CAA
- Solar Radiation Shield for Temperature & RH sensor - RS3

*15 Channel Weather
Station*





HOBO Green Roof Monitoring System

The HOBO Green Roof Monitoring System is the ideal tool for measuring the performance of intensive and extensive green roofs. Offering reliable, research-grade performance, the web-based system enables users to monitor green roof conditions, measure stormwater runoff, improve irrigation scheduling, and maintain healthy rooftop vegetation.

Features

- 24/7 web-based access to your data
- Includes all the common green roof measurements
- Plug-and-play sensors enable fast, easy deployment
- Customizable data display for kiosks
- Provides trend logging, monitoring, and alarm notifications

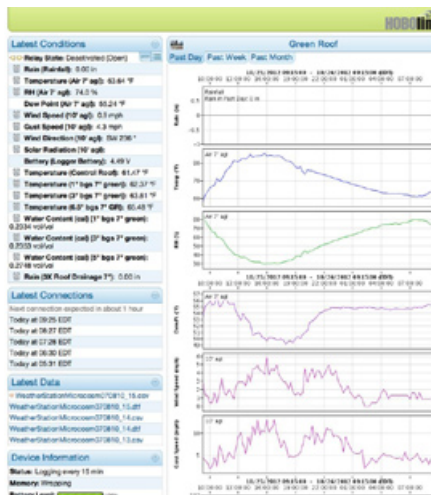
Optional mounting masts, tripods, graphing & analysis software and additional sensors are also available.

Environment: The SYS-U30-GRMS-A Kit is for use in Outdoor environments

Measurements: Temperature, Relative Humidity, 4-20mA, Barometric Pressure, Leaf Wetness, Light Intensity, Pulse Input, Rainfall, Soil Moisture, Wind

Kit includes

- Two S-RGB-M002 rain gauges
- Two S-SMC-M005 soil moisture smart sensors
- Two S-TMB-M002 soil temperature smart sensors
- S-LIB-M-003 solar radiation smart sensor
- M-LBB light sensor bracket
- M-LLA light sensor level
- S-THB-M002 air temperature/humidity sensor
- RS3 solar radiation shield
- S-WSET-A wind speed and direction sensor set
- M-CAA full cross arm
- U30-GSM-000-10-S100-801 remote monitoring system (with one-year service plan)
- SOLAR-6W solar panel



Our Websites



- mulder-hardenberg.com
- mh-hminterfaces.com
- mh-fiberoptics.com
- mh-labeling.com
- mh-networking.com
- mh-powersupplies.com
- mh-securitysystems.com
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Mulder-Hardenberg, est. 1927, is the answer to professional demands in the domain of electronic related environments. We don't just sell products. We use our multidiscipline knowledge to provide the best possible solution, designed to your specific interest.

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The HOBO Micro Station offers reliable monitoring performance at industry-leading prices. Designed for stand-alone data logging applications, the 4-channel HOBO Micro Station accepts Onset's full suite of plug-and-play Smart Sensors, and is battery-powered for up to one year.

Supported Measurements

Temperature, Relative Humidity, Dew Point, Wind Speed, Wind Direction, Rainfall, Soil Moisture, Solar Radiation, PAR, Barometric Pressure, Leaf Wetness, 4-20mA, Voltage Input, Pulse Input, Light Intensity

Key Advantages

- Improved weatherproof enclosure for harsh environments
- Compact and low cost, with 4 sensor inputs
- Up to 2 DC voltage or 4-20mA input adapters

Model	H21-002
Memory	512K non-volatile flash data storage
Operating Range	-20° to 50°C with alkaline batteries, -40° to 70°C with lithium batteries
Sensor Inputs	Up to four Smart Sensors (including multiple-parameter sensors)
Communication	RS-232 via 3.5 mm serial port
Logging Interval	1 second to 18 hours, user-specified interval
Time Accuracy	0 to 2 seconds for the first data point and ± 5 seconds per week at 25°C
Battery Life	1 year typical, up to 10 sensors w/10 minute or longer logging interval, 4 AA alkaline batteries (included)
Dimensions	8.9 cm H x 11.4 cm D x 5.4 cm W
CE Compliant	Yes

*HOBO Micro Station
H21-002*

4-channel weatherproof station for monitoring outdoor environmental conditions



Our Websites



- mulder-hardenberg.com
- mh-hminterfaces.com
- mh-fiberoptics.com
- mh-labeling.com
- mh-networking.com
- mh-powersupplies.com
- mh-securitysystems.com
- mh-monitoringcontrol.com
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- mh-engineeringcomponents.com



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