



## HOBO® UX120-017 Data Logger

### 4-Channel Pulse Data Logger

The HOBO UX120 Pulse Data Logger is a highly versatile, 4-channel energy data logger that combines the functionality of four separate data loggers into one compact unit. It enables energy management professionals – from energy auditors to building commissioners – to easily track building energy consumption, equipment runtimes, and water and gas flow rates. The HOBO UX120 Pulse Data Logger is available in a standard memory model (UX120-017) capable of 500,000 measurements and an expanded memory version (UX120-017M) capable of over 4,000,000 measurements.



#### Supported Measurements:

AC Voltage, Amp Hour (Ah), Amps (A), Event, Kilowatt Hours (kWh), Kilowatts (kW), Motor On/Off, Power Factor (PF), Pulse Input, Runtime, State Open/Closed, Volt-Amp Reactive, Volt-Amp Reactive hour, Volt-Amps (VA), Volts (V), Water Flow, Watt Hours (Wh) and Watts (W)

#### Key Advantages:

- Simultaneously measures and records pulse signals, events, state changes, and runtimes
- Stores up to over 4 million measurements, enabling longer deployments with fewer site visits
- Maximum pulse rate – 120 Hz
- Pulse input range – 0 to 24VDC
- Streamlines deployment via a range of start/stop options, logger status LEDs, and high-speed USB 2.0 data offload
- Works with Onset's Energy & Power Meter to measure Power Factor (PF), Reactive Power (VAR), Watt Hours (Wh) and more. [Learn how.](#)

The T-VER-E50B2 Energy and Power Meter outputs (3) sets of pulses which are logged by the UX120-017. These pulses represent Watt-hours, Amp-hours, and VAR-hours. HOBOware software uses these pulse values to calculate AC Current, AC Voltage, kW, Power Factor, VARs, and VA. The formulas used in these calculations can be found [here: 14993-A-Derived-Channels.zip](#)

- Compatible with HOBOware and HOBOware Pro software for logger setup, graphing and analysis

## HOBO UX120-017 Data Logger Specifications

### Inputs

<b>External Contact Input:</b>	Electronic solid state switch closure or logic driven digital signals to 24 V
<b>Maximum Pulse Frequency:</b>	120 Hz
<b>Maximum State, Event, Runtime Frequency:</b>	1 Hz
<b>Bits:</b>	4–32 bits depending on pulse rate and logging interval
<b>Maximum Pulses Per Interval:</b>	7,863,960 (using maximum logging rate)
<b>Driven Logic Signal:</b>	Input Low: ≤ 0.4 V; Input High: 3 to 24 V
<b>Absolute Maximum Rating:</b>	Maximum Voltage: 25 V DC Minimum Voltage: -0.3 V DC
<b>Solid State Switch Closure:</b>	Input Low: < 10 K ; Input High: > 500 K
<b>Internal Weak Pull-Up:</b>	100 K
<b>Input Impedance:</b>	Solid state switch closure: 100 K pull up; Driven signal: 4.5 K
<b>Minimum Pulse Width:</b>	Contact closure duration: 500 uS; Driven logic signal: 100 uS
<b>Lockout Time:</b>	0 to 1 second in 100 ms steps
<b>Edge Detection:</b>	Falling edge, Schmitt Trigger buffer
<b>Preferred Switch State:</b>	Normally open or Logic "1" state

### Logging

<b>Resolution:</b>	Pulse: 1 pulse, Runtime: 1 second, State and Event: 1 State or Event
<b>Logging Rate:</b>	1 second to 18 hours, 12 minutes, 15 seconds
<b>Time Accuracy:</b>	± 1 minute per month at 25°C (77°F) (see Plot A on next page)
<b>Battery Type:</b>	Two AA alkaline or lithium batteries
<b>Battery Life:</b>	1 year, typical with logging intervals greater than 1 minute and normally open contacts

### Memory

<b>Memory:</b>	UX120-017: 520,192 measurements (assumes 8-bit) UX120-017M: 4,124,672 measurements (assumes 8-bit)
<b>Download Type:</b>	USB 2.0 interface
<b>Download Time:</b>	30 seconds for UX120-017, 1.5 minutes for UX120-017M

### Physical

<b>Operating Range:</b>	Logging: -40° to 70°C (-40° to 158°F); 0 to 95% RH (non-condensing) Launch/Readout: 0° to 50°C (32° to 122°F) per USB specification
<b>Weight:</b>	149 g (5.26 oz)
<b>Size:</b>	11.4 x 6.3 x 3.3 cm (4.5 x 2.5 x 1.3 inches)
<b>Environmental Rating:</b>	IP50  The CE Marking identifies this product as complying with all relevant directives in the European Union (EU).

## Contact Us

Sales (8am to 5pm ET, Monday through Friday)

- ▶ Email [sales@onsetcomp.com](mailto:sales@onsetcomp.com)
- ▶ Call 1-508-759-9500
- ▶ In U.S. toll free 1-800-564-4377
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Technical Support (8am to 8pm ET, Monday through Friday)

- ▶ Contact Product Support [www.onsetcomp.com/support/contact](http://www.onsetcomp.com/support/contact)
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