

onset®

HOBOWare

 **Getting Started Guide**

HOBOWare®

onsetcomp.com

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Introduction

NOTE: This Getting Started Guide is for HOBOWare Pro and HOBOWare Lite, for Windows or Macintosh. Any differences in functionality are noted.

Onset® loggers and software are designed to be easy to use, with many powerful capabilities. To get up and running quickly, follow the instructions in this Getting Started Guide to install the software, connect your logger, launch, and readout data.

You can expect to be comfortable with HOBOWare fundamentals within a few minutes.

HOBOWare software is used for launching, reading out, and plotting data from HOBO data loggers.

Summary of Tasks

1. Install and Run HOBOWare
2. Connect Device(s)
3. Configure Launch Settings
4. Launch Device
5. Deploy Device
6. Readout Device
7. View Data

More Information

For detailed information on all of the HOBOWare features, use the on-line help or refer to the *User's Guide* that came with your software.

You can find the *User's Guide* on your installation CD, or on Onset's product manual web page:

<http://www.onsetcomp.com/support/manuals>

Screen Captures

Windows and Dialog Box screen captures in this document are English versions. If you have a version of HOBOWare in another language, see the software for the translated windows and dialog boxes.

An Overview of HOBOWare Pro

HOBOWare Pro combines fast, easy logger launch and readout functions with powerful data plotting capabilities, making it easier than ever for users to analyze environmental conditions recorded with HOBO loggers.

An intuitive, graphical user interface allows users to select environmental parameters to display, format graphs, perform analysis, and save projects for future use. HOBOWare Pro supports one-click export of data to Microsoft® Excel or other ASCII-compatible programs.

HOBOWare Pro incorporates valuable capabilities such as scaling data to sensor units and saving graphs so they can be recalled and used in the future. HOBOWare Pro also provides capabilities to support 21 CFR Part 11 compliance.

Optional tools for real-time data readout, alarms, and post processing of data provide users with even greater insight into their data.

Supported Devices

HOBOWare Pro is compatible with the following devices:

- HOBO U-Series loggers
- HOBO Weather Stations and HOBO Micro Stations
- HOBO Energy Logger Pro Systems
- HOBO U-Shuttle and Waterproof Shuttle
- HOBO FlexSmart Modules

Features

- Setup Assistant
- Easy device setup/launch
- Graphing and analysis with ability to view multiple data files on one graph
- Filters to extract key series information such as minimum/maximum values.
- Save Project Changes
- Import and Export ASCII text data
- Check Logger Status and view current readings
- Time-saving options for launch, readout and opening files
- Access remote loggers through Ethernet (requires supported Ethernet Server)
- Data Assistants for Linear Scaling, Pulse Scaling, Barometric Compensation, and kWh, Grains per Pound and Growing Degree Days
- Subset Statistics Tool (included with software)
- Bulk Export Tool (included with software)
- Optional Alarm Readout Tool (available separately)
- Secure data storage to support 21 CFR Part II Compliance

Plug-in Tools

Plug-in tools for HOBOWare Pro provide additional functionality. For example, the Real-Time Alarm Software monitors HOBO data loggers and notifies you when sensor and logger conditions fall outside the limits you specify.

For instructions on installing and using plug-in tools, refer to the tool's user guide (located on the CD or web page where you downloaded the tool).

HOBOWare Pro Data Assistants

Data Assistants let you create new data series by combining data recorded by the logger to other formats that are more useful for specific applications. For example, the kWh Assistant converts logged pulse data from an energy transducer to kWh, average kW, and energy cost.

For an overview of each assistant, select the assistant and click the **What's This?** button. For instructions and more detailed information about supported data types and filters, refer to each assistant's user guide.

Plot Setup

All of the Data Assistants can be run when you read out a logger or open a data file if they apply to the data in the file. All available assistants for a file are listed in the Data Assistants section at the bottom of the **Plot Setup** window.

Launch

The Data Assistants used for scaling data (Pulse Scaling, Linear Scaling, Kilowatt-Hour) can also be run from the **Launch** window, so that parameters are applied automatically each time you readout the logger or open a data file.

Using a Data Assistant

From the Launch Window

To use the Pulse Scaling, Linear Scaling, or kWh Data Assistants from the **Launch** window, click the Data Assistants button and the double click the desired assistant, or select the assistant and click the **Create** or **Edit** button.

From the Plot Setup Window

To use a Data Assistant from the **Plot Setup** window, click the assistant name to select it, and then click the **Process** button.

Help

To access the on-line help for a Data Assistant, click the **Help** button on the assistant's dialog, or see the user guide located on the CD or web page where you downloaded the assistant.

Hide Assistants

Click the **Manage** button to open the Preferences dialog.

An Overview of HOBOWare Lite

HOBOWare Lite is entry-level software offering easy logger launch, readout, and data plotting. HOBOWare Lite combines fast, easy logger launch and readout functions with powerful data plotting capabilities, making it easier than ever for users to analyze environmental conditions recorded with HOBO loggers.

An intuitive, graphical user interface allows users to select environmental parameters to display, format graphs, perform analysis, and save projects for future use. HOBOWare Lite supports one-click export of data to Microsoft® Excel or other ASCII-compatible programs.

Supported Devices

All HOBO U-Series loggers (except the HOBO U30 Station)

Features

- Easy logger setup/launch
- Graphing and analysis with ability to view multiple data files on one graph
- Filters to extract key series information such as minimum/maximum values
- Save Project Changes
- Export ASCII text data
- Check Logger Status and view current readings

Installing HOBOWare

Before You Begin

Refer to the README file on the Web site or the installation CD for detailed information about system requirements needed to run HOBOWare. If you have additional questions, please call Onset Technical Support or check the HOBOWare website at <http://www.onsetcomp.com/support>.

Installing HOBOWare from the Onset Web Site

To download HOBOWare from the Onset Web site, go to the following URL and follow the instructions for downloading and installing HOBOWare:

<http://www.onsetcomp.com/products/software>

Installing HOBOWare from the CD

Windows

1. Insert the CD in your computer's CD-ROM drive.

The installation program should start automatically. If it does not, navigate to the CD drive in My Computer or Windows® Explorer and double-click HOBOWare_Setup.exe to launch the HOBOWare installer.

NOTE: HOBOWare for Windows requires the Java 2 Runtime Environment. If the correct Java 2 Runtime Environment version is not already installed on your computer, the HOBOWare Setup program will ask if you want to install it now. (You must be logged in as an administrator on your computer to install the Java 2 Runtime Environment.) Click **Yes** and follow the prompts. After the Java 2 Runtime Environment is installed, the HOBOWare installation will continue.

2. Follow the prompts to install HOBOWare.

HOBOWare should open automatically when the installation is complete. If it does not open by itself, double-click the HOBOWare icon on your desktop or Quick Launch menu. Or, from the Start menu, select *Programs > Onset Applications > HOBOWare*.

Macintosh

1. Insert the CD in your computer's CD-ROM drive.
2. Double-click the CD icon in the Finder and double-click the HOBOWare.pkg to launch the HOBOWare installer.
3. When you reach the final screen of the installation program, click **Restart**.
4. After restarting, open HOBOWare by double-clicking the HOBOWare icon in your computer's Applications folder.

Using the HOBOWare Setup Assistant (HOBOWare Pro Only)

When you open HOBOWare Pro for the first time, you are greeted by the HOBOWare Setup Assistant, which allows you to change some key preferences. To run the Setup Assistant, click **Start** and follow the prompts.

NOTE: The Setup Assistant is optional. If you click **Cancel**, you will be able to use HOBOWare with its default settings, listed below.

- Device Types - Default is USB
If you enable Serial Devices (HOBOWare Pro only) you can select the port to use.
- Unit System - Default is US units
- Data Assistants - Default is enable all installed data assistants

Other Preferences

To see all of the preferences you can configure in HOBOWare, go to:

PC: *File > Preferences*

Macintosh: *HOBOWare > Preferences*

Connecting Devices

Connecting a USB Device

You can connect most devices to the USB port by using an Onset-supplied USB interface cable.

NOTE - HOBOWare Pro: For instructions on connecting HOBOWare shuttles, or using the HOBO Waterproof Shuttle as a base station, refer to the shuttle's user guide.

Steps

1. Open HOBOWare.
2. Plug the large end of the USB interface cable into a USB port on the computer.
3. Plug the small end of the USB interface cable into the port on the device. (Refer to the diagram and instructions that came with the device if you need help finding the port.)

NOTE: PC Only: If the device has never been connected to this computer before, it may take some time for the computer to detect the new hardware and report that it has connected successfully. One or more messages will appear, indicating that new hardware has been found. You may also hear a chime.

NOTE: PC Only: Your computer may tell you to reboot before you can use the device. It is not necessary to reboot.

When the device is recognized by HOBOWare, the right side of the status bar at the bottom of the HOBOWare window will update to reflect the number of devices connected. At this point, you can access the device from HOBOWare.

To disconnect the device, simply unplug it from the USB cable.

Using a Base Station/Coupler

Some loggers require an optic USB base station/coupler to connect to the computer. Consult the manual that came with your device for specific information about required base stations/couplers.

NOTE - Windows Only: If you are connecting a base station/coupler or logger that has never been connected to this computer before, it may take some time for the computer to detect the new hardware and report that it has connected successfully. One or more messages will appear, indicating that new hardware has been found. You may also hear a chime.

NOTE - Windows Only: You may be prompted to reboot your computer before you can use the logger. It is not necessary to reboot.

Steps

1. Open HOBOWare.
2. Plug the base station/coupler cable into a USB port on the computer.

Important: Make sure the base station/coupler is the correct model for the logger you want to use. Consult the manual that came with the logger if you are not sure.

3. Attach the logger to the base station/coupler as described in the documentation that came with your logger.


When the logger is recognized by HOBOWare Pro, the right side of the status bar at the bottom of the HOBOWare Pro window will update to reflect the number of loggers connected. At this point, you can access the device from HOBOWare.

To disconnect a logger, simply unplug it from the base station/coupler. Wait for the status bar to update the number of devices before continuing.

To attach another logger via a base station/coupler, remove the logger, leaving the base station/coupler connected. Then connect the next logger.

To disconnect the base station/coupler, just unplug it from the USB port.

Connecting a Device Using a Serial Cable (HOBOWare Pro Only)

1. Open HOBOWare Pro.
2. Plug the 9-pin end of the serial interface cable into a serial port on the computer or Keyspan adapter.
3. Plug the other end of the serial interface cable into the communications port on the device. (Refer to the diagram and instructions that came with the device if you need help finding the port.)
4. Click the *Select Device* icon on the toolbar to ensure that the device is listed in the **Select Device** dialog. 
5. Click the button next to the logger in the dialog.
6. Click **OK**.

If you are using a serial port other than COM1 (PC) or Default (Macintosh), you will need to set up HOBOWare to look at another port. To change the *Serial Ports* setting go to:

PC: *File > Preferences > Communications*

Macintosh: *HOBOWare Pro > Preferences > Communications*

Note that checking multiple serial ports can take some time, even when no devices are attached.

The status bar at the bottom of the HOBOWare Pro window will update to reflect that the device is connected and selected. At this point, you can begin using the device.


To disconnect the device, simply unplug it from the serial cable.

Tutorial

Follow these steps for a quick demonstration of launching and collecting data with a logger.

This procedure assumes that you have installed and opened the HOBOWare software and connected a device.

Launching the Logger

1. Click the Launch icon on the toolbar. 

This displays the logger's Launch window (see page 14).

2. Review the default Launch settings and change them if you wish.

Enter a new name in the **Description** field.

Select or deselect Channels to Log (and connect appropriate sensors, if applicable). Make sure that at least one of the channels you log is a measurement of something that will be easy to change, such as light or temperature.

Set a short **Logging Interval** (five seconds or less), and choose the **Launch Option** of *Now*.

Click the Data Assistants button to use applicable scaling Data Assistants (Pulse Scaling, Linear Scaling, Kilowatt-Hour), if desired.

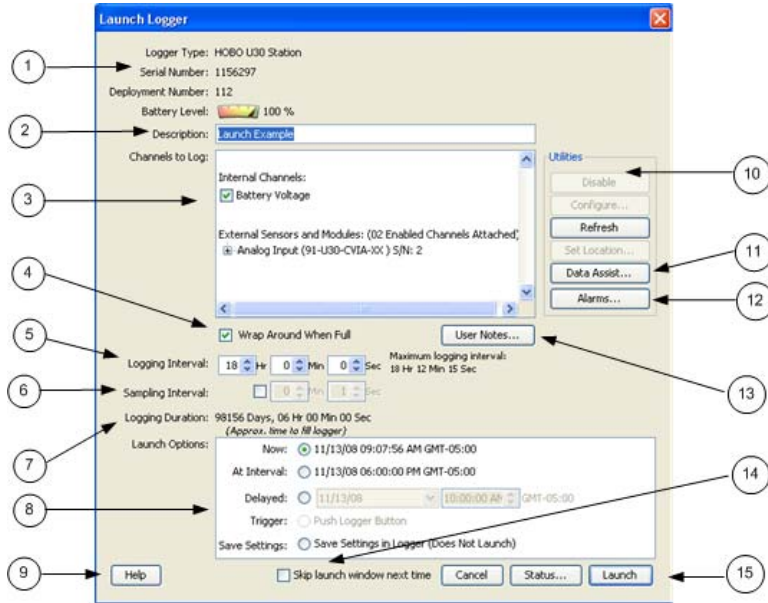
3. Click **Launch** to begin logging.

HOBOWare displays the progress of the launch and warns you not to unplug the logger while it is being configured.

Normally, you will unplug the logger and deploy it when the launch is finished. For this tutorial, leave the logger plugged in.

The Launch Window

The Launch window varies slightly for each type of logger, but most look similar to the following:



1. Logger Information: Logger Type, Serial Number, Deployment Number, and Battery Level.

2. Description: A description you enter for the launch.

3. Channels to Log:

4. Wrap Around When Full: (Station Loggers Only)

You have the option to allow station-type loggers to wrap and continue logging after the memory has filled up.

The newly logged information will overwrite the oldest logged information. Check this box if you want the logger to continue logging, overwriting the older data, instead of stopping when full.

5. Logging Interval: How often the logger will record data from the sensors.

6. Sampling Interval: (Station Loggers only)

The sampling interval allows you to take multiple measurements within the logging interval, and then average them together to create a single logged measurement.

7. Logging Duration: The approximate time it would take to fill the logger's memory based on the logging interval and the currently connected and enabled sensors, if applicable.

8. Launch Options: Select when to launch the logger.

9. Help Button: Click to launch the on-line help for the Launch Window.

10. Utilities: (HOBOWare Pro only)

Depending on the logger and sensors connected, various utilities such as Scaling, Alarms, and Data Assistants are available.

11. Data Assistants (HOBOWare Pro Only)

You can use the scaling Data Assistants (Pulse Scaling, Linear Scaling, and kWh) from the Launch window for certain loggers. Scaled series are generated automatically each time you readout the logger. See the *HOBOWare User Guide* for details.


12. Alarms: Click the button to configure alarms for the HOBOW U30 Station. See the HOBOW U30 User Manual for more information.

13. User Notes: You may enter up to 2000 characters of information about the deployment. This text will be displayed in the Details pane after you read out the logger and display the data.

14. Skip launch window next time: Check this box if you would like to bypass this window the next time you launch a device.

15. Launch Button: Click to launch the device.

Checking Logger Status

1. Click the *Status* icon on the toolbar. 

The **Status Window** appears (see page 16).

Watch as the **Current Readings** update in real time.

2. Change Current State

If you are using a U-Series logger that has a button, hold the button down for several seconds. Watch the **Current States** field in the Status window change to *Button Down*. Release the button.

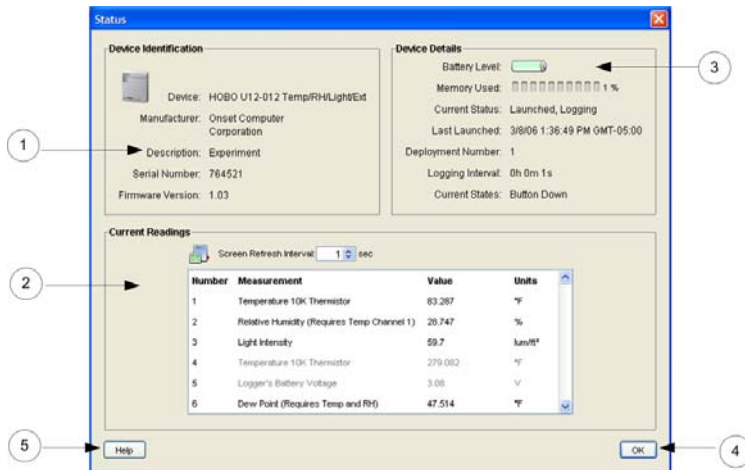
3. Change Sensor Readings.

If you are measuring temperature, change the temperature reading by holding the logger or sensor in your hands for a minute or two. Watch the **Current Readings** in the Status window change as the conditions change.

4. Close the Status window by clicking **OK**.


The Status Window

The Status Window displays information about the device.



1. Device Identification: Includes device type and serial number.
2. Current Readings: Shows current readings for attached sensors, including series output from data assistants defined in a previous launch.
3. Device Details: Includes Battery Level, Memory Used, Current Status, and Current State.
4. OK Button: Click to close the Status window.
5. Help: Click to launch the Help for the Status window.

Reading Out the Device

1. Click the Readout icon on the toolbar. 
2. Click **Stop** when HOBOWare Pro asks if you want to stop the logger before reading out.

After reading out the logger, HOBOWare Pro prompts you to save the datafile.

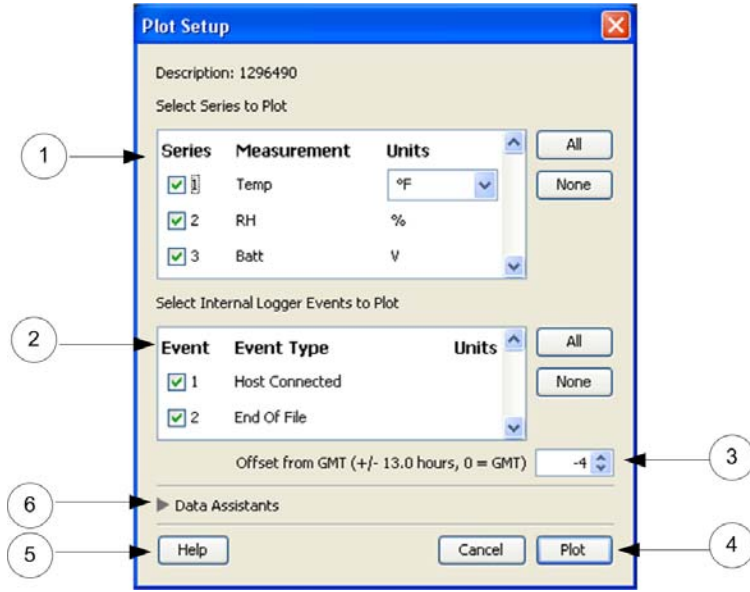
3. Click **Save**.

The Plot Setup dialog appears.

4. Review the settings on the **Plot Setup** dialog. The channels you enabled in the Launch window should be checked, along with button and other events (if applicable).
5. Click **Plot**.

The Plot Setup Window

Use the **Plot Setup** window to specify what data is displayed in the graph.



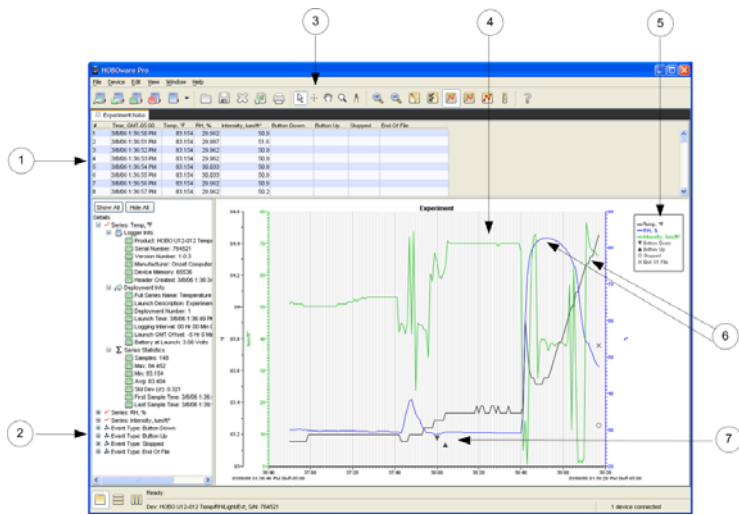
1. Series to Plot: Select the series you want to plot and the units, if applicable.
2. Internal Logger Events to Plot: Select internal logger events to plot (only supported for some loggers).
3. Offset: Set the Time Zone *Offset from GMT* if required.
4. Plot Button: Click this button to plot the selected data on a graph.
5. Help: Click to launch the Help for the **Plot Setup** window.
6. Data Assistants:

HOBOWare Pro Data Assistants let you create new data series by combining data recorded by the logger with additional data. See the *HOBOWare User Guide* for more information.

NOTE: The following Data Assistant can also be run from the Launch window: Pulse Scaling, Linear Scaling, kWh.

Verify Sensor Readings and Graph

Your screen will not match this example exactly, but you should see Button Up and Button Down events (if applicable) and the graph should reflect the change in conditions that you caused in step 6.



1. Points Pane: Lists the data in table format. See Note below.
2. Details Pane: Lists information about the launch and summarizes the deployment. See Note below.
3. Toolbar: Click the icons to quickly access HOBOWare's most frequently used functions.
4. Graph: Plots the data.
5. Legend: Displays the keys for each sensor, state, and event series.
6. See the changes in sensor readings that you initiated in Checking Logger Status: Step 3.
7. See the state changes you initiated in Checking Logger Status: Step 2, if applicable.

NOTE: To enable the Points Pane and the Details Pane in HOBOWare Lite, go to *Preferences > Plotting > Points Table and Details Pane*.

Other Actions

Use the tools on the toolbar to experiment with the export, print, and many viewing and customization tools available within HOBOWare Pro. Pause the pointer over each icon on the toolbar for a description of each tool.

Viewing, analysis, customization, export, and print options are discussed in depth in the *User's Guide*.

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