



Linear Scaling Assistant

For HOBOWare® Pro Software

User's Guide

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About Data Assistants

Data assistants are plug-in utilities for HOBOWare Pro. They let you create new data series by combining data recorded by the logger with additional data that you enter before you display the plot.

If your logger or datafile contains data that supports a data assistant, you will see a Data Assistants section at the bottom of the Plot Setup dialog. Select an assistant and click **Process** to continue.

For information about installing and managing data assistants, refer to the following page at the Onset web site:

<http://www.onsetcomp.com/dataAssistants>

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Introduction

The Linear Scaling Assistant converts a data series from a compatible sensor to some other measurement when you enter two raw values and their corresponding measurement values.

The conversion must be based on a linear relationship. Nonlinear scaling is not supported.

This assistant is available for the following sensors:

- CABLE-2.5-STEREO Voltage Input Cable (for U12 loggers)
- CABLE-4-20-mA Input Cable (for U12 loggers)
- S-CIA-xxxx 12-bit 4-20mA Input Adapter
- S-VIA-xxxx 12-bit Voltage Input Adapter
- S-FS-CVIA FlexSmart™ Analog Module
- S-FS-TRMSA FlexSmart TRMS Module
- 91-U30-CVIA (U30 Analog Module)
- 91-U30-TRMSA (U30 TRMS Module)
- S-FS-TRMSA (U30 TRMSA Module)
- S-LWA-xxxx Leaf Wetness
- S-SMA-xxxx Soil Moisture

The Linear Scaling Assistant can be applied only to logged data from these sensors. To avoid confusion, keep in mind the other types of scaling that are available within HOBOWare Pro:

- You may use HOBOWare to set up linear scaling for the CABLE-4-20-mA and CABLE-2.5-STEREO sensors on a U12 logger prior to launch. (Consult the *HOBOWare User's Guide* for details.) The advantage to scaling before launch is that you can view the scaled values on the Status window, and the data will be properly scaled when you read out the logger or open the datafile. You can later rescale this scaled series using the Linear Scaling Assistant if you need to create a different measurement.
- FlexSmart modules are set up for scaling prior to launch, as part of the module configuration process. (Consult the *HOBOWare User's Guide* for details.) You can later rescale these scaled series using the Linear Scaling Assistant if you need to create a different measurement.
- The Pulse Scaling Assistant is similar to the Linear Scaling Assistant, but only allows scaling of pulse data. Consult the *Pulse Scaling Assistant User's Guide* for compatible adapters.

After you use the assistant and display the plot, you may apply filters to the new series.

Using the Linear Scaling Assistant

To set up scaling for a compatible data series:

1. Read out a logger or open a datafile that contains data from a compatible sensor.
2. From the Plot Setup dialog, select **Linear Scaling Assistant** and click **Process**. The Linear Scaling Assistant dialog will appear.

Select Data Series	
Raw Series:	1) Current, Building 3

Parameters	
Raw	Scaled
Units: mA	"H2O
Value 1: 4.0000	0.0000
Value 2: 20.0000	10.0000

Resultant Series Name: Pressure

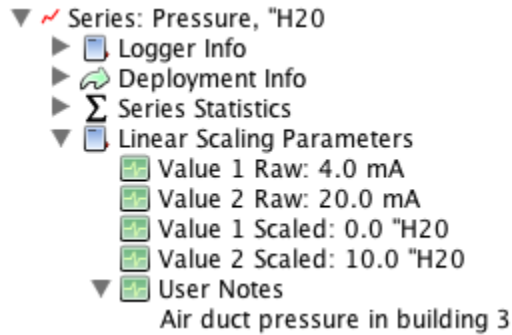
User Notes: Air duct pressure in building 3

Buttons: Cancel, Create New Series

3. If your datafile includes multiple scalable series, choose the one you want to scale from the **Raw Series** drop-down list. (If your logger supports sensor locations, the location you entered will be displayed here.)
4. In the **Scaled** column of the Parameters panel, enter the units name for the scaled series, and enter the scaled values in the **Scaled** column to correspond with the numbers in the **Raw** column. (The default values in the **Raw** column are based on the high and low values supported by the sensor, but you may use different values, as long as those values fall within the sensor's range.)
These numbers establish a linear relationship between raw and scaled values.
5. Keep the default **Resultant Series Name**, or enter a new one. You may also enter **User Notes** concerning the series you are creating.

NOTE: All of these settings will be retained as default values the next time you access the Linear Scaling Assistant, if the logger or datafile contains data from the same type of sensor you just scaled.

7. Click **Create New Series**. The new series is listed and selected in the Plot Setup dialog.
8. You can click **Process** on the Plot Setup dialog again to create another series using a different raw series or different scaling parameters.



9. Click the **Plot** button. The settings you entered will be displayed in the Details pane of the plot.

Available Filters

After the plot is displayed, you may apply minimum, maximum, and average filters to the scaled series as you would for any sensor data series in HOBOWare Pro.

Software Updates

If you have an Internet connection, HOBOWare Pro can periodically ask if you would like it to check the Onset website for software updates. This includes updates to your data assistants.

The default is to check once per week, but you can configure HOBOWare Pro to check daily or monthly. In Preferences, go to the General pane. **Check for HOBOWare updates** is located under the Startup heading.

You may check for updates manually at any time. Choose **Check for Updates** from the Help menu.