

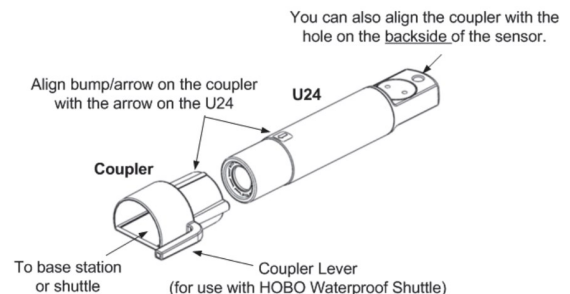
# HOBO® Data Loggers: Temperature/Conductivity

## Conductivity Components



## Launch the Logger

1. Open HOBOWare® Pro software.
2. Attach the USB Optic Base Station (BASE-U-4) to a USB port on the computer.
3. Attach conductivity HOBOness coupler: COUPLER2-C to the base station.
4. Remove protective cap on logger and insert the logger into the compatible coupler. Be sure to align the bump/arrow on the coupler with the arrow on the logger so it is properly seated.
5. Check that Device is connected.  
If not, unplug USB and replug.
6. From the Device menu in HOBOWare, select Launch.
7. Type description of purpose in 'Name' box.  
For example: YYYY.MM.DD - Deployment Location
7. Set range for the deployment by selecting 30 minutes under deployment.
8. Start logging' by selecting 'On Date/Time' and click Start. Logging will begin based on settings you selected. To check if logging, on lower right of computer screen, see 'Device/Status'.
9. Replace cap on non-sensor end after logging is started.



## Calibrate the Logger

*Manufacture recommendations to calibrate every 4 weeks.*

Pre/post calibration will be performed with YSI 3168 Conductivity Calibrator (10,000 microsiemens/cm).

1. Make sure logger is active and logging. Fill sample container with calibration solution so probe end is covered in solution. Allow logger to sit in calibration solution for about 1 hour to ensure at least one reading was logged.
2. When you remove the logger from solution, write down the date, time, and temperature (°C) of solution for use later in the HOBOWare Conductivity Assistant. Place in PVC protective housing.
3. Make sure the logger continues to log as you deploy and throughout the entire process.
4. Place logger in protective PVC housing and secure with zipties before deploying

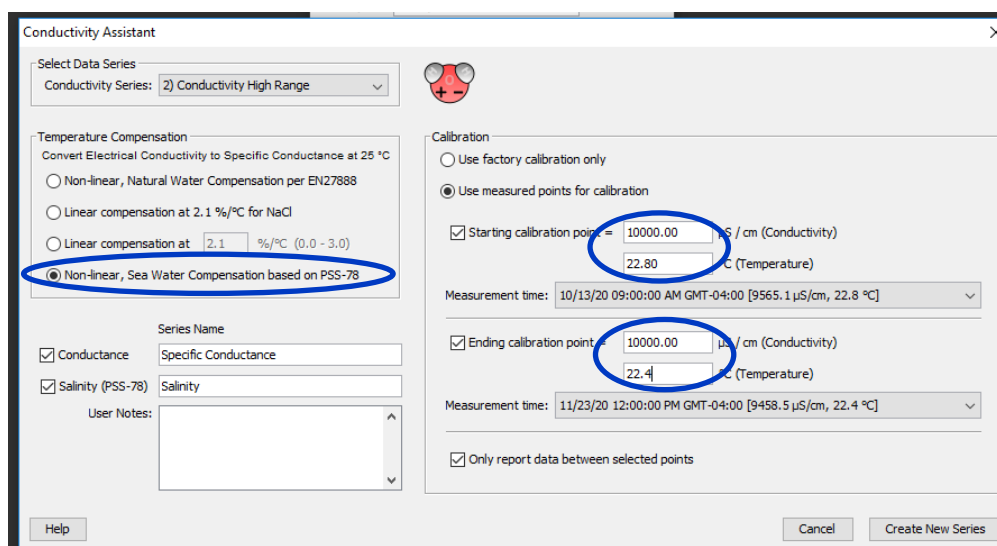
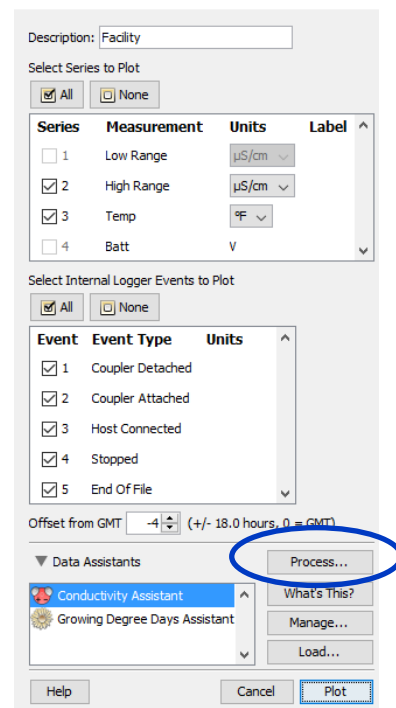
## Post-Calibration of Logger

1. Remove logger from facility. Logger should still be active and logging.
2. Remove the logger from protective housing and clean the logger.
3. Fill sample container with calibration solution and allow logger to sit in calibration solution for about 1 hour to ensure at least one reading was logged.
4. Write down the date, time, and temperature (°C) for use later in the HOBOWare Conductivity Assistant.

# HOBO® Data Loggers: Temperature/Conductivity (continued)

## Download Data from the Logger

1. Follow steps 1-4 in “Launch the Logger” section.
2. Make sure logger is connected by looking a bottom right corner of software. Stop logger if window pops-up.
3. From the Device menu in HOBOWare, select ‘Read Out’. Type in File Name (should be what you named at deployment –Save)
4. In the Plot Setup Menu, select “Process”.
5. Conductivity Assistant will open. Under Temperature Compensation, select “Non-linear, Sea Water Compensation based on PSS-78”.
6. Under Calibration, select “Use measured points for calibration”.
7. For starting calibration point, enter “10000” for  $\mu\text{S/cm}$  (Conductivity) and the pre-deployment calibration temperature in  $^{\circ}\text{C}$ . In the drop down select the date and time the pre-deployment calibration was taken. Refer to your records. Select date and time from when logger is pulled from solution (towards end of selection from dropdown menu).
8. For ending calibration point, enter “10000” for  $\mu\text{S/cm}$  (Conductivity) and the post-deployment calibration temperature. In the drop down select the date and time the post-deployment calibration was taken. Refer to your records.
9. Select “Create New Series”.
10. In Plot Setup Menu select “Plot”.



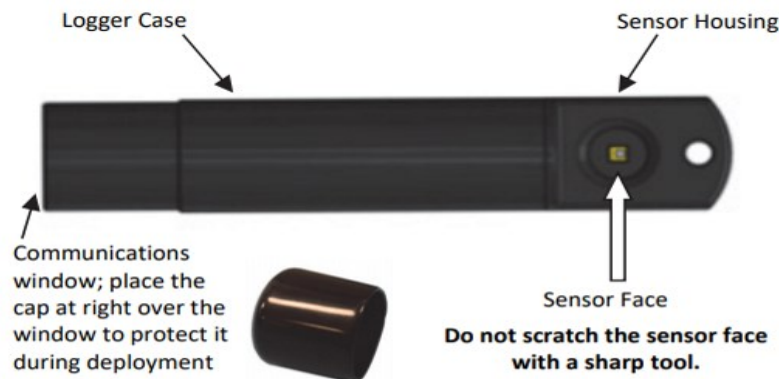
# HOBO® Data Loggers: Conductivity (continued)

## Save the Data

1. Select “File”, select “Export Table Data”, select “Export”. This will save data as a Microsoft Excel Comma Separated file (.csv).
2. To get to file: Window Explorer/Documents/HOBOware, then do Date modified. Open csv file and resave to appropriate project folder. Save as an Excel Workbook (\*.xlsx file).

## Maintenance: Cleaning the Sensor

1. Mix several drops of dish detergent or biodegradable soap in a cup of tap water with a clean cotton swab.
2. Clean the sensor face using the cotton swab and rinse the sensor with clean or distilled water.
3. Do not scratch the sensor face with a sharp tool.



## Battery Maintenance

1. The battery life of the logger should be three years or more. Actual battery life depends on the number of deployments, logging interval, and operation/storage temperature of the logger.
2. The logger can report and log its battery voltage. If the battery falls below 3.1 V, the logger will record a “bad battery” event in the datafile. The battery is failing and the logger should be returned to Onset for battery replacement.
3. To have your logger’s battery and sensor replaced, contact Onset. Do not attempt to replace the battery yourself. Severe damage to the logger will result if the case is opened without special tools, and the warranty will be voided.