

Pecan Street DataLogger

Last Updated: 9/20/2018

Pecan Street has developed a unique and innovative hardware and software solution for high-resolution data capture from existing non-AMI/AMR meters. The DataLogger and BluBand technologies are able to capture down to 1 ounce – 1 second water resolution from most currently installed positive displacement meters.

This documentation will focus on the installation of the DataLogger and accompanying BluBand.

DataLogger Overview

The DataLogger is a battery-powered device which records serial data sent to it from a deployed BluBand. The battery life depends on a site-by-site assessment but is guaranteed to be able to store a minimum of 14 days of BluBand data on the provided SD card.

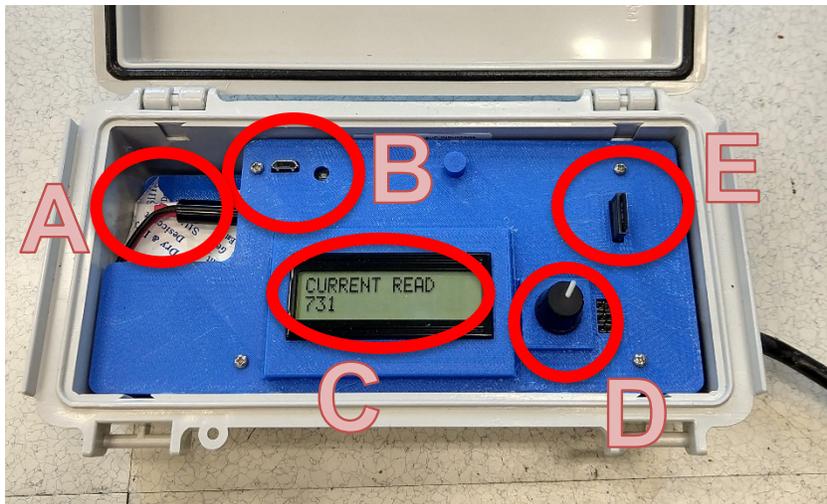


Figure 1. A DataLogger before deployment. Displaying the "Current Read" screen.

There are five different aspects of the DataLogger which the end user needs to be familiar with before deployment. They are called out in Figure 1 above. They are as follows:

- A. *The Quick Charge port.* This charging plug is used to join the battery with the DataLogger. In the event you need to quick charge the battery, you can unplug the quick charge plug, and plug the battery directly into a provided quick charger.
- B. *The Regular Charging port and indicator light.* The preferred method of charging is done via the Regular Charging port with a USB charger. As the battery is being charged, a blue indicator light to the right of the USB port will remain constant blue. When this light begins to flash or turn off, the battery is fully charged. Please note: it might take up to 12 hours to fully charge the battery if it is fully depleted.

- C. *The Indication Screen.* The indication screen on the DataLogger will remain on during the full deployment and while charging the DataLogger. There are three distinct screens that the DataLogger can show – two while the device is in deployed mode, and one while the device is in programming mode.
- Deployed mode:* When the DataLogger is meant to be capturing data, it must be set in the “Deployed Mode”. This mode has the screen iterating between the “Current Read” value, which indicates the current number of nutations as reported from the BluBand, and the “Time Now” screen which shows the current time as programmed on the DataLogger. If you wish to change the time, please push the Program Button (Item D, below) to change between the deployed mode screens, and the programming screen.
 - Programming Mode:* While in programming mode, the Indication Screen will only show the “Set Time” screen.
- D. *Program Button.* The program button can be pushed to switch between the “Deployed Mode” and “Programming Mode” of the DataLogger. Once in Programming Mode, the dial can be rotated to the right and left to change the time of the device. If the time of the device is greater or lesser than 60 minutes from the current time, we recommend that the DataLogger Software be used to correct the time instead. To set the time locally, press the knob once. The LCD display should read, “Set Time”. Twist the knob clockwise to go forward or counterclockwise to go backwards in time. Press the knob again to start recording at the selected time.
- E. *SD Card Slot.* The SD card slot accepts a properly formatted SD card. If a SD card is inserted into the slot which has not been properly formatted for deployment, an error will be indicated on the Indication Screen.

DataLogger Software for Deployment

Before deployment of the DataLogger, the provided SD card must be formatted using the DataLogger software package. There are two different screens within the DataLogger software – one used for preparing the DataLogger for deployment, and one used for reading recorded data.

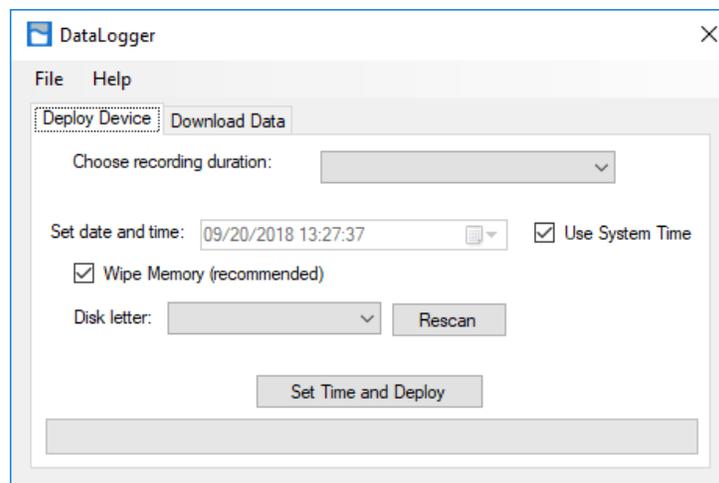


Figure 2. DataLogger Deploy Device screen

To prepare the SD card for deployment, please use the “Deploy Device” tab at the top of the DataLogger software. On this page, the user will need to choose the recording duration of the deployment. This should be greater than your anticipated deployment timeframe.

By default, the DataLogger software will use the system time for programming the time on the DataLogger hardware. If you wish to set this to a different time, please uncheck the box labeled “Use System Time” and set the time manually.

It is then necessary to choose the disk letter of the SD card installed on the computer. It is of high importance that the correct disk letter be selected, as the contents of the disk are deleted prior to deployment.

After the disk is selected, please click the button labeled “Set Time and Deploy” to create the SD card for deployment. This process will take up to 1 minute to complete.

Important: please move the SD card into the DataLogger as soon as you are able to. The time is stored on the SD card and installing the card should not be put off.

Steps to Deploy the DataLogger

1. Make sure the DataLogger has been charged overnight before deploying.
2. Verify that the SD card is present. The unit will not work without the SD card installed.
3. Verify the time displayed on the DataLogger. Use the software to update the time if it is off by more than 60 minutes.
4. Open meter pit, identify the register type, & clean out any excess dirt.
5. Install the appropriate ring on to the register.
6. Slide the BluBand into the ring.
7. Connect the DataLogger to the BluBand. Please allow up to 1 minute for the DataLogger to communicate with the BluBand. The LCD should display, “Current Read” along with a numeric value. During boot up, you may see words such as Boot, Learning, or other characters. It is OK for the 2 units to be connected together beforehand.
8. Once the DataLogger has displayed a current read, flow any rate of water through the meter being monitored for 1 minute or until the current read has incremented. If the current read does not increment, please reset the BluBand using the reset wire adapter. Reconnect the 2 units and flow water again.

Steps to Process DataLogger Reads

After a DataLogger has been deployed, and the accompanying SD card has been brought back from the field, please put the SD card into the provided SD card sled, or directly into your computer for processing.

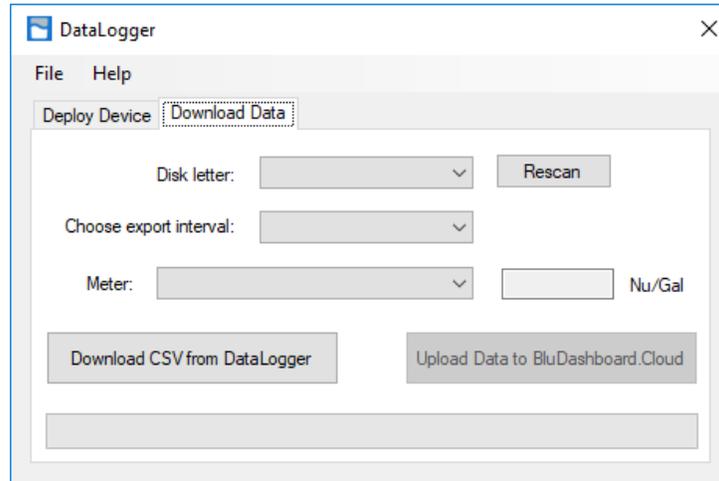


Figure 3. DataLogger Download Data screen

To process the data, please launch the DataLogger application and select the “Download Data” tab from the application.

Similar to the preparation for deployment, a disk letter must be selected. The disk letter should be of the attached SD card with the field data.

An export interval must be selected for processing, and a meter must be selected to indicate the notation to gallons calculation that will be done in the resultant file.

Once all of the inputs have been satisfied, please click “Download CSV from DataLogger”, which will download the data, prompt for a file name and location, and will save the file for later use.

For Additional Help

Should you require additional help, please email info@pecanstreet.org with any questions. A Pecan Street representative will be in touch with you shortly.