# Odyssey® Xtreem Rain Gauge Logger Datasheet

The Xtreem rain gauge logger is designed to be used with a third party tipping bucket. It can be purchased with the Davis tipping bucket or you can connect it to other tipping buckets. When the bucket tips the counter is incremented then stored in the internal non-volatile memory along with the ambient temperature (measured inside the logger) and a timestamp. For periods of dry weather the logger can be set to log at a regular interval. When in range, the logger wirelessly communicates to the Odyssey® Xtract software application ( download free from Play Store ) on your android phone or tablet and stores the readings on your device. When the Xtract application detects a network connection, it sends the data to the cloud database servers. Using any standard internet browser, connect to our Odyssey® Xpert Web portal to analyse your data.

## Features

- Optionally sold with Davis tipping bucket.
- Low Cost
- Wireless
- Waterproof Logger and sensor to IP67
- Removable cable to tipping bucket
- Internal Ambient Temperature reading
- Variable logging interval
- Continuous ring buffer storage

## Specification: ( typical conditions, Battery Voltage 3V, Temperature 22ºC )

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|---|---|
| Rain Gauge Resolution | 0.2mm<br>Based on Davis Tipping Bucket |
| Temperature Accuracy | ±0.5ºC typical  ( ±2.0ºC max) |
| Temperature Resolution | 0.0625ºC |
| Calculated Battery Life | 2 years<br>Based on 10,900 tips per year |
| Memory Capacity | 60,000 readings<br>Including Temperature |
| Operating Temperature | -20 to 55ºC |
| Water Proof | IP67 |
| Dimensions | 46mm Diameter, 160mm Length |
| Bluetooth LE | 4.0 |
| Supported Phone/Tablet | Android V6.0 minimum.<br>Apple IOS coming soon |
| Battery ( standard ) ( 2 per logger  ) | Alkaline AA 1.5V ( Energizer E91 Max) |

For the latest pricing check our web store www.odysseydatarecording.com

## Installation.

Position and mount your rain collector according to the manufacturer instructions for your make and model of tipping bucket. Check that any restraints holding the tipping sensor for shipping have been removed. Plug the cable into the logger. You can now test the tipping bucket is working by manually moving the tipping bucket and checking that the count has changed. For accurate ambient temperature readings keep the logger out of direct sunlight.

Upon inserting the batteries into the logger, the loggers default settings are to start continuous logging.

## Calibration

The logger is essentially a counter which counts the number of times the tipping bucket has tilted. The Davis tipping bucket is factory calibrated to tip once for every 0.2mm of water collected. Therefore there is no calibration required.

## Maintenance

To keep the tipping bucket working reliably, periodic cleaning is required. For cleaning use water, detergent or methylated spirits with a soft cloth. Clean both the bucket collector and the tipping sensor.

## Sensor removal

If needed the sensor can be removed from the the logger. Using your finger tips, grip the connector on the logger end of the cable and rotate anti clockwise ¼ turn then gently pull to release. The connector is fitted with an O-Ring and an internal seal to keep it water proof. Once the sensor cable is disconnected, the cable and the logger are no longer water proof.

## Batteries

The battery life is dependant on a number of variables including sampling interval and operating temperature. The remaining battery life is indicated in the Xpert web portal. To replace the batteries, unscrew the cap and lift out the 2 batteries. Over time the cap can become very tight so we have available a special tool for opening the cap. As the batteries are non-hazardous, disposal is with your normal rubbish. We recommend with temperatures greater than 0ºC that you use the Energizer Max E91 with PowerSeal Technology batteries as these have been tested in our Xtreem products to give the best life and are least likely to leak. At 0ºC the battery life has reduced to half of its calculated life and it further reduces to 1/8th of its life at -20ºC. For temperatures below 0ºC we recommend Energizer Lithium L91 batteries. Replace the batteries in the logger in the indicated orientation in the battery holder. ( Note the unit will not be damaged if the batteries are inserted incorrectly ). Before replacing the cap check the O-Ring seal is present, clean and free from dirt. If required apply some silicon grease ( available from Odyssey® ). Replace the cap and tighten by hand. Do Not use any tools to tighten the cap.  If you are not using the logger for more than a year, then remove the batteries to prevent any chance of leaking.

**Battery orientation is indicated inside the battery holder.**

**Quick Start Guide**

Once you purchase loggers you will be sent a username and password which will allow you to login to the Odyssey® Xpert web portal. You will also receive instructions on how to download and install the Xtract application to your data collection device. Check our Odyssey® website for a low cost tablet.

Browse to the Odyssey® Xpert web portal and enter the supplied username followed by your password. You will then be presented with a map showing your loggers with map pins. Zoom in on the map and select the logger you wish to configure. Once selected the logger details will appear on the right side of the map.

From the menu select Logger config. It is important to choose a unique name for your logger. It can include numbers, an asset code or anything you like to help you identify it, as the serial number of the logger is long. At this time you should also write the logger name on the logger label to help identify it. If you enable continuous logging, the logger will continuously log until its memory is full and then start overwriting the oldest readings first. If desired you can select a Start and End date/time. Select your time zone that the logger is installed at. Typically this will be your time zone. You can also add a site description and any deployment notes you may want. Once you press submit the settings will be stored in the database.

Start the Xtract application on your device (phone/tablet), select settings from the menu and enter the provided username and password. The Xtract application device will periodically check to see if any settings have been changed and download them into the device. Once the logger is turned on and in range, the Xtract application will automatically connect to the logger and update the logger settings. If there is any stored data on the logger it will also collect the data and automatically send it to the cloud database servers. You can view the progress of this by opening the Xtract Application. See the Odyssey® Xtract user manual for more features of this application.

*To view the recorded data in the Xpert Web portal select your logger from the map and choose chart from the menu. Select a date range, then press the Go button and your recorded data will be displayed in the graph below. Right mouse click on the chart to see a menu of the various export options. See the Odyssey® Xpert user manual for more features of this application.*