

G2-RAIN Alert System Manual

The NexSens G2-RAIN Alert System is a self-contained rain monitor with an integrated precision rain gauge and real-time data alerts. It transmits accurate rainfall measurements directly to WQData LIVE's cloud based data management platform using internal power and an embedded cellular modem.

Paired with WQData LIVE's configurable alerts, users are notified of rain events directly on a mobile device or computer. Historical rain data can be viewed, graphed, and downloaded from WQData LIVE for additional analysis.

Integrated tipping bucket and MAST mount features create an easy to setup and simple to maintain monitoring system which can be installed and relocated in minutes. Devices can be configured directly from any web browser without the need for costly site visits and complicated connections.



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Unboxing

What's included:

- G2 Series Battery Pack (Installed)
- G2-RAIN-RTU
- Rain Gauge (not included with G2-RAIN-RTU)
- SMA Antenna
- SMA Right Angle Adapter
- 9/64" Hex Wrench
- Quick Start Card



Installing and Removing Siphoning Bucket

The siphoning tipping bucket forces rainfall to flow directly onto the tipping apparatus, which allows for accurate precipitation measurements.

1. To remove the siphoning tipping bucket from the G2-RAIN-RTU, use the 9/64" hex wrench to loosen the (3) bolts that are connecting the bucket and the RTU.
2. Next, slide the bucket clockwise until the (3) bolts on the side of the G2-RAIN-RTU are aligned with the vertical portion of the L-shaped slots on the side of the bucket.
3. Lift the bucket up gently.
 - a) During the bucket's first removal, ensure to remove the rubber band from the tipping apparatus.
4. To reinstall the bucket, align the vertical portion of the L-shaped slots with the (3) bolts on the side of the RTU. Rotate counter-clockwise and re-tighten the bolts.



Rotate and lift the bucket gently during removal



Remove the rubber band from the tipping apparatus

Power and Connection Sources

The Nexsens G2-RAIN Alert System comes with either a pre-installed internal Lithium battery pack or an AC power adapter. The system also includes an SMA antenna and an SMA right angle adapter.

Power

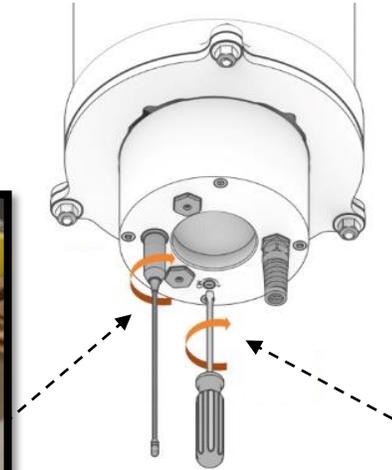
1. To use the internal Lithium battery pack as a power source, use the Nexsens flathead screwdriver to twist the power plug found on the bottom of the G2-RTU to the "ON" position.
2. To use external power, either connect the G2-RTU adapter cable to a solar panel or an AC power adapter.

Connection

1. Attach the SMA antenna to the copper threads found on the bottom of the G2-RTU.
 - a) If necessary, use the SMA right angle adapter to adjust the direction of the adapter for connection purposes.



Connect the SMA antenna on the G2-RTU



Twist the power plug to apply power with the battery pack



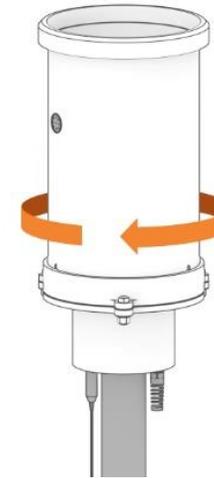
Nexsens AC Power Adapter

Mounting the G2-RAIN System

To ensure a quick, easy, and durable setup, we recommend including a 2" NPT aluminum mast to your order of a G2-RAIN system.

To attach the G2-RAIN system to the mast, simply mount the threads at the bottom of the G2-RTU onto the threads at the top of the mast.

1. Carefully rotate the G2-RAIN system clockwise until the system is securely attached to the mast.
 - a) Mount the G2-RAIN system on a level plane to ensure that the acquired data provides the best representation of the rainfall.



WQData LIVE Overview

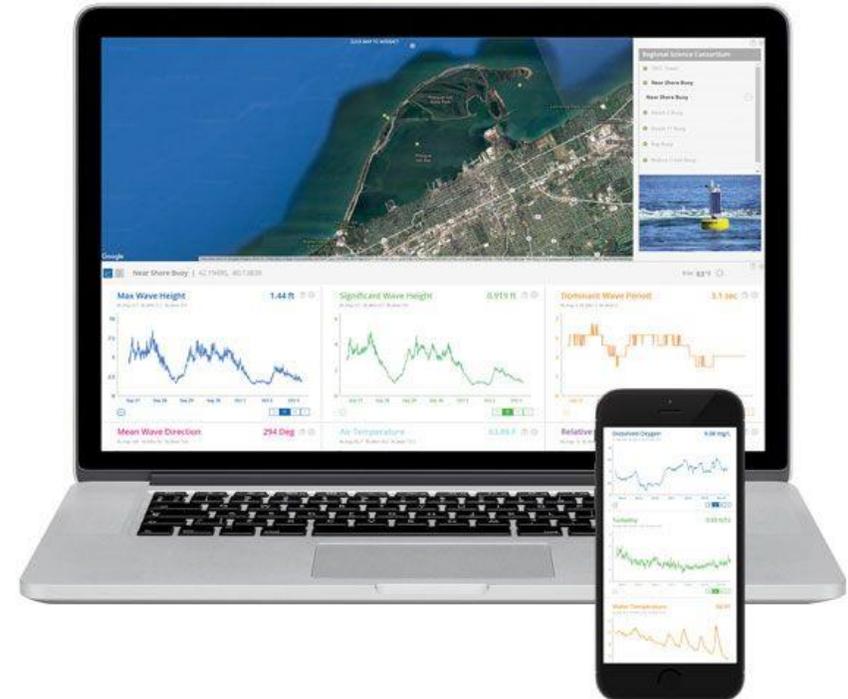
WQData LIVE is a Cloud Data Center used in conjunction with the G2-RAIN system for the following functionality:

Data Collection- automatic G2-RAIN data upload to the web

Automatic Data Alerts

Data Export

Remote System Configuration



WQData LIVE Setup

To begin accessing data from the G2-RAIN system online, proceed through the following walkthrough:

<https://www.nexsens.com/pdf/WQData-Live-Getting-Started.pdf>

The guide covers the three main prerequisites for setting up the Data Center

- Creating a free WQData LIVE account
- Creating a new project on the WQData LIVE Datacenter
- Using the Claim Code provided with each G2-RAIN system to add the system profile to the project

Generate/Review Reports

CSV or PDF Reports can be manually generated, or configured to send automatically on a user-defined schedule from WQData LIVE.

Information on the Report tool for the WQData LIVE datacenter can be found [here](#).

Technical Information

RTU Mount: 2" NPT pipe thread

Rain Gauge Mount: Mounting flange (Compatible with Rickly 3510, HyQuest TB3/4/6)

Material: Aluminum body with white powder coat finish

Weight: 6.5 lbs.

Dimensions: 5.4" Diameter, 4" Height

Temperature Range: -30 to 80 °C

Rating: IP65

Memory: Over 1.5M data records before rollover (Over 85 years with a 30 minute interval)

Battery: (2) D-Cell lithium (Thionyl Chloride)

Battery Life: 4 Years (average of 48 logs and 2 transmissions per day)

Tipping Bucket Input Connector: 2 pin screw terminal

Sensor Input Signal: Contact closure (100mS minimum)

Communication: NexSens hosted Verizon 4G cellular modem

Transmission Trigger: Interval rain rate, time-based

User Interface: NexSens WQData LIVE 2.0 web portal

Rain Interval: User configurable from 5 minutes to 24 hours (30 minute default)

User Parameters: Interval Rain, Rain Intensity, Total Rain (Calculated)

Meta Data Parameters: Tip Counter

Diagnostic Data Parameters: Input Power, Internal Pressure, Internal Temperature, Internal Humidity, Cell Signal Strength, Cell Module Power, Processor Power, Processor Current, RTC Power, Cell Module Current, Cell Status

