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Programmable Controller: RG222



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Congratulations on your purchase of the Global Water RG222 Programmable Controller. This instrument has been quality tested and approved for providing accurate and reliable rain gauge measurements. We are confident that you will find the RG222 to be a valuable asset for your application. Should you require assistance, our technical staff will be happy to help.

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I. RG222 Checklist

- a. Programmable Controller
- b. RG222 Manual
- c. One AAA battery (inside unit)
- d. Two 3V (1/2 AA) Lithium batteries (inside computer)

II. Recommended additional components

- a. RG200 Tipping Bucket
- b. SS101 Stormwater Sampler

III. Inspection

- a. Your RG222 unit was carefully inspected and certified by our Quality Assurance Team before shipping. If any damage has occurred during shipping, please notify Global Water Instrumentation, Inc. and file a claim with the carrier involved.

Use the checklist to ensure that you have received everything needed to operate the RG222.



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IV. Programmable Controller Installation

- a. Place Programmable Controller in an area that is protected from direct rainfall and immersion in water. The Programmable Controller is water resistant, not water proof.

NOTE: The RG222 must be installed within 50 feet of the SS101.

Installation of the RG222 with a SS101 sampler and a RG200 tipping bucket

- b. Open the SS101 enclosure and remove the rain sensor's strain relief using a wrench.
- c. Unplug the rain sensor from the control panel, pull the RCA plug through the strain relief opening, and store the sensor for later use.
- d. Insert the tipping bucket's RCA plug through the strain relief opening, pull about a foot and a half of cable through the opening, and tighten the screw the strain relief into the enclosure. Tighten the strain relief nut until the cable will not move through the strain relief.
- e. Insert the tipping bucket's RCA plug to the Programmable Controller's RCA socket.
- f. Remove the protective covering from the velcro on the back of the RG222. Attach the unit to the SS101 control panel for easy viewing.
- g. Insert the Programmable Controller's RCA plug into the SS101's rain sensor socket.

V. Programmable Controller Set Up and Use

- a. Push the down arrow button until the display shows P (Program Mode) and some number. This displays the current scaling factor. The value shown represents the number of input pulses that need to be counted before the Programmable Controller will produce an output pulse. To change the count press the R> button. Use the R> button to move to the right in the row of numbers. Use the down arrow button to change



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the value at that position. To exit this mode push the R> button until the right most digit is flashing then push it once more.

NOTE: Each tip of the RG200 is 0.01 inches.

- b. Use the down arrow to change the display to show C. This display shows the tipping bucket count total. Press the R> button to clear the display.
- c. Press and hold the unmarked button below the display for 10 seconds. This button resets an internal alarm clock.
NOTE: The internal alarm clock clears the tipping bucket count total every 24 hours.
- d. After the unit is plugged into the SS101 sampler and every time the unit is programmed or reset, toggle to the counter mode and press the R> button to clear the counter.
NOTE: If the counter is not cleared the unit will not work properly.
- e. Global Water recommends measuring rainfall daily with a rain gauge that is installed in a convenient location. Daily rainfall readings can be used to determine when automatic samples may have been taken, and thus when the sampling unit should be visited.

VI. Theory of Operation

- a. The RG222 accepts and counts input pulses, typically from a rain gauge. Using a programmable scaling factor the RG222, issues an output pulse when a set number of input pulses have been counted. The result is that the output pulse represents a scaled measurement of the input pulse.



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VII. Maintenance

- a. Verify the AAA battery voltage every 6 months using a voltage meter. To access the batteries, unscrew the four screws in the cover. Then, gently remove the cover. The AAA battery is located near the top of the unit. Removing the battery will reset the alarm clock.
- b. There are two batteries inside the computer in the programmable controller. A low battery indicator will appear on the screen two weeks prior to the end of battery life. Replace the batteries with 3V (1/2 AA) camera batteries.

VIII. Trouble Shooting

Issue: Programmable Controller not operating correctly

- a. Repeat set up procedure, reseating all connections.
- b. Check battery voltages.

Other issues

- c. Call us for tech support: 800-876-1172 or 916-638-3429 (many problems can be solved over the phone). Fax: 916-638-3270 or Email: globalw@globalw.com.

Be prepared to describe the problem you are experiencing including specific details of the application and installation and any additional pertinent information.

- d. In the event that the equipment needs to be returned to the factory for any reason, please call to obtain an RMA# (Return Material Authorization). Do not return items without an RMA# displayed on the outside of the package.

Include a written statement describing the problems.



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Send the package with shipping prepaid to our factory address. Insure your shipment, as the warranty does not cover damage incurred during transit.

- e. When calling for tech support, please have the following information ready;
 - 1. Model #.
 - 2. Unit serial number.
 - 3. P.O.# the equipment was purchased on.
 - 4. Our sales number or the invoice number.
 - 5. Repair instructions and/or specific problems relating to the product.



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IX. Warranty

- a. Global Water Instrumentation, Inc. warrants that its products are free from defects in material and workmanship under normal use and service for a period of one year from date of shipment from factory. Global Water's obligations under this warranty are limited to, at Global Water's option: (I) replacing or (II) repairing; any products determined to be defective. In no case shall Global Water's liability exceed the products original purchase price. This warranty does not apply to any equipment that has been repaired or altered, except by Global Water Instrumentation, Inc., or which has been subject to misuse, negligence or accident. It is expressly agreed that this warranty will be in lieu of all warranties of fitness and in lieu of the warranty of merchantability.
- b. The warranty begins on the date of your invoice.