



## Tipping Bucket Rain Gauge

# PRODUCT MANUAL

Item # 3665R



***Spectrum***<sup>®</sup>  
***Technologies, Inc.***

**THANK YOU** for purchasing a Rain Collector to use with your WatchDog Micro or Mini Station. This manual will aid you in placement and mounting of the rain gauge. Read it thoroughly to insure proper and effective use of the sensor.

This rain collector measures rainfall in 1/100th inch increments. The self-emptying, tipping bucket design is accurate and reliable. The rain collector will be accurate to  $\pm 2\%$  at  $< 2$  in (5 cm) per hour.

The rain gauge includes a 6 foot cable that is connected into **port A** on models 1115, 1200, 1225, 1400, 1425, 1450, 1525 or 1650 WatchDog Micro Stations or models 2400, 2425, 2450, or 2475 WatchDog Mini Stations. . Once the sensor is positioned in a representative “micro-climate”, connect the cable into port A to log rainfall data.

Use **SpecWare** software to program the WatchDog to log rainfall. Refer to the **SpecWare Instruction Manual** for detailed launch and/or readout instructions.

## **POSITIONING SENSOR**

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When choosing a location for your rain collector keep the following in mind:

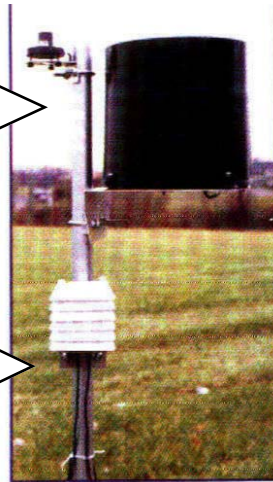
- Mount the collector on a 1” to 1¼” mast (pipe) using the u-bolt. Make sure the collector is level when positioning the mast mount. Use a bubble leveler to check that the collector’s base is level.
- The gauge contains a magnet-operated switch which may not operate correctly if you mount the rain collector on or near any object which attracts a magnet.
- Choose a location easily accessible for normal cleaning and is distant from trees and other sources of pollen or debris.

For greatest accuracy, you should thoroughly clean the rain collector at least once or twice a year. Disconnect the logger from the rain collector to avoid any inadvertent counts on the logger when cleaning. Your gauge should be cleaned using a mild detergent.

Inspect the sensors frequently to make certain the sensors are still level and clear of obstructions.

Locate the rain collector in an open area which is within reach of the external WatchDog data port (Channel A). One rain collector per weather station.

WatchDog Data  
Logger inside  
radiation shield



## RAIN COLLECTOR ADJUSTOR

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If rain collector is not reading correctly (or at all)

1. Launch the logger or weather station so you can see the rain measurements on the LCD (this step is not necessary if the rain collector is attached to a WatchDog 2000 Series Mini or Weather Station).
2. Check the inside of the rain bucket for debris such as leaves that may be blocking the grid at the bottom of the bucket. Remove the rain bucket from the base and check for any obstacles (spider webs, debris, etc.) that may be preventing the tipping spoon from moving freely. If the hole beneath the grid gets clogged with dirt, the cotter key can be removed to allow it to be cleared.
3. Manually move the tipping spoon back and forth several times. Check the LCD after it has updated to see if these tips have been recorded. Do this several times.

4. If the tips are being counted, skip to step 5.

If the LCD is not showing any or all of the manual tips of the spoon, it may be that the magnetic sensor on the tipping spoon is too far from the read switch or that the sensor cable is bad. There are 2 cams on the base of the rain collector that can be rotated to move the tipping spoon closer to or further away from the read switch. Make this adjustment and check if the LCD shows that the logger can detect manual tips of the spoon. If so, proceed to step 5. If not, the sensor may need to be sent in for service.

5. If all the tips are being counted, replace the rain bucket and trickle a known amount of water into the bucket. 84 ml of water should register 0.1 inches of water (2.5 mm). This is equivalent to 10 tips of the tipping spoon. The best results are attained when the water is added slowly. It is recommended that the water be put in a ziplock bag which is then punctured with a pin to allow the water to slowly enter the rain bucket.

If the reading on the LCD is slightly high or slightly low, the sensor can be calibrated. When the spoon tips, it lands on screws on either side. If sensor is reading high, lower the screws. If it is reading low, raise the screws. It is recommended to adjust the screws a quarter turn and again run a known amount of water through the bucket to determine if additional adjustment is necessary.

## **WARRANTY**

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This product is warranted to be free from defects in material or workmanship for one year from the date of purchase. During the warranty period Spectrum will, at its option, either repair or replace products that prove to be defective. This warranty does not cover damage due to improper installation or use, lightning, negligence, accident, or unauthorized modifications, or to incidental or consequential damages beyond the Spectrum product. Before returning a failed unit, you must obtain a Returned Materials Authorization (RMA) from Spectrum. Spectrum is not responsible for any package that is returned without a valid RMA number or for the loss of the package by any shipping company.

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