

260-0111

User Manual

8" Tipping Bucket Rain Gauge

260-0111 Rain Gauge

110-WS-25RG Rain Gauge (with mounting arm)

260-WS-32RG Rain Gauge (with mounting arm)



Phone (530) 823-7185

Email nova@novalynx.com Website www.novalynx.com

Receiving and Unpacking

Carefully unpack all components and compare to the packing list. Notify NovaLynx Corporation immediately concerning any discrepancy. Inspect equipment to detect any damage that may have occurred during shipment. In the event of damage, any claim for loss must be filed immediately with the carrier by the consignee. Damages to equipment sent via Parcel Post or UPS require the consignee to contact NovaLynx Corporation for instructions.

Returns

If equipment is to be returned to the factory for any reason, call NovaLynx between 8:00 a.m. and 4:00 p.m. Pacific Time to request a Return Authorization Number (RA#). Include with the returned equipment a description of the problem and the name, address, and daytime phone number of the sender. Carefully pack the equipment to prevent damage or additional damage during the return shipment. Call NovaLynx for packing instructions in the case of delicate or sensitive items. If packing facilities are not available take the equipment to the nearest Post Office, UPS, or other freight service and obtain assistance with the packaging. Please write the RA# on the outside of the box.

Warranty

NovaLynx Corporation warrants that its products are free from defects in material and workmanship under normal use and service for a period of one year from the date of shipment from the factory. NovaLynx Corporation's obligations under this warranty are limited to, at NovaLynx's option: (i) replacing; or (ii) repairing; any product determined to be defective. In no case shall NovaLynx Corporation's liability exceed product's original purchase price. This warranty does not apply to any equipment that has been repaired or altered, except by NovaLynx Corporation, or that has been subjected 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.

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1 FORWARD

Thank you for purchasing NovaLynx products. NovaLynx has been designing and manufacturing weather instruments since 1988. NovaLynx represents several well-known brands of quality manufacturers, including Gill Instruments, RM Young, Kipp & Zonen, and Vaisala. It is our hope that our products will meet all your monitoring requirements.

2 INTRODUCTION

NovaLynx tipping bucket rain gauges are constructed of high quality materials and are designed to provide years of trouble-free operation with a minimum of maintenance. The 260-0111 Rain Gauge has an 8" inlet orifice and is calibrated to 0.01" per bucket tip. The 260-0111 meets NWS specifications for statistical accuracy.

Model 260-0111 is designed to mount on a flat surface using the four screws provided. Model 110-WS-25RG and 260-WS-32RG are the same rain gauge with the addition of a mounting arm. The mounting arm is designed to clamp to a 1.25" diameter mast.

3 SPECIFICATIONS

Model	260-0111	110-WS-25RG	260-WS-32RG
Orifice	8" (20.32 cm)		
Calibration	0.01" per tip (0.254 mm)		
Accuracy	±2% at < 2"/hour		
Capacity	Unlimited - self emptying		
Electrical			
Switch	Magnetic reed, SPST normally open, with series 100 ohm resistor		
Output	<0.1 second switch closure		
Capacity	6 to 24 VDC @ 500 mA		
Cable	2 conductor, 60 feet, tinned wire ends (do not bury the cable)		
Materials			
Housing	High impact polypropylene, UV inhibited		
Tipping bucket	Specially formulated low surface tension plastic		
Tipping bucket pivot	Stainless steel		
Mounting	4 each self-tapping #6 x 1.25" screws	Mounting arm for 1.25"Ø mast	
Shipping			
Dimensions	9" x 9" x 9" (23 x 23 x 23 cm)	9" x 9" x 18" (23 x 23 x 46 cm)	
Weight	2.8 lb (1.3 kg)	3.5 lb (1.6 kg)	

4 OPTIONAL ACCESSORIES

Rain Gauge Accessories	
Rain logger with display	260-2103
Precipitation gauge calibrator	260-2595
Pocket-size digital event counter	260-2598

5 SITE SELECTION

The location of the rain gauge is very important to the successful operation of the instrument. The most accurate measurements are made in relatively sheltered areas protected from gusts and turbulent wind. Open spaces between buildings and trees offer some shelter from wind effects; however, the rain gauge should be situated at least twice the distance from such objects as their height.

Wind effects on catch losses are more pronounced during snow storms than during rain storms. Where snowfall constitutes more than 80% of annual precipitation, and in areas that are open with no nearby structures, a wind screen such as the **260-952 Alter-Type Wind Screen** is recommended to minimize wind effects.

The screen consists of 32 free-swinging metal leaves evenly spaced around a 48" diameter ring. The ring is divided into four quadrants, one of which swings open to permit access to the rain gauge.



260-952 Wind Screen

Good locations do not always remain obstruction free. Vegetation can grow quickly, changing an excellent exposure into a poor one. Sites should be inspected regularly in order to properly maintain the exposure of the gauge.

6 MOUNTING INSTRUCTIONS

To ensure best accuracy the rain gauge must be mounted as level as possible on a solid platform free from vibration. Make sure the area is open with no overhanging obstructions. The rain gauge should be accessible so that it is easy maintain. Avoid areas near trees that will drop leaves and twigs into the inlet.

6.1 Model 260-0111 Mounting Instructions

1. Choose a flat, level surface at least 1 foot above the ground. Avoid mounting on a steel or iron surface.
2. Loosen the four retaining screws holding the collector onto the base, until the collector can be rotated counter-clockwise and freed from the base. Set the collector aside.
3. Locate the four self-tapping screws that are partially inserted in the base on either side of the tipping bucket mechanism. Secure the base to your mounting platform using these screws. It may be necessary to mark the locations and drill pilot holes in the platform.
4. Do not re-install the collector until you have tested your digital counter. Tip the bucket by hand a few times and verify your counter has registered each tip.
5. Install the collector and secure it with the four retaining screws (do not overtighten).

6.2 Model 110-WS-25RG and 260-WS-32RG Mounting Instructions

1. The mounting arm is designed to clamp to a vertical mast up to 1.25" in diameter. The mast can be supported by a tripod, or may be permanently installed by anchoring a suitable pipe in the ground using cement.
2. Clamp the U-bolt to your mast while holding the rain gauge level. Use a carpenter's level across the top of the collector to verify.
3. To test your rain gauge, loosen the four retaining screws holding the collector onto the base, until the collector can be rotated counter-clockwise and freed from the base. Set the collector aside.
4. Connect the rain gauge to your digital counter. Tip the bucket by hand a few times and verify your counter has registered each tip.
5. Install the collector and secure it with the four retaining screws (do not overtighten).

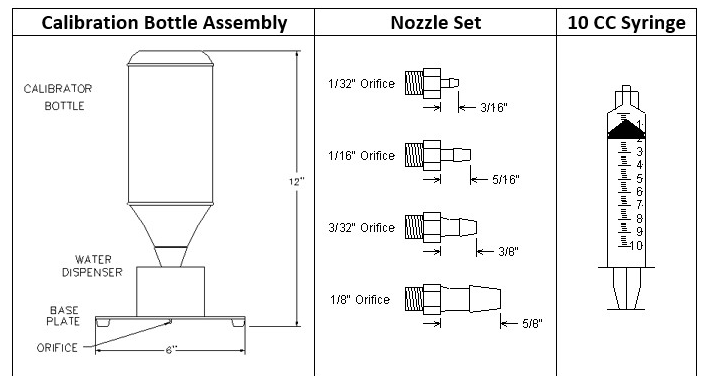
7 ROUTINE MAINTENANCE

1. Clean out any debris that may have collected on the screen or in the funnel below the screen. If necessary, remove the cotter pin that holds the screen in place and flush out the funnel with water. Replace the screen and cotter pin, making sure to bend the legs of the pin fully upwards to keep them from interfering with the operation of the tipping buckets.
2. Check the water exit ports in the base to ensure they are not clogged.
3. Tighten the mounting screws if needed.
4. Check that the tipping bucket mechanism operates smoothly, and that one count is registered each time the bucket is tipped.
5. Check the cable for signs of wear.
6. Replace the collector and tighten the retaining screws (do not overtighten).
7. If a calibration check is desired, consider purchasing the 260-2595 Precipitation Gauge Calibrator.

8 CALIBRATION

Each rain gauge is calibrated before being shipped to the customer. The calibration can be field-tested as part of a yearly maintenance cycle or the unit can be returned to NovaLynx for re-calibration as needed.

Complete details for calibration using the NovaLynx 260-2595 Rain Gauge Calibrator (sold separately) are available to download from the NovaLynx website (www.novalynx.com).



260-2595 Rain Gauge Calibrator



Calibration Screw (x2)

APPENDIX A WIRE DIAGRAM

