

# 200-251x-B

User Manual

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200-2510-B Totalizing Anemometer (Miles)

200-2511-B Totalizing Anemometer (Kilometers)



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## 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.

## Address

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## 1 FORWARD

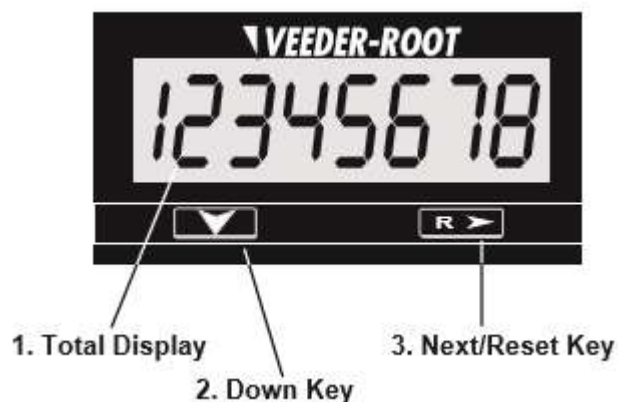
Thank you for purchasing NovaLynx products. NovaLynx has been designing and manufacturing weather instruments since 1988. NovaLynx represents several well-known brands of quality manufacturers, including Gill Instruments, RM Young, Kipp & Zonen, and Vaisala. It is our hope that our products will meet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

## 2 INTRODUCTION

NovaLynx Totalizing Anemometers are simple to install and operate. The LCD display module measures wind run by counting pulses generated by the cup-style wind sensor. The number of pulses is multiplied by a scaling factor and displayed in units of statute miles (Model 200-2510-B) or kilometers (Model 200-2511-B).

The display meter is housed in a NEMA 4x enclosure. The hinged front lid allows access to read the meter and reset the count whenever desired. The readings can be used to compute average wind speed by recording the total on the display at two points in time, finding the difference, then dividing by the time interval.

A 3-volt lithium battery powers the meter for up to 5 years. A second battery (not included) can be installed to extend battery life to approximately 10 years. A "Low Bat" indicator flashes on the display about two weeks prior to the end of battery life. Replacing one battery at a time will maintain the calibration settings. If power is lost completely, the meter can be easily re-programmed after installing a fresh battery.



### 3 SPECIFICATIONS

Display Unit	
Display meter	Supertwist LCD, 8 digits, 12 mm high
Power source	Single or dual 3V Lithium battery
Battery type	CR 1/2 AA 3V Lithium
Battery life	Single battery: 5 years typical. Dual batteries: 10 years typical
Programmability	<b>Down Key</b> (select menu, set value). <b>Next/Reset</b> (select digit, reset)
Noise immunity	IEC 801 Level 3
<b>200-2510-B</b> Display Units	Statute Miles
<b>200-2511-B</b> Display Units	Kilometers
Resolution	1/10 of a unit
Wind Speed Sensor	
Max speed	75 mph (0-33.5 m/s), survival 100 mph (44.7 m/s)
Cup Constant	960 revolutions per mile (597 revolutions per kilometer)
Transducer type	Reed switch
Speed Threshold	0.8 mph (0.4 m/s)
Accuracy	1 mph or $\pm 3\%$
General	
Anemometer mount	Mounting stub 1.07" dia. (27 mm)
Flange base mount	Flat base with 4 holes suitable for wood screws
Assembled size	9" diameter (23 cm) x 15" tall (38 cm)
Weight / Shipping weight	5 lbs (2.3 kg) / 9 lbs (4.1 kg)

### 4 INSTALLATION

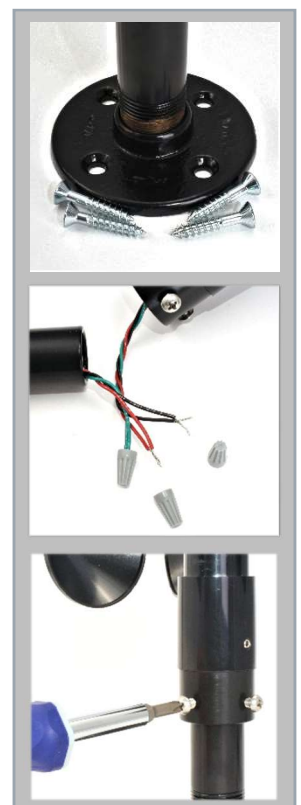
The Totalizing Anemometer is often used next to an evaporation pan. If the evaporation pan is on a wooden platform, mount the anemometer on the same platform where there is extra space.

1. Use wood screws to attach the flange to the wooden platform. Avoid mounting next to tall objects that obstruct the free flow of air.
2. Locate the wires in the base of the anemometer, and the wires extending up from the mounting stub at top of the display unit. Twist the wires together, then use wire nuts to securely join the wires:
 

Red to Red

Black to Black

Green to Green
3. Tuck the wires into the mounting stub as you lower the anemometer onto the stub. Tighten the mounting screws on the base of the sensor to secure the anemometer to the stub.



Open the hinged lid of the display unit and observe the count. Spin the cups clockwise until the display increments by at least 1/10<sup>th</sup> unit to verify your connections. (A small fan can be used.)

NOTE: 96 revolutions = 0.1 mile (Model 200-2510-B)

60 revolutions = 0.1 kilometer (Model 200-2511-B)

After testing, reset the meter by pressing the Next/Reset Key.

## 5 OPERATION

Begin a log of your readings that includes the site name, date and time of reading, and the displayed count on the meter.

**DO NOT** press the Reset button when you take your readings. The counter will eventually over-run the meter and cycle back through zero.

Make sure the cover on display unit latches when you are finished reading the meter.

## 6 MAINTENANCE

At every visit to the site, observe whether "Low Batt" is flashing on the display. The indicator begins flashing approximately two weeks before the battery fails. Purchase a new battery and install it before the old one completely dies, if possible.

At annual intervals, check that the anemometer cups spin freely. Apply a few drops of light machine oil (e.g. fishing reel oil), to the bearing if needed. *Note: Do not use WD-40 or similar products, as they wear off quickly, leaving the bearing dry and susceptible to rust.*

## 7 BATTERY REPLACEMENT

Remove the four screws holding the display to the enclosure and lift the display out to access the battery compartment on the back of the meter. Remove the battery cover by pushing inward and down.

The unit is shipped with one battery, which is installed. The second battery slot is provided to allow for installing a new battery before removing the old one, retaining count total and program data.

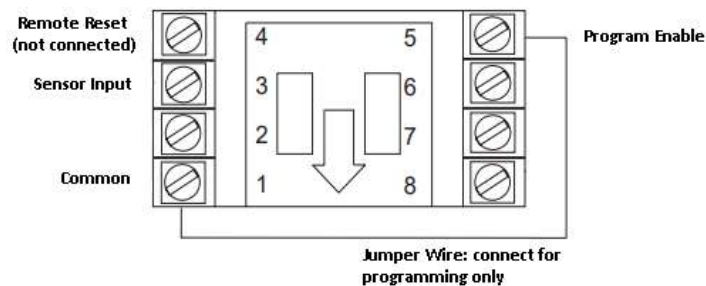
The unit can be run on two batteries to extend the battery life to 10 years. If two batteries are installed, remove only one and replace it with a fresh one, then remove the other depleted battery and replace it with a fresh one or leave the slot empty. Dispose of used batteries according to local regulations.

If the original battery was dead, or power was accidentally removed from the unit, the unit will go into a self-test mode when the new battery is inserted. All the segments on the LCD display will be illuminated. Exit the self-test mode by pressing the Next key, which will then display the model number of the meter. Depress the Next key again to ready the unit for operation. Follow the instructions in the Programming section to restore the calibration numbers.

## 8 PROGRAMMING

The Totalizing Anemometer is pre-programmed to display either total statute miles or total kilometers. It may be necessary to reprogram the meter if the battery is allowed to run down or the batteries are removed. If the display shows all segments on the display illuminated, then it is in self-test mode and the programming will need to be restored. Press the Next key twice to exit self-test mode.

1. Programming is enabled when Terminal 5 on the back of the meter is connected to Terminal 1 (Common). Remove the four screws holding the display mounting plate, and lift the plate and meter from the enclosure to access the terminals. Use a jumper wire to make the connection.



2. Programming parameters can be accessed, when the Program Enable input is active, by pressing the Down key. To edit a parameter use the Down key to scroll until the desired parameter appears on the screen. Pressing the Next key will cause the leftmost digit of that value to begin to flash. Use the Next and Down keys in combination to choose individual digits and change their value.

1. 01.0000

**Count Input Calibrator:** Multiplies the input pulses by a value settable from 0.0001 to 99.9999, and displays the results as the count value.

2. off

**Display Decimal Point:** Sets the decimal point on the count display from Off to 0.00000. The Next key is used to scroll through the choices.

3. 000000

**Count Offset:** Enables the counter to be reset to a value other than 0. Settable range from -999999 to 999999

4. on

**Front Panel Reset Enable:** When active (ON) the count value, when being displayed, can be reset by pressing the Next/Reset key. If set to OFF, the total value can only be reset through the remote input (not connected).

NovaLynx Default Settings

Model	200-2510-B	200-2511-B
Units	Miles	Kilometers
1. Count Input Calibrator	00.0104	00.0168
2. Display Decimal Point	0.0	0.0
3. Count Offset	00000.0	00000.0
4. Front Panel Reset Enable	on	on

- After programming the device, remove the jumper wire from Terminal 5 to prevent accidental changes. Re-install the meter in the enclosure. Spin the anemometer until at least 1/10 of a count is added to the total to ensure it is working properly. Reset the display and log the date, time, and total count in your record book.

## 9 WIRE DIAGRAM

200-251x-B Wind Totalizer

