# NOVALYNX CORPORATION

## MODEL 210-4433 / 210-4434
## MINIMUM/MAXIMUM
## MERCURY FILLED THERMOMETER

## INSTRUCTION MANUAL

REVISION DATE: July 2004

## 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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# TABLE OF CONTENTS


| SECTION NO. | | PAGE NO. |
|---|---|---|
| 1.0 | INTRODUCTION | 1 |
| 2.0 | SPECIFICATION | 1 |
| 3.0 | INSTALLATION | 1 - 2 |
| 4.0 | OPERATING PROCEDURE | 2 |
| 5.0 | CALIBRATION | 2 |
| 6.0 | MAINTENANCE | 2 |

# NOVALYNX CORPORATION

## MODEL 210-4433, 210-4434
## MINIMUM/MAXIMUM THERMOMETER

## 1.0 INTRODUCTION

The Minimum/Maximum Thermometers, Models 210-4433 and 4434, are designed to provide an indication of the minimum, maximum and current temperature. These thermometers may be used either indoors or outdoors. The plastic case holds the glass U tube containing two metal indices, one to indicate minimum temperature and one to indicate maximum temperature. In addition, the glass U tube contains a liquid filling and a mercury column. Behind the U tube are two temperature scales, one for low temperature and the other for high temperatures. A small button is located at the front of the instrument. The button is used to manually reset the high and low temperature metal indices after an observation is made.

The 210-4433 and 210-4434 are useful instruments for agricultural, heating, ventilating and air conditioning, meteorological and other applications in which periodic observation of the minimum, maximum, and current temperature is of importance.

## 2.0 SPECIFICATIONS

| | | |
|---|---|---|
| Range: | 210- 4433 | -40 to +130° F |
| | 210- 4434 | -35 to 55° C |
| Size: | | 10.5" L x 2.3" W x 1" D |
| | | 267 x 58 x 25 mm) |
| Weight: | | 4.5 oz / 1 lb |
| | | (129 g / 0.45 kg) |

## 3.0 INSTALLATION

This instrument is thoroughly tested and fully calibrated at the factory and is ready for installation.

Severe vibration and long term storage may cause the mercury column to separate. To correct this condition, grasp the top of the instrument and swing it downward very rapidly several times until the mercury columns are reunited.

Should air bubbles persist in the column, then hold the thermometer upright under hot tap water so the water washes over the temperature sensing bulb located inside the upper part of the unit. The liquid will be forced upwards and the air bubbles will escape into the large glass bulb. Do not allow the column to rise above 130 F or 60 C. Hold the thermometer in a upright position to cool to room temperature. Wipe dry with towel.

## 4.0 OPERATING PROCEDURE

As the temperature changes, the liquid filling located above the mercury columns in both legs of the U tube expands or contracts depending upon whether the temperature is rising or falling. If the temperature is falling, the mercury column in the left leg of the U tube rises. As the mercury column rises in either the left or right legs of the U tube, it pushes the metal index upward in the tube. When the mercury column falls, the metal index remains in place as an indication of the highest or lowest temperature which was reached during the observation period. The bottom edge of the metal index is always read to indicate the current temperature at the time of observation.

At the completion of an observation, reset is accomplished by pressing the button. The instrument is now ready for another period of observation of minimum or maximum temperature.

## 5.0 CALIBRATION

Calibration of this instrument is not required

## 6.0 MAINTENANCE

Maintenance is limited to keeping the surfaces clean and free of dust and debris.