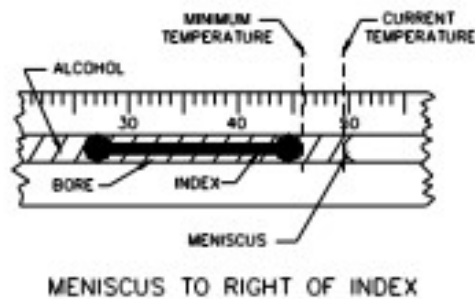


210-442x Minimum & Maximum Thermometers

The **210-44xx Series Minimum & Maximum Thermometers** are made to U.S. National Weather Service specifications. Each thermometer is 10-1/2" (267mm) long with graduations and numerals etched in the glass stem. Gradations are 1 °Fahrenheit or 0.5 °Celsius depending on the model. The thermometers are secured to a stainless steel metal plate with a mounting hole at the top end.

Minimum Thermometer

The minimum thermometer is alcohol-filled and has a dark colored float (index) that is held in tension in the capillary. The float moves downwards with lowering temperatures. As temperatures increase, the float remains fixed at the minimum temperature.



Maximum Thermometer

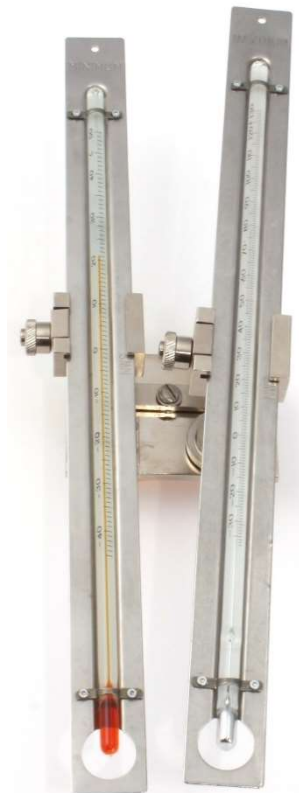
The maximum thermometer is mercury-filled and has a constricted capillary just above the bulb which prevents the mercury from flowing back with lowering temperatures. The column of mercury remains fixed at the warmest temperature to which it has been exposed.

Features

- Accuracy: ± 0.15 °F above 32 °F or ± 0.2 °C above 0 °C
- Gradations: 1 °F or 0.5 °C
- Dimensions: 10.5" L x 1" W (267 mm x 25 mm)
- Weight/shipping (Min & Max set): 2 lbs / 5 lbs (0.9 kg / 2.3 kg)

Ordering Information

210-4425	Maximum Thermometer, -38° to +130°F
210-4426	Maximum Thermometer, -38° to +55°C
210-4429	Minimum Thermometer, -50° to +120°F
210-4430	Minimum Thermometer, -45° to +50°C
210-4422	Townsend Support



Minimum & Maximum Thermometers on optional Townsend Support

Minimum Thermometers:

To SET a minimum thermometer, rotate the metal frame to a vertical position until the sensing bulb is at the top. Allow the float (index) to fall until it reaches the end of the alcohol column.

To OPERATE a minimum thermometer, support it so that sensing bulb is inclined about 5° below horizontal. READ the thermometer in the same position. If used outdoors, the thermometer must be enclosed in a ventilated shelter.

The column of alcohol within the minimum thermometer may become fragmented, resulting in erroneous readings. The separations in the alcohol may appear as small bubbles. These bubbles may cause the index to become trapped. Inspect the thermometer regularly to detect problems with the alcohol column.

One method to restore the alcohol column, is to grasp the metal frame of the thermometer slightly above the mid-point. Avoid pressing against the glass stem of the thermometer. With the arm extended upward, quickly swing the arm downward, through an arc of 3 to 4 feet, coming to an abrupt stop. Repeat this movement several times. Inspect the thermometer to determine whether or not the index has become freed or the alcohol column segments have recombined.

Maximum Thermometers:

The maximum thermometer features a mercury-filled sensing bulb. The bore of the bulb is constricted at a point that is between the bulb reservoir and the graduated portion of the stem. As the temperature rises, some of the mercury from the bulb is forced to pass through the constriction and into the graduated stem. As the temperature begins to decrease, the column of mercury inside the graduated stem remains in place. The top of the mercury column inside the graduated stem will indicate the highest temperature sensed by the thermometer.

To SET a maximum thermometer, the thermometer must be whirled rapidly. The procedure for whirling is described in the Townsend support manual.* If the support is not used, the thermometer may be reset by hand. Grasp the thermometer slightly above the middle and hold it with the bulb end pointed outward. With the arm extended in a near-horizontal position, swing the thermometer rapidly downward; stop abruptly when the thermometer has reached a vertical position. Repeat several times as necessary (the thermometer cannot be shaken down below ambient temperature). *Note: swings with a maximum thermometer must always be started with the arm at or slightly below the horizontal, with the mercury column resting against the constriction; otherwise, the mercury column may be fractured.*

Whenever the thermometer is reset there will appear to be a small gap between the column of mercury inside the graduated stem and the mercury inside the bulb. The bubble is supposed to be there and it is what allows the thermometer to measure the maximum temperature.

To OPERATE a maximum thermometer, support it with the bulb end 5 degrees above horizontal. To READ the thermometer, first rotate it carefully to the vertical with the bulb down. If used outdoors, the thermometer must be enclosed in a ventilated shelter.

Normal Gap



*Townsend Support Manual: <https://novalynx.com/manuals/210-4420-4421-manual.pdf>