

# TBQ-2C

## TOTAL RADITATION METER

### MANUAL



#### OVERVIEW:

TBQ-2C is Mainly used to measure the wavelength of 0.3-3.2 micron solar total radiation .The meter is composed of double layer quartz glass cover, induction element, light screen, desiccant and other parts.

The induction element, which is the core of the table, consists of a fast responding wire-wound electroplating thermopile.The induction surface is coated with 3M matt black paint. The induction surface is a hot contact. When the temperature rises when there is sunlight, it forms a thermoelectromotive force with the cold contact on the other side, which is proportional to the solar radiation intensity.

The double glazing is designed to reduce the effect of air convection on the radiation table.The inner cover is designed to block the infrared radiation of the outer cover itself.

## TECHNICAL SPECIFICATION

- 1、Sensitivity: 7-14mv/kw\*-2;
- 2、Response time: <35s (99% response);
- 3、Annual stability:  $\leq \pm 2\%$ ;
- 4、Cosine response:  $\leq \pm 7\%$  (solar elevation  $10^\circ$ );
- 5、Position:  $\leq \pm 5\%$  (solar elevation  $10^\circ$ 时);
- 6、Non linear:  $\leq \pm 2\%$ ;
- 7、Spectral range: 0.3-3.2 $\mu\text{m}$ ;
- 8、Temperature coefficient:  $\leq \pm 2\%$ (-10--40 $^\circ\text{C}$ ).

## SAFETY & MAINTENANCE

The installation site of TBQ-2C total radiation meter shall be selected above the sensing element plane without any obstacles, so as to ensure that there are no obstacles with a height of more than 5 °C in the sunrise and sunset directions, and the shadow shall fall on the sensing surface compared to the year. The meter shall not be close to light colored buildings or other objects that are easy to reflect sunlight, and shall not be close to artificial radiation sources.

During installation, the plug of the meter shall be placed facing north, leveled first and then fixed.

The connecting cable between TBQ-2C total radiation meter and recorder shall be double-layer shielded conductor with waterproof performance. The cable shall be firmly fixed on the bracket or buried underground for protection.

The continuous working total radiation meter shall be inspected at least once a day, and the inspection content mainly depends on whether the glass cover is clean. In case of frozen snow, frost, dew, etc., try to gently remove these deposits. In addition, the horizontal and desiccant effectiveness should be checked regularly. There is no moisture in the glass cover.

## PRODUCT STORAGE

Indoor storage with relative humidity less than 80% and no corrosive and volatile substances.

## PRODUCT MAINTENANCE

Within one year from the date of delivery, we shall be responsible for free repair and replacement if users complies with the transportation, storage and use rules and the quality is lower than the product standard. If it is damaged artificially , the cost shall be charged appropriately. Responsible for the maintenance of sold instruments for life.

## **CONFIGURATION LIST**

1. TBQ-2C total radiation meter--1 set
2. Output wire---1 piece
3. Manual---1 piece
4. Verification certificate--1 piece
5. Certificate--1 piece