

ICS 07.060
CCS N 95



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 37468-2019

Pyrheliometers

直接辐射表

Issued on: June 4, 2019

Implemented on: January 1, 2020

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard was proposed by the China Meteorological Administration. This standard is under the jurisdiction of the National Standardization Technical Committee for Meteorological Instruments and Methods of Observation (SAC/TC507). This standard was drafted. Meteorological Detection Center of China Meteorological Administration, Jiangsu Radio Science Research Institute Co., Ltd. The main drafters of this standard. Chong Wei, Lv Wenhua, Bian Zeqiang, Ding Lei, Yan Jiajun, Yang Kesan, Xu Yigang.

Direct solar radiation is radiation from the surface of the sun (about 0.5° viewing angle) and the narrow sky around the sun. Direct radiation plays an important role in meteorological research and solar resource utilization. The direct radiation meter is an instrument for measuring direct solar radiation. At present, China has a variety of direct radiation phenotypes, with the World Meteorological Organization and the State. There are still inconsistencies between the standard documents, which is not conducive to the unification of the measured values. This standard is specially formulated to regulate the production of direct radiation meters. And inspection. The direct radiation meter in this standard is an analog output instrument, which is connected to the electrical measuring instrument and installed on the automatic solar tracker. The amount is directly radiated. Direct radiation meter

1 Scope

China's national standard for pyrheliometers. It specifies the terms and definitions, the technical requirements, the test methods, the inspection rules and the marking, packaging and transport. A pyrheliometer measures direct normal irradiance - the solar radiation arriving straight from the disc of the sun, excluding everything scattered by the sky. It does that by looking through a narrow tube that admits only a few degrees of sky around the sun,

mounted on a tracker that follows the sun through the day. The distinction from a pyranometer, which measures everything falling on a horizontal surface, is not academic: concentrating solar power plants can only use the direct component, because scattered light cannot be focused, so the siting and the financing of such a plant rest on years of pyr heliometer data. The instrument is also the primary reference for the whole solar radiation measurement chain, which is why its specification is unusually demanding.

This standard specifies the technical requirements, test methods, inspection rules, marking, packaging, transportation, storage and products of thermoelectric direct radiation meters. Complete sets and so on. This standard applies to the design, production and inspection of thermoelectric direct radiation meters.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article. Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 191-2008 packaging storage and transportation icon

GB/T 2423.1 Environmental testing of electrical and electronic products - Part 2. Test methods Test A. Low temperature

GB/T 2423.2 Environmental testing of electrical and electronic products - Part 2. Test methods Test B. High temperature

GB/T 2423.4 Environmental testing of electric and electronic products - Part 2. Test methods Test Db. alternating heat and damp (12h 12h ring)

GB/T 2423.10 Environmental testing of electric and electronic products - Part 2. Test method test Fc. Vibration (sinusoidal)

GB/T 2423.17-2008 Environmental testing of electric and electronic products - Part 2. Test method test Ka. salt spray

GB/T 2423.21 Environmental testing of electric and electronic products - Part 2. Test method Test M. Low pressure

GB/T 2423.37 Environmental testing of electric and electronic products - Part 2. Test methods Test L. Dust test

GB/T 2828.1-2012.Sampling procedures for counting sampling - Part 1. Quantitative inspection by batches plan

GB/T 4208-2017 enclosure protection grade (IP code)

GB/T 17626.2 Electromagnetic compatibility test and measurement technology
Electrostatic discharge immunity test

GB/T 17626.4 Electromagnetic compatibility test and measurement technology Electrical fast transient burst immunity test

GB/T 17626.5 Electromagnetic compatibility test and measurement technology Surge (impact) immunity test

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Direct radiation directradiation Direct solar radiation direct solar radiation;
beamsolarradiation Radiation from a small solid angle around the sun and its surroundings.

Note. In general, direct solar radiation is measured by an instrument with an angle of view of approximately 5° . Therefore, it includes part of the scattered radiation around the sun, that is, the ring radiation, and The field of view of the day itself is only about 0.5° .