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

**GB/T 19665-2024**

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**General specification for infrared imaging measuring and  
screening instrument of body surface temperature**

红外成像人体表面测温筛查仪通用规范

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## Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. This document replaces GB/T 19665-2005 "General Specification for Electronic Infrared Imaging Human Surface Thermometers" and is compatible with GB/T 19665-2005 Compared with the previous version, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) Added the terms and definitions of "standard boldface" and "reference source" (see
- b) Deleted "Types and basic components of thermometers" (see Chapter 4 of the.2005 edition);
- c) Added "Basic composition", "Appearance and structure", "Self-calibration function", "Screening function", "Display interface", "Storage and retrieval function" "Performance", "Temperature Measurement Consistency", "Temperature Screening False Alarm Rate", "Temperature Screening Missing Alarm Rate", "Average Alarm Response Time", "Maximum Screening Personnel flow", "continuous working time", "interface and compatibility or mutual cooperation", "power adaptability" requirements (see 4.1, 4.2, 4.4.2, 4.4.3, 4.4.4, 4.4.6, 4.5.4, 4.5.6, 4.5.7, 4.5.8, 4.5.9, 4.5.14,
- d) Deleted "Image field cycle", "Focus function", "Temperature resolution", "Image file management function", "Medical record management function" "capability", "printing function", "trolley", "bracket", and "appearance" requirements (see 5.2.5, 5.2.7, 5.3.3, 5.4.2, 5.4.3, 5.5, 5.6,
- e) Added the requirements for "Instruction Manual", "Packing List", "Correction Table and Diagram (optional)" and "Optional Documents" (see 7.1.1.1, 7.1.1.2, 7.1.1.3, 7.1.2);
- f) "Labels and instructions for use" has been deleted (see Chapter 8 of the.2005 edition);
- g) The requirements on storage environment temperature and humidity in "Storage" have been deleted (see

9.3 of the.2005 edition). Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document was proposed by the Ministry of Industry and Information Technology of the People's Republic of China. This document is under the jurisdiction of the National Technical Committee for Standardization of Electronic Measuring Instruments (SAC/TC153). This document was drafted by: China Electronics Technology Group Corporation 11th Institute, China Electronics Technology Standardization Institute, Beijing Metrology Institute of Detection Science, Yantai Arrow Optoelectronics Technology Co., Ltd., Beijing Bopu Huaguang Technology Co., Ltd., China Aerospace Science and Industry Corporation Third Research Institute The 8358th Institute of the Chinese Academy of Sciences and Zhejiang Dahua Technology Co., Ltd. The main drafters of this document are. Yu Songlin, Liu Keyue, Wang Xiaoli, Cao Ce, Qi Haijun, Guo Fang, He Shaojie, Qiu Ying, Zhao Jinbo, Liu Yan, Ma Qun, Yuan Zhigang. The previous versions of

this document and the documents it replaces are as follows:

---First published in 2005 as GB/T 19665-2005;

---This is the first revision. General specification for infrared imaging human surface temperature screening device

## 1 Scope

GB/T 19665-2024 is the general specification for infrared imaging instruments that measure and screen body surface temperature - the thermal cameras installed at station entrances, airports and building lobbies. They were deployed in enormous numbers in China after 2020, and the experience exposed how much of their apparent accuracy depended on things the specification had not pinned down: the blackbody reference in frame, the ambient temperature, the distance and angle to the subject, and the difference between skin temperature and core temperature. The standard sets the requirements on the basic composition, appearance and structure, dimensions and mass, functions, performance, interface compatibility, safety, environmental adaptability, electromagnetic compatibility, power supply adaptability and reliability, and then the corresponding test methods, inspection rules and marking, packaging, transport and storage provisions. It replaces GB/T 19665-2005 and took effect on 15 March 2024.

This document specifies the requirements, quality inspection rules, random documents and markings, packaging, storage, and other aspects of infrared imaging human surface temperature screening devices. et al., described the experimental method. This document applies to the production, inspection and acceptance of infrared imaging human surface temperature screening devices.

## 2 Normative references

The contents of the following documents constitute essential clauses of the document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 191-2008 Pictorial markings for packaging, storage and transportation

GB/T 6587-2012 General specification for electronic measuring instruments

GB/T 9969-2008 General principles for instructions for use of industrial products

GB/T 11463-1989 Reliability test for electronic measuring instruments

## 3 Terms and definitions

The following terms and definitions apply to this document.

3.1 facetemperature Relying on passively receiving infrared information of the body's own thermal radiation, it is converted and processed into a visual image to obtain the measured body surface Temperature screening equipment.

Note. Abbreviated as "screener".

3.2 Standard black body The effective emissivity is approximately

1. It is used to measure the temperature accuracy, temperature repeatability and temperature uniformity of the screening instrument. The temperature is adjustable. Controlled metrological calibration equipment.

3.3 Reference source Calibration equipment used for real-time calibration of the temperature indication of the screening instrument and uniform radiation surface.

3.4 Over-temperature target A device that can release a specified amount of heat and is carried by the test person and can be recognized by the screener as exceeding normal body temperature.

## 4 Requirements

4.1 Basic composition The screening device should at least include an imaging unit, a display and control unit, and a support unit, and may also include a tracking and indication unit, a calibration unit, etc.