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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 36014.1-2018

Industrial process control devices -- Radiation thermometers -- Part 1: Technical data for radiation thermometers

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Foreword

GB/T 36014 "Industrial Process Control Device Radiation Thermometer" is divided into two parts.

--- Part 1. Radiation thermometer technical parameters;

--- Part 2. Determination of radiation thermometer technical parameters.

This part is Part 1 of GB/T 36014.

This section was drafted in accordance with the rules given in GB/T 1.1-2009.

This section uses the translation method equivalent to the use of IEC /T S62492-1.2008 "Industrial Process Control Devices Radiation Thermometer Part 1.

Radiation thermometer technical parameters."

This section made the following editorial changes.

--- "Measurement uncertainty" and "Accuracy" are not equal, correct the term "measurement uncertainty (accuracy)" to "measurement" in 3.1.2

uncertainty";

--- The repetitive example temperature values in 4.1.1.14.2 are corrected to positive values;

--- (A.1), the subscript of L should be a variable, corrected to a non-subscript format.

This part is proposed by China Machinery Industry Federation.

This part is under the jurisdiction of the National Industrial Process Measurement, Control, and Automation Standardization Technical Committee (SAC/TC124).

This section is responsible for drafting. Shanghai Industrial Automation Instrument Research Institute.

Participated in the drafting of this section. Chongqing Dazheng temperature instrument

company, China National Nuclear Automation System Engineering Co., Ltd., Hebei Province, the measurement supervision and inspection

Institute, Shanghai Automation Instrumentation Co., Ltd., Shanghai Metrology and Measurement Technology Research Institute, Wuhan Gold German Infrared Co., Ltd., China Metrology

Science Research Institute, Zhejiang Lent Electromechanical Co., Ltd.

1 Scope

This part of GB/T 36014 specifies the technical parameters of a radiation thermometer with a single wavelength range and a single measurement field of view.

The metering parameters that need to be given in the meter and in the operating instructions are used to unify the parameters and terminology.

This section applies to radiation thermometers.

When giving out the technical parameters of the radiation thermometer, the terminology used is often unclear and it is easy to misunderstand. In addition, the parameters are not on the subject

It is given under quasi-measurement conditions and often does not indicate the correlation between the impact amount and the technical parameters. Therefore, it is difficult for the user to design a radiation thermometer.

Comparing with the performance parameters, it is also difficult to conduct tests to confirm whether the thermometer meets the manufacturer's technical requirements.

This section aims to improve comparability and testability. To this end, this section gives clear technical parameters under standardized measurement conditions.

Definition.

This section does not apply to infrared ear thermometer.

Note. For a specific type of radiation thermometer, manufacturers and sellers are not required to provide all the technical parameters given in this section, only to give a compliance

Partially specified relevant parameters.

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 version (including all amendments) applies to

this document.

Representation of Measurement Uncertainty Guidelines (1995){Guidetotheexpressionofuncertaintyofmeasurement(1995)

[BIPM, IEC , IFCC, ISO , IUPAC, IUPAP, OIML]}

International General Terms of Metrology (1993) {Internationalvocabularyofbasicandgeneraltermsin

Metrology (1993) [BIPM, IEC , IFCC, ISO , IUPAC, IUPAP, OIML]}

3.1 Terms and Definitions

The following terms and definitions apply to this document.

3.1.1

Measured temperature range

Radiation thermometer's measurable temperature range.

3.1.2

Measurement Uncertainty measurementuncertainty

In relation to the measurement results, the parameters that give a reasonable dispersivity to the measured values are characterized.

3.1.3

Noise equivalent temperature difference noisetemperature

Characterizes the measurement uncertainty introduced by instrument noise in degrees Celsius (°C).