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

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Replacing JJG 363-1984; JJG 367-1984

**Calibration Specification of Thermistor Thermometers
(English Translation)**

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Introduction

Based JJF 1071-2010 "National Calibration Specifications writing rules", JJF 1059-1999 "Measurement Uncertainty Evaluation and Expression" and JJF 1001-2011 "common measurement terms and definitions", prepared a draft "thermistor thermometer school Standard Specification." this specification replaces JJG367-1984 "grain temperature thermistor meter" and JJG363-1984 "semiconductor point thermometer." JJG367-1984 "thermistor food thermometer" by the National Measurement Bureau December 13, 1984 approved, in 1985 October 1 implementation. JJG363-1984 "semiconductor point thermometer" by the National Measurement Bureau in December 7, 1984 approved from December 1, 1985 into effect. Since the implementation of two regulations, it has not been revised.

The main technical specification changes are as follows.

- Specification covers all levels of precision thermistor thermometer calibration;
- Increased measurement uncertainty evaluation sample;
- Introduction of stability inspection method in Appendix C;
- Remove the sensor allows the provisions of errors.

Thermistor thermometer calibration specification

1 Scope

This standard applies to the measurement range (-50 ~ 200) °C, the sensor is a thermistor thermometer (hereinafter referred to as Thermometer) calibration.

2 Overview

Thermometer thermistor sensor and indicator composition. Its working principle is to use the thermistor resistance with temperature Variation and change characteristics of temperature measurement. It features fast response, low temperature sensing element, measured in the narrow zone the amount of accuracy.

3 Metrological characteristics

3.1 Insulation resistance at ambient temperature of 15 °C ~ 35 °C, relative humidity of 45% to 75%, each end of the thermometer display instrument Between the child, the insulation resistance between the sensor lead and its housing shall not be less than the requirements of Table 1.

Table 1 Insulation resistance Technical Requirements

No. Test Point

Insulation resistance Mohm 1 power supply - or housing 40 2 input terminals - or casing 20 3 input terminals - Power terminals 40 4 wire sensor - the sensor housing 20

3.2 Indication error Thermometer indication error following two representations.

3.2.1 directly measured value representation see equation (1).

$$\Delta = \pm K \quad (1)$$

Where.

Δ --- Allow indication error, °C;

K --- indication error allowable limit, °C.

3.2.2 in order to quantify the range and units and the measured values relating to representation see equation (2).

$$\Delta = \pm (a\% \text{ FS bd}) \quad (2) \text{ where.}$$

delta --- Allow indication error, °C;