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

GB/T 42567.3-2023

**Reference conditions and procedures for testing industrial and
process measurement transmitters - Part 3: Specific
procedures for temperature transmitters**

工业过程测量变送器试验的参比条件和程序 第3部分：温度变送器的特定程序

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Foreword

This document was issued on 23 May 2023 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 December 2023.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

It is classified under ICS 25.040, Chinese classification N18.

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 is part 3 of GB/T 42567 "Reference Conditions and Procedures for Testing Transmitters for Industrial Process Measurement". GB/T 42567

The following parts have been published.

- Part 1. General procedures for all types of transmitters;
- Part 2. Specific procedures for pressure transmitters;
- Part 3. Specific procedures for temperature transmitters.

This document is equivalent to IEC 62828-3:2018 "Reference Conditions and Procedures for Testing Transmitters for Industrial Process Measurement - Part 3. Temperature Transmitter Specific Procedures".

The following minimal editorial changes have been made to this document.

---Correct "For long-distance transmission, RTD only uses 2-wire connection (not 3-wire or 4-wire connection)" in Appendix A to "For

For long-distance transmission, RTDs use 3- or 4-wire connections (not 2-wire connections)" (original error).

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

This document is proposed by China Machinery Industry Federation.

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Introduction

Most of the current standards for industrial process measurement transmitters are relatively old and based on analog transmitters. same

At the same time, many industrial process measurement transmitters are also developing, and they are very different from analog transmitters. they are usually digital, and in the computing department

Part (mainly digital electronic circuits) and measurement part (mainly mechanical structure), both include more functions and newer interfaces. currently saved

There are relevant standards for measuring digital transmitters in some processes, but there is still a lack of suitable test methods for some performance aspects.

Existing test standards for industrial process measurement transmitters are scattered documents, so identifying and selecting

Selecting all transmitter standards for measuring a specific process quantity (pressure, temperature, flow, level, etc.) is difficult, impractical and time consuming.

In order to solve the above problems, so as to be better used by manufacturers and users, and to provide systematically for different types of industrial process measurement transmitters

For a comprehensive test method, GB/T 42567 is proposed to consist of the following 5 parts.

--- Part 1. General procedures for all types of transmitters. The purpose is to provide measurement and control systems for industrial processes and machinery

All types of transmitters used provide the reference conditions and procedural framework for the experiments.

--- Part 2. Specific procedures for pressure transmitters. Intended for use in measurement and control systems for industrial processes and machinery

The pressure transmitter provides specific test reference conditions and procedures.

--- Part 3. Specific procedures for temperature transmitters. Intended for use in measurement and control systems for industrial processes and machinery

The temperature transmitter provides specific test reference conditions and procedures.

--- Part 4. Specific procedures for level transmitters. Intended for use in measurement and control systems for industrial processes and machinery

The level transmitter provides specific test reference conditions and procedures.

--- Part 5. Specific procedures for flow transmitters. Intended for use in measurement and control systems for industrial processes and machinery

The flow transmitter provides specific test reference conditions and procedures.

In the process of formulating the GB/T 42567 series of standards, many test procedures in GB/T 18271 were adopted, and necessary

Improve.

Industrial process measurement transmitter test

Reference Conditions and Procedures

Part 3. Specific procedures for temperature transmitters

1 Scope

GB/T 42567.3-2023 fixes the reference conditions and the test procedures for a temperature transmitter used in an industrial process or a machine control system. Where