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

**GB/T 42125.7-2024**

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**Safety requirements for electrical equipment for measurement, control, and  
laboratory use - Part 7: Safety requirements for hand-held and hand-manipulated  
probe assemblies for electrical measurement and test**

测量、控制和实验室用电气设备的安全要求 第7部分：电工测量和试验用手持和  
手操探头组件的安全要求

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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 is Part 7 of GB/T 42125 "Safety requirements for electrical equipment for measurement, control and laboratory use". The following parts have been published.

1. General requirements;
2. Particular requirements for laboratory equipment for heating materials;
3. Particular requirements for refrigeration equipment;
4. Particular requirements for climate and environmental tests and other temperature regulation equipment;
5. Particular requirements for laboratory centrifuges;
7. Safety requirements for hand-held and hand-operated probe assemblies for electrical measurement and test;
10. Particular requirements for insulation resistance measurement and dielectric strength test equipment;

14.Particular requirements for automatic and semi-automatic equipment for laboratory use for analytical and other purposes;

18.Particular requirements for control equipment;

19.Particular requirements for electric control valve actuators. This document replaces GB 4793.5-2008 "Safety requirements for electrical equipment for measurement, control and laboratory use Part

5.Electrical measurement Safety requirements for hand-held probe assemblies for testing and inspection" is revised compared with GB 4793.5-2008, except for structural adjustments and editorial changes. The changes are as follows:

--- Added terms such as finger guard, connector, probe line, spring loaded clamp, spacing, etc. (see 3.1, 3.5);

## 1 Scope

GB/T 42125.7-2024 sets the safety requirements for hand-held and hand-manipulated probe assemblies used in electrical measurement and test, within the Chinese adoption of the IEC 61010 series. The probe is the part of a measuring system that an operator holds against a live conductor, which makes it the component on which their safety most directly depends, and it is also the component most often bought loose, mixed between brands and used far outside its rating. The standard addresses that directly. It sets the types of probe assembly, the safety and verification framework and the environmental conditions; the tests, their general principles, sequence, reference conditions and the tests under single fault condition; and then the requirements themselves: the marking and documentation, the protection against electric shock with the creepage and clearance and insulation requirements that follow from the measurement category and working voltage, the mechanical requirements and the resistance of the probe body, tip, barrier and lead to mechanical stress, the resistance to heat and fire, and the protection against hazards from fluids. It takes effect on 1 November 2025.

This document specifies the safety requirements for hand-held and hand-operated probe assemblies for electrical measurement and testing, and related accessories. Used as a non-contact or direct electrical connection between components and test and measurement equipment. They may be fixedly mounted on the equipment It may also be a detachable accessory of the device. This document is primarily intended as a safety standard for the products mentioned in its scope, but is also intended for use by technical committees under the IEC Guide 104 and ISO /IEC Guide 51, and develop documents similar to those mentioned in the scope of this document.

## 2 Normative references

The contents of the following documents constitute the essential clauses of this 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 42125.1-2024 Safety requirements for electrical equipment for measurement, control and laboratory use Part

### **3 Terms and Definitions**

The following terms and definitions apply to this document.