

JIS

JAPANESE INDUSTRIAL STANDARD

**Temperature measurement—
Electrical methods**

JIS Z 8704^{—1993}

Translated and Published

by

Japanese Standards Association

**In the event of any doubt arising,
the original Standard in Japanese is to be final authority.**

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Temperature measurement –
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1. Scope This Japanese Industrial Standard specifies the general methods used for electrical measurement of temperature by utilizing the variation in thermoelectromotive force or electric resistance with temperature (hereafter referred to as "measurement methods").

Remarks : The standards cited in this Standard are shown in Attached Table 1.

2. Definition The main terms used in this Standard shall be as specified in JIS C 1601, JIS C 1602, JIS C 1603, JIS C 1604, JIS C 1605, JIS C 1606, JIS C 1610, JIS C 1611, JIS C 1802 and JIS Z 8103, and other terms be as follows:

- (1) measuring instrument Generic name for measuring apparatus, receivers, standards, etc.
- (2) measuring apparatus An apparatus for measurement of voltages or resistances.
- (3) receiver An apparatus which receives the signal from temperature detector and performs indication, recording, etc. of the temperature.
- (4) standard An apparatus which exerts an amount in a certain unit practically and which is used as the reference for measurement (see JIS Z 8103).
- (5) temperature detector The detector which serves as the first component in the system which transduces measured values of temperature into signals. Thermocouples, resistance bulbs and thermistors for temperature measurement are included in this category.
- (6) transmitter An apparatus which has a function to transduce the signal from the temperature detector to another signal, or to change the magnitude of the signal, for the purpose of transmission.
- (7) sensing element A component which senses the temperature and transduces the magnitude into an electric signal. It forms a part of the temperature detector. For example it means the temperature measuring junction in a thermocouple, the resistance element in a resistance thermometer sensor, the thermistor in a temperature measurement thermistor.
- (8) detecting element The part of a temperature detector which is intended to become the same temperature as that of the object of measurement. It includes the sensing element and a part of the protective tube in the vicinity thereof.
- (9) protective tube The tube to be attached to a sensing element to protect the element from direct contact with the measurement object, the environmental atmosphere, etc.
- (10) terminal The junction point for transmitting or receiving signals referring to temperatures.

Related standard: JIS Z 8710 General rules for temperature measurement