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**GB/T 47622-2026**

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**General technical requirements for indoor thermostats**

室内温度控制器通用技术条件

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# 1 Scope

GB/T 47622-2026 is the Chinese national standard covering the room thermostat - its measurement accuracy and its differential, the control behaviour and the scheduling, the interfaces to the heating or cooling plant and to a building system, and the electrical safety. In a country that is metering and charging heating by consumption rather than by area, the thermostat is what makes that possible. First edition, in force from 1 December 2026. It was issued on 25 May 2026 and takes effect on 1 December 2026, as a first edition. The document is under the responsibility of the Ministry of Housing and Urban-Rural Development. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

Note. Human-computer interaction devices refer to devices with human-computer interaction capabilities, such as computers and controllers with display functions.

## 2 Schematic diagram of communication function test method

7.4.5 Power-off data retention function Install the network thermostat correctly according to the product manual and connect the power supply. Turn on the device according to the product manual and set the set temperature and operating mode. Set the parameters and run it continuously for 5 minutes, recording the temperature setting, operating mode, and other data of the temperature controller (for programmable temperature controllers, it is also necessary to record...). (Schedule, set temperature for each time period, operating mode, etc.). Then disconnect the power supply for 72 hours (24 hours for programmable temperature controllers). After powering on again, immediately check and record the test results.

### 5.1 Basic Provisions

5.1.1 The temperature controller shall be manufactured in accordance with the drawings and technical documents approved according to the prescribed procedures.

5.1.2 The temperature controller should use either AC or DC power. The AC power supply should be compatible with 24V or 220V, 50Hz; the DC power supply should be compatible with... 12V, 24V, or 48V. Battery-powered thermostats should be compatible with 1.5V or 3V power.

Note. This requirement does not apply to products that are embedded in other devices and function as temperature controllers.

5.1.3 In general use, the protection rating of the thermostat should not be lower than IP20; for use in kitchens, bathrooms, and other places with high humidity. At this time, the protection level of the thermostat should not be lower than IP24, and waterproof covers and other protective measures can be used to achieve this level requirement.

5.1.4 The thermostat should be installed 1.2m to 1.5m above the ground for easy operation and to accurately reflect the temperature of the controlled area.

## 5.2 Materials

5.2.1 The heat resistance and flame retardancy of materials used in the thermostat's housing, display screen, circuit board assembly, wiring harness assembly, and fasteners shall meet the following requirements. According to the relevant provisions of GB/T 14536.1-2022, the content of hazardous substances shall comply with the relevant provisions of GB 26572.

5.2.2 The metal parts of the thermostat shall comply with the relevant provisions on corrosion resistance in GB/T 14536.1-2022.

5.2.3 The components and materials of the thermostat should preferably be manufactured using renewable resources.

## 5.3 Specifications and Structure

5.3.1 The structural design of the thermostat shall comply with the relevant provisions of GB/T 14536.1-2022.

5.3.2 The external dimensions of the panel, adjustment plate or mounting box for concealed mounting of the thermostat should be compatible with the installation requirements of the 86-type mounting box.

5.3.3 The terminals and connectors of the temperature controller shall meet the requirements of Chapter 11 of GB/T 14536.1-2022.

5.3.4 The components of the thermostat should be secure and not loose, and the operation of operable parts such as buttons should be sensitive and reliable.

5.4 Safety The safety of thermostats should comply with the relevant provisions of GB/T 14536.1-2022, including thermostats for electric underfloor heating and water-based radiant heating and cooling systems. Safety should also comply with the relevant provisions of GB/T 31459.

## 6 Technical Requirements

6.1 Appearance The thermostat housing should not be deformed, and the painted and electroplated surfaces should be smooth, uniform in color, and free from peeling or other

damage.

### 6.2.1 Display Function

6.2.1.1 The human-machine interface display function requirements for the temperature controller are as follows:

- a) Graphic symbols should be clearly legible, without any defects, breaks, or deformation;
- b) When operating the temperature controller, the set temperature, operating mode, and other parameters should be displayed. If a malfunction occurs, a fault symbol or similar prompt should be displayed.
- c) Wireless networked thermostats should display network status;
- d) Under normal use, the temperature display value should be an integer or retain one decimal place; during temperature measurement accuracy testing, the temperature display value should be... It should be rounded to one decimal place, and the unit is degrees Celsius (°C).

6.2.1.2 The graphic symbols for the main functions of the human-machine interface of the temperature controller should refer to Appendix A, and its display screen should be backlit.

6.2.2 Setting Function The thermostat should be able to turn on/off, set the temperature, and change the operating mode via a human-machine interface or communication function.

### 6.2.3 Control Functions

6.2.3.1 The temperature controller should be able to automatically control the operation of the terminal equipment according to the set temperature, operating mode and other parameters.

6.2.3.2 The programmable temperature controller should have editing functions for the timetable and set temperature. Upon initial power-on, it will default to the factory-set timetable. Dynamic operation. During the working period, the factory-set temperature should not be lower than 26°C in cooling mode and not higher than 18°C in heating mode; non-operating... During the operating period, the factory-set temperature should not be lower than 28°C in cooling mode and should not be higher than 16°C in heating mode.

6.2.3.3 In situations where there is a need for antifreeze protection during heating mode, the thermostat should have antifreeze protection function.

6.2.3.4 Temperature controllers with a power greater than 2W under rated operating conditions should have a screen-off mode.

### 6.2.4 Communication Function

6.2.4.1 The underlying protocol of the wired network thermostat should support one or