

ICS 29.120.30
CCS K30



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

GB 1002-2024

Replacing GB/T 1002-2021

**Single Phase Plugs and Socket-outlets for Household and
Similar Purposes - Types, Basic Parameters and Dimensions**

家用和类似用途单相插头插座 型式、基本参数和尺寸

(English Translation)

Issued on: July 24, 2024

Implemented on: August 1, 2025

**Issued by: State Administration for Market Regulation;
Standardization Administration of the People's Republic of China.**

Table of Contents

Foreword	3
1 Scope	5
2 Normative References	5
3 Terms and Definitions	6
4 Technical Requirements	6
5 Test Methods	10
6 Implementation of Standard	12
Bibliography	30

Foreword

This document was drafted in accordance with the rules provided in GB/T 1.1-2020 Directives for Standardization - Part 1: Rules for the Structure and Drafting of Standardizing Documents.

This document serves as a replacement of GB/T 1002-2021 Single Phase Plugs and Socketoutlets for Household and Similar Purposes - Types, Basic Parameters and Dimensions. In comparison with GB/T 1002-2021, apart from structural adjustments and editorial modifications, the main technical changes are as follows:

- The scope of application of this Standard is modified (see Chapter 1; Chapter 1 of
- The definition of direct plug-in equipment is added (see 3.1);
- The content of socket jack arrangement and combination (see 4.1.3) and an example of the schematic diagram (see Figure 7) are added;
- It is added that the single pin of a plug shall not undergo axial rotation that changes the type and position (see 4.1.5);
- The requirements for the inner frame of the fixed pin of non-rewireable plug are added (see 4.1.6);
- requirements for the length of the plug pin are added (see 4.2.1);
- The requirements for the insulating sheath of the plug pin are modified (see 4.2.2; 4.2.2
- The content of single-phase two-pole ungrounded plug is modified (see 4.2.3; 4.2.3 of
- The content of the plug for direct plug-in equipment is added (see 4.3);
- The minimum distance between the live plug bush and the mating surface in Figure 6 is

added (see Table 1);

---The depth of the plug pin that can be inserted into corresponding cavity of the socket jack is added (see 4.4.3);

---The pin length measurement method for plugs of the direct plug-in equipment is added (see 5.1);

---The pin bending test method is added (see 5.3);

---The roller drop test method is added (see 5.5);

---The implementation of the Standard in Chapter 6 is added (see Chapter 6);

---The thickness t and tolerance of the plug pin (see Figure 1 and Figure 3; Figure 1 and Figure 3 of Version 2021), as well as the dimensions and tolerances of the corresponding measuring gauge are modified (see Figure 12, Figure 13, Figure 23 and Figure 24; Figure 13, Figure 14, Figure 15 and Figure 16 of Version 2021);

---An example of the shape of the pin end is added (see Figure 1 and Figure 3);

plugs and socket-outlets are added (see Figure 5, Figure 6, Figure 14, Figure 18, Figure 21 and Figure 25);

---The dimensions of the measuring gauge are modified (see Figure 16, Figure 17, Figure 18). Please be noted that certain content of this document may involve patents. The institution issuing this document does not undertake the responsibility of identifying these patents.

This document was proposed by and shall be under the jurisdiction of Ministry of Industry and Information Technology of the People's Republic of China.

1996, thirdly revised in 2008 and fourthly revised in 2021;

---This is the fifth revision. It is revised into a mandatory national standard.

1 Scope

This document specifies the types, basic parameters and dimensions of single-phase plugs and socket-outlets for household and similar purposes, and describes the corresponding test methods.

This document is applicable to single phase plugs and socket-outlets for household and similar purposes, with an AC frequency of 50 Hz, a rated voltage of 250 V and a rated current not exceeding 32 A.

2 Normative References

The contents of the following documents constitute indispensable clauses of this document through the normative references in the text. In terms of references with a specified date,

only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

3 Terms and Definitions

The terms and definitions defined in GB/T 2900.70-2008 and GB/T 2099.1-2021, and the following are applicable to this document.

3.1 direct plug-in equipment

An equipment, in which, the power plug and the equipment shell constitute an integral part. lights mounted on electrical socket-outlets, plug-in transformers and power adapters, etc.

4.1 General Requirements

4.1.1

Single phase plugs and socket-outlets for household and similar purposes are divided into two basic types: two-pole ungrounded and two-pole grounded.

4.1.3

In addition to fixed socket-outlets, for mobile (portable) socket-outlets, converters and appliance socket-outlets, arrangement and combination of the socket jack in Figure 2 and the socket jack in Figure 4 are allowed, but the socket jack in Figure 2 and the socket jack in Figure 4 shall not overlap or be shared with each other. Figure 7 provides a schematic diagram.

4.1.4

The position of the plug bush of two-pole grounded socket-outlets shall be such that when facing the socket-outlets, the ground wire (E pole) is at the top, the neutral wire (N pole) is on the left, and the phase wire (L pole) is on the right. The position of the pin of two-pole grounded plugs shall correspond to that of the socket-outlets.

4.1.6

The strength of the inner frame of the fixed pin of non-rewireable plug shall be able to ensure the stability of the pin size, and the type and dimensions shall comply with the requirements of the corresponding dimensional drawings.

4.2.1 Plug shape

The shape of the plugs is not specified, but the distance between the root of the live pin of the plugs and the edge of the plugs shall not be less than 6.5 mm.

4.2.3 Single phase two-pole ungrounded plug

The single phase two-pole ungrounded plug include grounded plug in Figure 3, but without grounding function, and shall be made in a nonrewireable form. The ground pin position in Figure 3 is used to install the protective door drive insert. The drive insert is black in color, not connected to a ground wire, and nor marked with a ground symbol. It is only used as a drive device to open the protective door when plugged into the socket-outlet. ---plugs conforming to Figure 3, but without a grounding pin. This form of plugs shall not be inserted into a socket-outlet with a grounded pole driven protective door. There shall be no gap between the insulating sheath and the equipment shell, causing the metal root of the live pin to be exposed. If in doubt, check through the test in 5.4. During the test, the probe shall not touch the live pin. electric shock prevention of the whole machine is determined by the standard of the whole machine. 4.3.

5 Test Methods

5.1

For the inspection of the dimensions of single-phase plugs and socket-outlets for household and similar purposes, the special-purpose measuring gauges specified in Figure 12 ~ Figure 14, Figure 16 ~ Figure 25, and a vernier caliper with a division value not greater than 0.02 mm shall be used. The dimensions of the rounded part at the end of the plug pin shall be measured with an appropriate measuring instrument. The surface roughness of these measuring gauges is all Ra 0.8, and the hardness is Rockwell hardness HRC58 ~ HRC62. The geometric tolerances of the measuring gauges, such as: parallelism, perpendicularity and symmetry, shall comply with the tolerance level H specified in GB/T 1184-1996. For the plugs of the direct plug-in equipment, in accordance with the manufacturer's instructions, under the most unfavorable situation, directly insert the direct plug-in equipment into the socket-outlet. After it stabilizes, measure the length of the pin. 5.3 Use 3 new plug samples to conduct the pin bending test in accordance with the following method.

- a) After the finished plug sample is clamped by a rigid stationary fixture, apply a force to the pin to cause it to bend (as shown in Figure 26).
- b) Before starting the test, the pin shall be straight. If there is any doubt whether the pin is straight enough, the corresponding measuring gauges in Figure 16, Figure 17 and Figure 18 can be used to check it.
- e) For phase line pins and neutral line pins, the test force shall be applied toward the center point of the plug, then, return to the initial position. ± 0.3 mm, then, push the pin back to the starting point. Any "bounce" can be ignored.
- g) From the starting point of the displacement to the end point ($7.5 \text{ mm} \pm 0.3 \text{ mm}$), then, back to the starting point is one cycle (that is, one cycle is equal to two separate bending and normalizing movements).
- i) There shall be at least 10 s interval between each cycle.