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

GB/T 42710.2-2023

**Direct current (DC) plugs and socket-outlets for household and
similar purposes - Part 2: Types and dimensions**

家用和类似用途直流插头插座 第2部分：型式尺寸

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents" Drafting. This document is Part 2 of GB/T 42710 "Household and similar DC plugs and sockets". GB/T 42710 has been released with Lower part.

1. General requirements;

2. Type dimensions. Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents. This document is proposed by the China Electrical Equipment Industry Association. This document is under the jurisdiction of the National Technical Committee for Standardization of Electrical Accessories (SAC/TC67). This document was drafted by: China Electrical Equipment Research Institute Co., Ltd., Jiangsu Tongling Technology Co., Ltd., Bull Group Co., Ltd. Company, Hangzhou Hongyan Electric Co., Ltd., China Electric Power Research Institute Co., Ltd., Zhejiang Chint Building Electric Co., Ltd., Shenzhen Construction Scientific Research Institute Co., Ltd., Weikai Testing Technology Co., Ltd., China Electricity Council, Beijing People's Electrical Appliances Factory Co., Ltd., Zhejiang Jiangde Lixi International Electrical Co., Ltd., Feidiao Electrical Appliance Group Co., Ltd., Jiaxing Weikai Testing Technology Co., Ltd., Schneider Electric (China) Co., Ltd. Shenzhen Branch, Nanjing Kangni New Energy Auto Parts Co., Ltd., Guangzhou Guangri Intelligent Parking Equipment Co., Ltd., Guangdong Hao Bote Technology Co., Ltd., Guangdong Liansheng Conducting Technology Co., Ltd., Holis Wire Assembly (Shenzhen) Co., Ltd., Simon Electric (China) Country) Co., Ltd., Yuyao Guochang Electric Co., Ltd., Zhejiang Tuotai Electric Co., Ltd., Zhejiang Yuehua Telecom Co., Ltd., Zhejiang Zhongxun Telecom Subsidiary Co., Ltd., Zhuhai Gree Electric Co., Ltd., Guangdong Midea Refrigeration Equipment Co., Ltd., Anhui

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GB/T 42710 aims to standardize the technical requirements for DC plugs and sockets for household and similar purposes to ensure that users use DC electronic appliances. Safety during plugging and unplugging when the product is powered on. GB/T 42710 consists of the following 2 parts.

---GB/T 42710.1 "Household and similar DC plugs and sockets - Part

1.General requirements". The purpose is to standardize household and Technical requirements such as anti-shock protection, structural requirements, mechanical properties, and electrical properties for DC plugs and sockets with similar uses.

---GB/T 42710.2 "Household and similar DC plugs and sockets - Part

2.Types and dimensions". The purpose is to standardize household and Types and dimensions of DC plugs and sockets for similar purposes. This document can provide guidance for the production of DC plug and socket products for household and similar purposes, and improve the technical performance, safety and reliability of the products. safety and ensure the safety of electricity consumption for the people. DC plugs and sockets for household and similar purposes Part

1 Scope

GB/T 42710.2-2023 gives dimensions to the household DC socket. Direct current has been returning to buildings from several directions at once - rooftop photovoltaics, battery storage, LED lighting, USB power delivery, and the general fact that most electronics rectify the mains straight back to DC - and each conversion between AC and DC costs efficiency. A DC distribution system inside a home avoids those conversions, but only if there is a connector for it, and a connector that cannot be confused with the AC one. This part specifies the types, basic parameters and dimensions of DC plugs and socket-outlets for household and similar purposes, together with the test methods for verifying them. It applies to plugs and socket-outlets for indoor or outdoor household and similar use, for direct current only, at rated voltages up to 400 V. Dimensional standardisation is the whole point: it is what makes appliances from different manufacturers usable in the same house and what physically prevents a DC plug from entering an AC outlet. Under ICS 29.120.30 and CCS K30, it is written for connector and appliance manufacturers, building electrical designers, and the certification bodies approving DC installations.

This document specifies the types, basic parameters and dimensions, and test methods of DC plugs and sockets for household and similar purposes. This document applies to household and similar purposes, indoor or outdoor use, only for direct current, rated voltage does not exceed 400V, rated Plugs and sockets with a current not exceeding 16A.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document.

GB/T 1184 Shape and position tolerances No tolerance value noted

GB/T 2099.1 Plugs and sockets for household and similar purposes Part

3 Terms and definitions

The terms and definitions defined in GB/T 2900.70 and GB/T 2099.1 apply to this document.

4.1 General

4.1.1 DC plugs and sockets for household and similar purposes are divided into two basic types. two-pole ungrounded and two-pole grounded.

4.1.2 The type, basic parameters and dimensions of DC plugs and sockets for household and similar purposes, and the arrangement of positive and negative contacts should comply with Figures 1 to 4 and

Note. The types, basic parameters and dimensions of plugs and sockets of other specifications are under consideration.

4.2 Plug

4.2.1 The shape of the plug is not specified, but the distance between the live pin of the 400V plug and the edge should not be less than 6.5mm.

Note. If the plug mating surface is not a plane, offset 1 mm from a plane passing through the highest point of the mating surface and perpendicular to the pin axis toward the plug body. The line that intersects with the surface of the body is regarded as the edge of the plug. An example is the B value in Figure 5.

4.2.2 The live pin of the 400V plug should be equipped with an insulating sheath. The height of the insulating sheath is (9 ± 0.5) mm. The shape of the plug insulating sheath is The size cannot exceed the minimum size of the corresponding socket jack, and the plug can be inserted into the socket smoothly. Plugs with insulating sheaths shall comply with the requirements of 4.2.1.

4.3 Socket

4.3.1 The distance between the live socket and the mating surface of the sockets in Figures 2 and 4 should not be less than the value specified in Table 1, see the K value indicated in Figure 6.