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

GB/T 36028.1-2025

Replacing GB/T 36028.1-2018

**Technical conditions for shore-to-ship power supply systems -
Part 1: High voltage connection**

靠港船舶岸电系统技术条件 第1部分：高压供电

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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 1 of GB/T 36028 "Technical Conditions for Shore Power Systems of Ships at Call". GB/T 36028 has published the following... part.

1. High-voltage power supply;

2. Low-voltage power supply. This document replaces GB/T 36028.1-2018 "Technical Conditions for Shore Power Systems of Ships at Port - Part

1. High Voltage Power Supply", and is consistent with... Compared with GB/T 36028.1-2018, apart from structural adjustments and editorial changes, the main technical changes are as follows:

a) The scope of application has been changed (see Chapter 1, Chapter 1 of the 2018 edition);

b) The terminology and definition of "shore power supply" have been changed (see 3.2, 2018 version 3.2), and the terms "high-voltage power supply" and "uninterruptible power supply" have been removed. The term "cable management device" and its definition (see

3.4 in the 2018 edition) have been added (see 3.3).

c) The composition of the shore power system for vessels berthing at port has been changed (see 4.1, 2018 version 4.1);

d) Requirements for shore power frequency power supply and shore power frequency

converter configuration have been added (see 4.2);

e) The requirements for work environment conditions have been changed (see 5.1,.2018 version 5.1);

f) The requirements for shore power systems have been changed (see 5.2,.2018 version 5.2);

g) The requirements for electricity metering devices and metering cabinets have been changed (see 5.3.4,

5.4.4 in the.2018 version);

1 Scope

GB/T 36028.1-2025 is the Chinese national standard covering plugging a ship into the grid at high voltage - the frequency conversion between a 50 Hz quay and a 60 Hz ship, the earthing and the protection, the cable management for a vessel that moves with the tide, and the synchronisation that lets the generators be shut down. It replaces GB/T 36028.1-2018, with Part 2 on low voltage revised alongside it. It was issued on 2 December 2025 and has been in force since 1 July 2026, replacing GB/T 36028.1-2018. The document is under the responsibility of the Ministry of Transport. This page is published from the official record of the 2025 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.

This document specifies the system composition, general provisions, and technical specifications for high-voltage power supply to shore power systems (hereinafter referred to as "shore power systems") on vessels berthed in port. and experimental methods. This document applies to the design, development, and application of shore power systems for ships berthing in ports with a voltage higher than 1000V AC.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 1094.11 Power Transformers - Part

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Facilities that provide electrical power to ships from the port while they are berthed.

3.2 High-voltage shore-to-ship power During the period when a ship is berthed, a dedicated high-voltage power supply equipment suitable for the voltage and frequency of the berthed ship is provided.

Note. The voltage of high-voltage shore power supply is higher than AC 1000V.

11 Dry-type Transformers

GB/T 4208-2017 Degrees of protection provided by enclosures (IP code)

GB/T 12325 Power Quality - Supply Voltage Deviation

GB/T 12326 Power Quality - Voltage Fluctuations and Flicker

GB/T 14549 Power Quality - Harmonics in Public Power Grids

GB/T 15945 Power Quality - Frequency Deviation of Power Systems

GB/T 16934 Electricity Metering Cabinet

GB/T 30845.1 Plugs, sockets and marine couplers for high voltage shore power connection systems (HVSC systems) - Part