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

GB/T 4797.1-2018

Replacing GB/T 4797.1-2005

**Classification of environmental conditions -- Environmental
conditions appearing in nature -- Temperature and humidity**

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Foreword

GB/T 4797 includes the following 8 parts.

---GB/T 4797.1 Classification of environmental conditions Natural environmental conditions Temperature and humidity;

---GB/T 4797.2 Environmental conditions classification of natural environmental conditions;

---GB/T 4797.3 Electrical and electronic products, natural environmental conditions;

---GB/T 4797.4 Classification of environmental conditions Natural environmental conditions Solar radiation and temperature;

---GB/T 4797.5 Environmental conditions Classification of natural environmental conditions precipitation and wind;

---GB/T 4797.6 Environmental conditions Classification of natural environmental conditions dust, sand, salt spray;

---GB/T 4797.7 Electrical and electronic products environmental conditions classification natural environmental conditions earthquake vibration and impact;

---GB/T 4797.8 Classification of environmental conditions for electrical and electronic products Natural environmental conditions Fire exposure.

This part is the first part of GB/T 4797.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 4797.1-2005 "Electrical and Electronic Products Natural Environmental Conditions Temperature and Humidity".

The main changes in this section compared with GB/T 4797.1-2005 are as follows.

--- The name of this section was changed to "Environmental Condition Classification Natural Environment Condition Temperature and Humidity";

--- Worldwide outdoor climate types are simplified, and the definition of various climate types and the daily mean value of temperature and humidity are given again.

Annual extremum and absolute extremum (see Table 1 to Table 5);

--- Delete climate maps and related descriptions of worldwide and Chinese outdoor climate types (see.2005 edition 5.2, Figure 1 to Figure 16);

--- Updated the daily mean value, annual extremum and absolute extremum data of temperature and humidity in different climate types in China (see Table 3 to Table 5);

--- Appendix A content was modified to. climate type map;

--- Removed Appendix B, Appendix C, Appendix D and Appendix E (see.2005 edition);

--- Added Appendix B "Climate data for various locations of China's climate types".

This section uses the redrafting method to modify the use of IEC 60721-2-1.2013 "Environmental Condition Classification Section 2-1. Natural Environment Articles

Temperature and humidity.

Compared with IEC 60721-2-1.2013, this part has the following adjustments in structure. the contents of Chapter 3 of the International Standard have been deleted, and corresponding

Adjust the chapter number that follows.

The technical differences between this part and IEC 60721-2-1.2013 and their reasons are as follows.

--- Increased the content of six climate types in China, including daily mean values of extreme values of temperature and humidity, annual extremes and absolute extremum

According to the standard, the applicability of the standard is stronger and suitable for China's national conditions (see Table 3~Table 5).

This section also made the following editorial changes.

--- In order to be unified with the existing standard series in China, the name of this part was changed to "Environmental conditions, natural environmental conditions, temperature and humidity";

--- Added Appendix B. Climate data for various locations of China's climate types. The applicability of the standards is stronger and suitable for China's national conditions.

This part is proposed and managed by the National Technical Committee for Environmental Conditions and Environmental Testing Standardization of Electrical and Electronic Products (SAC/TC8).

This section was drafted. China Electric Apparatus Research Institute Co., Ltd., Sichuan

University, Fujian Xinneng Offshore Wind Power R & D Center Limited
the company.

1 Scope

This section of GB/T 4797 lists outdoor climate types expressed as temperature and humidity parameters as a product test and application option.

Background material with appropriate temperature and humidity severity.

In addition to areas with an altitude of more than 5000m, these climate types include all regions of the country.

This section can also be used as a background material when determining the application of climatic conditions to the product.

This section specifies a range of outdoor climate types based on temperature and humidity parameters. These climate types are often used for transportation, storage, and
Installation and use.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB /Z 32126-2015 Climate field data and verification (IEC /T R62130.2012, IDT)

IEC 60721-1.1990 Classification of environmental conditions - Part 1. Environmental parameters and their severity (Classification of environ-

mentalconditions-Part 1.Environmentalparametersandtheirseverities)

3 Overview

GB /Z 32126-2015 collected and validated climate data. The two main sources of data are references [2] and [3].

References [2] collected daily temperature and humidity data from 1973 to.1992 worldwide. The measurement position is mainly

Airports and major cities around the world. The total number of websites/sites is 289. The uncertainty of this measurement is not documented and there is no data source.

Maximum temperature data at a relative humidity (RH) > 95%. China's relevant data is

based on outdoor areas from 1971 to 2000 across the country.

Temperature and humidity data.

Reference [2] data is provided by the British Meteorological Agency. The length of the measurement cycle varies depending on the position, and the measurement span ranges from 2 years to 105.

year. Detailed location and measurement uncertainty are not recorded in the book. The highest temperature in the data source without relative humidity >95%

data.

As noted in IEC 60721-1:1990, other references are used for the comparison of climate grades and climate grade maps.

4 General Verification Procedure

The data processing verification process used in this section is given in Figure 4 of IEC 60721-1:1990. There are three main steps in this verification process.

stage.

- Identify and collect data;
- Analyze data and compare with current values;
- Update the data appropriately.

As a result of data collection and analysis, the worldwide outdoor climate types have been simplified, as shown in Table 1.