

ICS 29.160.40

CCS K 52



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

GB/T 2820.8-2022

Replacing GB/T 2820.8-2002

**Reciprocating internal combustion engine driven alternating
current generating sets - Part 8: Requirements and tests for
low-power generating sets**

Issued on: December 30, 2022

Implemented on: July 1, 2023

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

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foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules for Standardization Documents" drafting.

This document is part 8 of GB/T 2820 "Reciprocating Internal Combustion Engine Driven Alternating Generator Sets". GB/T 2820 has been released

The following sections.

- Part 1. Purpose, rating and performance;
- Part 2. Engine;
- Part 3. Alternator for generator set;
- Part 4. Control gear and switchgear;
- Part 5. Generating sets;
- Part 6. Test methods;
- Part 7. Technical description for technical conditions and design;
- Part 8. Requirements and tests for small power generating sets;

- Part 9.Measurement and evaluation of mechanical vibration;
- Part 10.Measurement of noise (envelope method);
- Part 11.Rotating uninterruptible power supply performance requirements and test methods;
- Part 12.Emergency power supply for safety devices.

This document replaces GB/T 2820.8-2002 "Alternating generator sets driven by reciprocating internal combustion engines - Part 8.For small power generators

Compared with GB/T 2820.8-2002, except for structural adjustment and editorial changes, the main technical changes are as follows.

- Changed the definition of "low power" (see Chapter 1, Chapter 1 of the.2002 edition);
- Deleted the definition of "Accessibility" (see 3.2 of the.2002 edition);
- Increase the definition of "rated power" and "maximum power" (see 3.3 and 3.4);
- Increased "mechanical and electrical design (requirements and tests)" (see Chapter 6);
- Deleted "Security Requirements" (see 6.1, 6.5, 6.6.1 and 6.7 of the.2002 edition);
- Changed the "determination of performance level, quality level and fuel consumption" (see Chapter 7, Chapter 7 of the.2002 edition);
- Deleted "sign" (see Chapter 8 of the.2002 edition);
- Deleted "Instruction Manual - Safety Guide" (see Chapter 9 of the.2002 edition).

This document is equivalent to ISO 8528-8.2016 "Reciprocating internal combustion engine driven alternator set - Part 8.For small power generation

Unit Requirements and Tests".

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

GB/T 2820 series standards correspond to ISO 8528 series standards one by one. GB/T 2820 intends to publish the following parts.

- Part 1.Purpose, rating and performance. The purpose is to specify the general requirements for the purpose, rating and performance of the generating set.
- Part 2.Engine. The purpose is to specify the essential characteristics of engines used in generating sets.
- Part 3.Alternator for generator set. The purpose is to specify the basic characteristics of

alternators used in generating sets.

--- Part 4. Control gear and switchgear. The purpose is to specify the basic requirements for control and switchgear for generating sets

Require.

--- Part 5. Generator sets. The purpose is to specify the terminology, design requirements and performance of operation after assembly as a generator set.

--- Part 6. Test methods. The purpose is to provide test methods for generating sets.

--- Part 7. Technical description for technical conditions and design. The purpose is to specify the technical conditions and design requirements of the generator set.

--- Part 8. Requirements and tests for small power generating sets. The purpose is to provide the special features of low-power generating sets below 10kW

Don't ask and experiment.

--- Part 9. Measurement and evaluation of mechanical vibration. The purpose is to provide the measurement method and evaluation program of the mechanical vibration of the generating set.

--- Part 10. Measurement of noise (envelope method). The purpose is to provide a measurement method for generating set noise.

--- Part 11. Rotating uninterruptible power supply performance requirements and test methods. The purpose is to provide rotating uninterruptible power supply (UPS)

Performance requirements and test methods.

--- Part 12. Emergency power supply for safety devices. The purpose is to specify the special

Require.

The requirements set out in this document are relevant to the design, production, test, sales and installation of reciprocating internal combustion engine-driven alternator sets.

relation.

Alternating generator sets driven by reciprocating internal combustion engines

Part 8. Requirements and tests for small power generating sets

1 Scope

This document specifies the requirements,

Minimum performance and type tests. Except for aviation generator sets.

This document is mainly applicable to low-power generators driven by reciprocating internal combustion engines with a voltage not exceeding 500V, single-phase or multi-phase, AC or DC

motor unit. The unit is a standard manufacture generator set.

In this document, "low power" refers to rated power up to 10kW/50Hz, 12kW/60Hz. Low power generators suitable for use in this document

The motor unit has the following characteristics.

- Users are usually non-professionals (see 3.1);
- The whole generator set is usually transportable or mobile;
- Except for extra-low voltage, the electrical output is connected by plugs, sockets and screw terminals;
- The generator set is ready without any additional installation work by the user.

Generating sets for special purposes or with relatively high power that have the above characteristics can also refer to this document under the premise of approval by the user and the manufacturer.

carry out testing. In some usage occasions, if it is necessary to supplement relevant requirements, this document shall be used as the basis.

In addition to the definitions and requirements specified in GB/T 2820.1~GB/T 2820.6, the design and test requirements involved in this document must also be followed.

special requirements.

This document does not involve safety requirements. In order not to cause harm to users, it complies with the provisions of ISO 8528-13.

Note. This document does not apply to arc welding equipment.

2 Normative references

The contents of the following documents constitute the essential provisions of this article through normative references in the text. dated citations

For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

this document.

GB/T 2820.1-2022 Alternating generator sets driven by reciprocating internal combustion engines Part 1.Purpose, rating and performance