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

**GB/T 2820.3-2009**

Replacing GB/T 2820.3-1997

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**Reciprocating internal combustion engine driven alternating  
current generating sets -- Part 3: Alternating current generators  
for generating sets**

往复式内燃机驱动的交流发电机组 第3部分：发电机组用交流发电机

**(English Translation)**

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## Foreword

GB/T 2820 in "reciprocating internal combustion engine driven alternator group," the general heading consists of the following components.

- Part 1. Application, ratings and performance
- Part 2. Engines
- Part 3. Generator with alternator
- Part 4. Control and switchgear
- Part 5. Generator
- Part 6. Test methods
- Part 7. technical conditions for the technical description and design
- Part 8. small power generator set requirements and tests
- Part 9. Measurement and evaluation of mechanical vibrations
- Part 10. Measurement of noise (enveloping surface method)
- Part 11. Rotary uninterruptible power supply performance requirements and test methods
- Part 12. Emergency power supply to safety devices this section GB/T 2820 Part 3. This part identical with ISO 8528-3. "Reciprocating internal combustion engine driven alternating current 2005 Generating sets - Part 3. turbine alternator. " this Part replaces GB/T 2820.3-1997 "Reciprocating internal combustion engine driven alternating current generating sets - Part 3. AC generators generator".

This portion of the GB/T 2820.3-1997 compared to a reference standard has made significant changes; related symbols, terms and definitions focus on choreography Chapter 3; the contents of Chapter 14 of the fixed signs have a greater change; modify transient voltage deviation index value when the load increases.

This part is proposed by the China Electrical Equipment Industrial Association.

This part of the mobile station by the National Standardization Technical Committee (SAC/TC329) centralized.

This part mainly drafted by. Lanzhou Institute of power vehicles, Imtech, Ordnance Engineering College, Air Force Radar Academy, Jiangxi Tsinghua Thailand Hao three waves Electric Co., Ltd., Zhengzhou Jinyang Electric Co., Ltd., Guangzhou Technology Limited.

## 1 Scope

GB/T 2820 This section provides the basic characteristics of AC generators (a.c.) generator voltage regulator under its control, is the relevant requirements of GB 755-2008 supplement.

**NOTE:** There is no applicable international standard asynchronous generator. When such publication, this part will be amended accordingly.

This section applies to the reciprocating internal combustion (RIC) engine driven land and marine AC (a.c.) generating sets, but not for aviation or driven land vehicles and locomotives turbine generator AC (a.c.).

For some special purposes (such as hospitals, high-rise buildings essential power supply), additional requirements may be needed. The provisions of this section it can be used as the basis to determine any additional requirements.

For other types of reciprocating by a prime mover (such as a steam engine) driven alternating current (a.c.) generator sets, the provisions of this section can be used Basis.

## 2 Normative references

The following documents contain provisions which, through reference to GB/T 2820 to the present, constitute provisions of this section. For dated references, all subsequent amendments (excluding corrections) or revisions do not apply to this section, however, encourage an agreement under this section Parties to study the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB 755-2008 rotating motor fixed and performance (IEC 60034-1:2004, IDT) GB/T 2820.1-2009 Reciprocating internal combustion engine driven alternating current generating sets - Part 1. Application, ratings and performance (ISO 8528-1:2005, IDT) GB/T 2820.5-2009 Reciprocating internal combustion engine driven alternating current generating sets - Part 5. Generator (ISO 8528-5.

2005, IDT)

GB 4343.1-2009 Electromagnetic appliances, electric tools and similar apparatus compatible with the requirements of Part 1. Emission (IEC CISPR 14-1:2005, IDT) GB Limits and methods of measurement of radio disturbance characteristics 17743-2007 electrical lighting and similar equipment (CISPR15:2005, IDT)

## 3 Symbols, terms and definitions

When the technical data marked electrical equipment, IEC uses the term "nominal" added the subscript "N" means. In marking machinery and equipment technology Data, ISO uses the term "calibration" plus the subscript "r" indicates. Therefore, in this section, the term

"nominal" applies only to the electrical project.

Otherwise, all using the term "calibration." the criteria used symbols and abbreviations explained in Table 1.

Table 1 Symbols, terminology and definitions

| Symbol                                                                                                                  | Term                         | Unit | Definition                                                                       |
|-------------------------------------------------------------------------------------------------------------------------|------------------------------|------|----------------------------------------------------------------------------------|
| Us                                                                                                                      | on the tuning voltage        | V    | is defined by the regulator to run the selected line to line voltage             |
| Ust, max                                                                                                                | maximum steady-state voltage | V    | (see GB/T 2820.5-2009)                                                           |
| Ust, min                                                                                                                | minimum steady-state voltage | V    | (see GB/T 2820.5-2009)                                                           |
| Ur                                                                                                                      | Rated voltage                | V    | Rated frequency and rated output terminals of the generator line of line voltage |
| Note. The rated voltage is based on the operation and performance characteristics given by the manufacturer of voltage. |                              |      |                                                                                  |

GB/T 2820.3-2009/ISO 8528-3:2005