
**Reciprocating internal combustion
engine driven alternating current
generating sets —**

**Part 3:
Alternating current generators for
generating sets**

*Groupes électrogènes à courant alternatif entraînés par moteurs
alternatifs à combustion interne —*

Partie 3: Alternateurs pour groupes électrogènes



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

This document is a preview generated by EVS

© ISO 2005

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword.....	iv
1 Scope	1
2 Normative references	1
3 Symbols, terms and definitions	2
4 Other requirements and additional regulations	6
5 Rating	6
5.1 General	6
5.2 Basic continuous rating (BR)	6
5.3 Peak continuous rating (PR)	6
6 Limits of temperature and temperature rise	7
6.1 Basic continuous rating	7
6.2 Peak continuous rating	7
7 Rated power and speed characteristics	7
8 Voltage characteristics	7
9 Parallel operation	7
10 Special load conditions	8
10.1 General	8
10.2 Unbalanced load current	8
10.3 Sustained short-circuit current	8
10.4 Occasional excess current capability	8
10.5 Telephone Harmonic Factor (THF)	8
10.6 Radio interference suppression (F)	9
11 Effect of electromechanical frequency of vibrations when sets operate in parallel	9
12 Asynchronous generators with excitation equipment	9
12.1 General	9
12.2 Sustained short-circuit current	9
12.3 Range of voltage setting	9
12.4 Parallel operation	9
13 Operating limit values	10
14 Rating plate	10
Annex A (normative) Transient voltage characteristic of an a.c. generator following a sudden change in load	11

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 8528-3 was prepared by Technical Committee ISO/TC 70, *Internal combustion engines*.

This second edition cancels and replaces the first edition (ISO 8528-3:1993), which has been technically revised.

ISO 8528 consists of the following parts, under the general title *Reciprocating internal combustion engine driven alternating current generating sets*:

- *Part 1: Application, ratings and performance*
- *Part 2: Engines*
- *Part 3: Alternating current generators for generating sets*
- *Part 4: Controlgear and switchgear*
- *Part 5: Generating sets*
- *Part 6: Test methods*
- *Part 7: Technical declarations for specification and design*
- *Part 8: Requirements and tests for low-power generating sets*
- *Part 9: Measurement and evaluation of mechanical vibrations*
- *Part 10: Measurement of airborne noise by the enveloping surface method*
- *Part 11¹⁾: Rotary uninterruptible power supply systems — Performance requirements and test methods*
- *Part 12: Emergency power supplies to safety services*

1) Part 11 will be published as ISO/IEC 88528-11.

Reciprocating internal combustion engine driven alternating current generating sets —

Part 3: Alternating current generators for generating sets

1 Scope

This part of ISO 8528 specifies the principal characteristics of Alternating Current (a.c.) generators under the control of their voltage regulators when used in generating set applications. It supplements the requirements of IEC 60034-1.

NOTE At present no International standard is available for asynchronous generators. When such an International Standard is published, this part of ISO 8528 will be revised accordingly.

This part of ISO 8528 applies to a.c. generators used in a.c. generating sets driven by reciprocating internal combustion (RIC) engines for land and marine use, excluding generating sets used on aircraft or to propel land vehicles and locomotives.

For some specific applications (e.g. essential hospital supplies, high-rise buildings), supplementary requirements may be necessary. The provisions of this part of ISO 8528 should be regarded as the basis for establishing any supplementary requirements.

For a.c. generating sets driven by other reciprocating-type prime movers (e.g. steam engines) the provisions of this part of ISO 8528 should be used as a basis for establishing these requirements.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 8528-1²⁾, *Reciprocating internal combustion engine driven alternating current generating sets — Part 1: Application, ratings and performance*

IEC 60034-1, *Rotating electrical machines — Part 1: Rating and performance*

CISPR 14-1, *Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus*

CISPR 15, *Limits and methods of measurement of radio interference characteristics of fluorescent lamps and luminaires*

2) To be published.