INTERNATIONAL STANDARD

ISO 8528-3

Third edition
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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

Reference number
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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 70, *Internal combustion engines*, together with IEC/TC 2, *Rotating electrical machines*, by merging this document with IEC 60034-22:2009.

This third edition cancels and replaces the second edition (ISO 8528-3:2005), which has been technically revised.

The main changes compared to the previous edition are as follows:

— Clause 7 (ISO 8528-3:2005, Clause 9) has been updated with requirements for isochronous operation and grid parallel operation;

— requirements for asynchronous generators have been integrated in Clause 8 (ISO 8528-3:2005, Clause 10);

— new power rating “GPO” has been introduced for grid parallel operation;

— operating limits have been revised;

— new clauses have been added for specifying “bearings” and “maintenance”;

— identification markings BR and PR have been eliminated.

A list of all parts in the ISO 8528 series can be found on the ISO website.

Any feedback or questions on this document shall be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Reciprocating internal combustion engine driven alternating current generating sets —

Part 3:
Alternating current generators for generating sets

1 Scope

This document specifies the principal characteristics of alternating current (a.c.) generators under the control of their excitation control system when used for reciprocating internal combustion (RIC) engine driven generating set applications and supplements the requirements given in IEC 60034-1. It covers the use of such a.c. generators for land and marine applications, excluding generating sets used on aircraft or to propel land vehicles and locomotives.

NOTE For some specific applications (e.g. essential hospital supplies, high-rise buildings, operation parallel with the grid), supplementary requirements can be necessary. The provisions of this document can 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 document can be used as basis for establishing these requirements.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 281, *Rolling bearings — Dynamic load ratings and rating life*

ISO 8528-1:2018, *Reciprocating internal combustion engine driven alternating current generating sets — Part 1: Application, ratings and performance*

IEC 60034-1:2017, *Rotating electrical machines — Part 1: Rating and performance*

IEC 60034-5, *Rotating electrical machines — Part 5: Degrees of protection provided by the integral design of rotating machines (IP code) — Classification*

IEC 60034-6, *Rotating electrical machines — Part 6: Methods of cooling (IC code)*

IEC 60034-7, *Rotating electrical machines — Part 7: Classification of types of construction, mounting arrangements and terminal box position (IM code)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

NOTE 1 This document uses suffix “r” for “rated” whereas in IEC standards the suffix “N” is used.