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Reciprocating internal combustion engine driven alternating current generating sets —

Part 6: Test methods

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

Partie 6: Méthodes d'essais

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Contents

Page

Foreword

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This document was prepared by Technical Committee ISO/TC 70, *Internal combustion engines*.

This third edition cancels and replaces the second edition (ISO 8528-6:2005), which has been technically revised.

The main changes are as follows:

— structure of testing completely modified (table updated);

— Clause 7 now includes a test procedure related to generating sets connected to the grid;

— Clause 8 introduced for accessing the performance of generating sets in isochronous mode and grid parallel mode.

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

Any feedback or questions on this document should 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 6: Test methods

1 Scope

This document specifies the test methods to be used for characterizing an entire generating set. It applies to alternating current (AC) 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. This document also provides simulation methods as an alternative method for assessing the generating set capability to meet the requirements defined in ISO 8528-5.

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

For AC generating sets driven by other reciprocating-type prime movers (e.g., steam engines), this document is intended as a basis for establishing these requirements.

NOTE Existing test methods for the engine (ISO 3046-1 and ISO 3046-3) and generator (IEC 60034-2) are applicable for those components. The generating set manufacturer is responsible for specifying these characteristics and the tests to be performed to verify them.

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

ISO 8528-2, *Reciprocating internal combustion engine driven alternating current generating sets — Part 2: Engines*

ISO 8528-3:2020, *Reciprocating internal combustion engine driven alternating current generating sets — Part 3: Alternating current generators for generating sets*

ISO 8528-5:2022, *Reciprocating internal combustion engine driven alternating current generating sets — Part 5: Generating sets*

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

IEC 60034-5, *Rotating electrical machines — Part 5: Classification of degrees of protection provided by enclosures for rotating machines*

IEC 60947-1, *Low-voltage switchgear and control gear — Part 1: General rules*

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

IEC 61400-27-2:2020, *Wind energy generation systems – Part 27-1: Electrical simulation models — Model validation*