PD IEC/TS 62257-7:2017

BSI Standards Publication

Recommendations for renewable energy and hybrid systems for rural electrification

Part 7: Generators

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National foreword

This Published Document is the UK implementation of IEC TS 62257-7:2017. It supersedes DD IEC/TS 62257-7:2008, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GEL/82, Photovoltaic Energy Systems.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Part 7: Generators

FOREWORD

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- the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC 62257-7, which is a technical specification, has been prepared by IEC technical committee 82: Solar photovoltaic energy systems.

This second edition cancels and replaces the first edition published in 2008. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Removed the word "small" from the description of the PV systems, and removed the power limit (100 kVA).
b) Increased the relevant voltage levels to 1 000 V (AC) and 1 500 V (DC).

This technical specification is to be used in conjunction with other parts of this series.

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
82/1201/DTS	82/1258/RVDTS

Full information on the voting for the approval of this technical specification can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of IEC 62257 series, under the general title: *Recommendations for renewable energy and hybrid systems for rural electrification,* can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- transformed into an International standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

The IEC 62257 series of documents intends to provide to different players involved in rural electrification projects (such as project implementers, project contractors, project supervisors, installers, etc.) documents for the setting-up of renewable energy and hybrid systems with AC voltage below 1 000 V and DC voltage below 1 500 V.

These documents are recommendations:

– to choose the right system for the right place;

– to design the system;

– to operate and maintain the system.

These documents are focused only on rural electrification, concentrating on but not specific to, developing countries. They must not be considered as all-inclusive to rural electrification. The documents try to promote the use of renewable energies in rural electrification; they do not deal with clean development mechanisms at this time (CO_2 emission, carbon credit, etc.). Further developments in this field could be introduced in future steps.

This consistent set of documents is best considered as a whole with different parts corresponding to items for safety, sustainability of systems and at the lowest life-cycle cost as possible. One of the main objectives is to provide the minimum sufficient requirements, relevant to the field of application, that is, renewable energy and hybrid off-grid systems.

The purpose of this part of IEC 62257 is to provide project implementers with general information about generators and to highlight the main characteristics relative to the different technologies that can be used.

RECOMMENDATIONS FOR RENEWABLE ENERGY AND HYBRID SYSTEMS FOR RURAL ELECTRIFICATION –

Part 7: Generators

1 Scope

This part of IEC 62257 specifies the general requirements for the generators in decentralized rural electrification systems.

This document is a general introduction followed by more specific documents dedicated to the generation technologies which are the most currently used in rural electrification projects.

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.

IEC TS 62257-2:2015, *Recommendations for renewable energy and hybrid systems for rural electrification – Part 2: From requirements to a range of electrification systems*

IEC TS 62257-4, *Recommendations for renewable energy and hybrid systems for rural electrification – Part 4: System selection and design*

IEC TS 62257-5, *Recommendations for renewable energy and hybrid systems for rural electrification – Part 5: Protection against electrical hazards*

IEC TS 62257-7-1, *Recommendations for renewable energy and hybrid systems for rural electrification – Part 7-1: Generators – Photovoltaic generators*[1]

IEC TS 62257-7-3, *Recommendations for renewable energy and hybrid systems for rural electrification – Part 7-3: Generator set – Selection of generator sets for rural electrification systems*[1]

IEC TS 62257-9-1, *Recommendations for renewable energy and hybrid systems for rural electrification – Part 9-1: Integrated systems – Micropower systems*

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:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

[1] Third edition to be published. A second edition (dated 2010) already exists.