



TECHNICAL SPECIFICATION

**Renewable energy and hybrid systems for rural electrification –
Part 9-7: Recommendations for selection of inverters**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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FOR RURAL ELECTRIFICATION –****Part 9-7: Recommendations for selection of inverters**

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

IEC TS 62257-9-7, which is a Technical Specification, has been prepared by IEC technical committee 82: Solar photovoltaic energy systems.

The text of this Technical Specification is based on the following documents:

Enquiry draft	Report on voting
82/1473/DTS	82/1546A/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.

This part of IEC 62257 is to be used in conjunction with IEC 62257 (all parts).

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

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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

RENEWABLE ENERGY AND HYBRID SYSTEMS FOR RURAL ELECTRIFICATION –

Part 9–7: Recommendations for selection of inverters

1 Scope

This part of IEC 62257, which is a technical specification, specifies the criteria for selecting and sizing inverters suitable for different off-grid applications integrating solar as an energy source.

As well as off-grid system, this document can also apply to inverters where a utility grid connection is available as a backup for charging batteries, but it is not intended to cover applications in which inverters synchronize and inject energy back into a utility grid, even though this capability may incidentally be a part of the functionality of the inverters.

Single and multi-phase applications are included.

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 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 61683, *Photovoltaic systems – Power conditioners – Procedure for measuring efficiency*

IEC 61800, *(all parts), Adjustable speed electrical power drive systems*

IEC 61800-3, *Adjustable speed electrical power drive systems – Part 3: EMC requirements and specific test methods*

IEC 61800-5-1, *Adjustable speed electrical power drive systems – Part 5-1: Safety requirements – Electrical, thermal and energy*

IEC TS 61836, *Solar photovoltaic energy systems – Terms, definitions and symbols*

IEC 62109, *(all parts), Safety of power converters for use in photovoltaic power systems*

IEC 62109-1, *Safety of power converters for use in photovoltaic power systems – Part 1: General requirements*

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

IEC TS 62257-7-1:2010, *Recommendations for small renewable energy and hybrid systems for rural electrification – Part 7-1: Generators – Photovoltaic generators*

IEC TS 62257-7-4: *Recommendations for renewable energy and hybrid systems for rural electrification – Part 7-4: Generators – Integration of solar with other forms of power generation within hybrid power systems*

IEC 62548, *Photovoltaic (PV) arrays – Design requirements*