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**Recommendations for small renewable energy
and hybrid systems for rural electrification –**

**Part 9-5:
Integrated system –
Selection of portable PV lanterns
for rural electrification projects**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

RECOMMENDATIONS FOR SMALL RENEWABLE ENERGY AND HYBRID SYSTEMS FOR RURAL ELECTRIFICATION –

Part 9-5: Integrated system – Selection of portable PV lanterns for rural electrification projects

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- the required support cannot be obtained for the publication of an International Standard, despite repeated efforts, or
- 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 62257-9-5, which is a technical specification, has been prepared by IEC technical committee 82: Solar photovoltaic energy systems.

This part of IEC 62257 is based on IEC/PAS 62111 (1999); it cancels and replaces the relevant parts of IEC/PAS 62111.

This part of IEC 62257 is to be used in conjunction with the IEC 62257 series.

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

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|---------------|------------------|
| Enquiry draft | Report on voting |
| 82/462A/DTS | 82/477/RVC |

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

A list of all parts of the IEC 62257 series, under the general title *Recommendations for small 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 maintenance result date indicated on the IEC web site 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- withdrawn,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 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 a.c. nominal voltage below 500 V, d.c. nominal voltage below 750 V and nominal power below 100 kVA.

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 mechanisms developments at this time (CO₂ 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: small renewable energy and hybrid off-grid systems.

The purpose of this part of IEC 62257 is to specify tests in order to help project developers and project implementers in the selection of relevant products (PV portable lanterns), able to match the techno-economic requirements of the project they have in charge, portable PV lantern. This technical specification and the others of the 62257 series are only guidance and so cannot be International Standards.

RECOMMENDATIONS FOR SMALL RENEWABLE ENERGY AND HYBRID SYSTEMS FOR RURAL ELECTRIFICATION –

Part 9-5: Integrated system – Selection of portable PV lanterns for rural electrification projects

1 Scope

This Technical Specification applies to portable solar photovoltaic lanterns (portable PV lantern). This specification is independent of the technology used to provide the light.

The tests provided in this specification are able to help the project implementer to discriminate easily the most appropriate product within some different market offer and choose among them those which match the requirements expressed in the GS of the electrification project (see IEC/TS 62257-3).

The specification also provides provisions of regulations and installation conditions to be complied with in order to ensure the life and proper operation of the selected lantern as well as the safety of people living in proximity to the installation.

This technical specification does not replace any existing IEC standard.

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.

IEC 62262, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)*