IEC 62862-5-2

Edition 1.0 2022-05

INTERNATIONAL STANDARD

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Solar thermal electric plants –
Part 5-2: Systems and components – General requirements and test methods for large-size linear Fresnel collectors

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 27.160

ISBN 978-2-8322-0096-4

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FOREWORD

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IEC 62862-5-2 has been prepared by IEC technical committee 117: Solar thermal electric plants. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
117/148/CDV	117/160/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts in the IEC 62862 series, published under the general title *Solar thermal electric plants*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under 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- withdrawn,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.

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SOLAR THERMAL ELECTRIC PLANTS –

Part 5-2: Systems and components – General requirements and test methods for large-size linear Fresnel collectors

1 Scope

This part of IEC 62862 specifies the requirements and the test methods for the characterization of a large-size linear Fresnel collector.

This document covers the determination of optical and thermal performance of linear Fresnel collectors, and the tracking accuracy of the collector one-axis tracking system. This test method is for outdoor testing only.

This document applies to linear Fresnel collectors according to Annex A equipped with the manufacturer-supplied sun tracking mechanism.

The testing method in this document does not apply to any collector under operating conditions where phase-change of the fluid occurs. Although the principles of this document can be applied also to collectors with phases-change, however, the sensors (enthalpy, flow, temperatures) required for that are not described in this document.

This document applies to the whole collector field in-situ or as a minimum unit to be tested to an individual collector string (loop) connected to the main piping (flow, return flow) to and from a heat sink, covering the full temperature range of the field.

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 62862-1-1, *Solar thermal electric plants – Part 1-1: Terminology*

ISO/IEC Guide 98-3, *Uncertainty of measurement – Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*

ISO 9488, *Solar energy – Vocabulary*

ISO 9806:2017, *Solar energy – Solar thermal collectors – Test methods*