SLOVENSKI STANDARD
SIST EN 62670-3:2017

01-julij-2017

Fotonapetostni koncentratorji (CPV) - Preskušanje zmogljivosti - 3. del: Meritve zmogljivosti in energijske učinkovitosti

Photovoltaic concentrators (CPV) - Performance testing - Part 3: Performance measurements and power rating

Ta slovenski standard je istoveten z: EN 62670-3:2017

ICS:

27.160	Sončna energija	Solar energy engineering

SIST EN 62670-3:2017 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62670-3

May 2017

ICS 27.160

English Version

Photovoltaic concentrators (CPV) - Performance testing - Part 3: Performance measurements and power rating (IEC 62670-3:2017)

Concentrateurs photovoltaïques (CPV) - Essai de performances - Partie 3: Mesurages de performances et rapport de puissance (IEC 62670-3:2017)

Konzentrator-Photovoltaik (CPV) - Leistungsmessung - Teil 3: Leistungsmessungen und Leistungsbemessung (IEC 62670-3:2017)

This European Standard was approved by CENELEC on 2017-03-14. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 62670-3:2017 E

European foreword

The text of document 82/1204/FDIS, future edition 1 of IEC 62670-3, prepared by IEC/TC 82 “Solar photovoltaic energy systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62670-3:2017.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2017-12-14
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2020-03-14

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 62670-3:2017 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standards indicated:

IEC 60904-5	NOTE Harmonized as EN 60904-5.

Annex ZA
(normative)
Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60891	-	Photovoltaic devices - Procedures for temperature and irradiance corrections to measured I-V characteristics	EN 60891	-
IEC 60904-2	-	Photovoltaic devices - Part 2: Requirements for photovoltaic reference devices	EN 60904-2	-
IEC 60904-3	-	Photovoltaic devices - Part 3: Measurement principles for terrestrial photovoltaic (PV) solar devices with reference spectral irradiance data	EN 60904-3	-
IEC 60904-4	2009	Photovoltaic devices - Part 4: Reference solar devices - Procedures for establishing calibration traceability	EN 60904-4	2009
IEC 60904-10	-	Photovoltaic devices - Part 10: Methods of linearity measurement	EN 60904-10	-
IEC 62670-1	-	Photovoltaic concentrators (CPV) - Performance testing - Part 1: Standard conditions	EN 62670-1	-
IEC 62817	2014	Solar trackers for photovoltaic systems - Design qualification	EN 62817	2015
ISO 2859-1	-	Sampling procedures for inspection by attributes - Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection	-	-
ISO 9060	1990	Solar energy; specification and classification of instruments for measuring hemispherical solar and direct solar radiation	-	-
ISO/IEC 17025	-	General requirements for the competence of testing and calibration laboratories	EN ISO/IEC 17025	-

IEC 62670-3

Edition 1.0 2017-02

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Photovoltaic concentrators (CPV) – Performance testing –
Part 3: Performance measurements and power rating

Concentrateurs photovoltaïques (CPV) – Essai de performances –
Partie 3: Mesurages de performances et rapport de puissance

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 27.160

ISBN 978-2-8322-3859-2

Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

____

PHOTOVOLTAIC CONCENTRATORS (CPV) – PERFORMANCE TESTING –

Part 3: Performance measurements and power rating

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.

3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.

4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.

5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.

6) All users should ensure that they have the latest edition of this publication.

7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.

8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.

9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62670-3 has been prepared by IEC technical committee 82: Solar photovoltaic energy systems.

The text of this standard is based on the following documents:

FDIS	Report on voting
82/1204/FDIS	82/1233/RVD

Full information on the voting for the approval of this International Standard 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 in the IEC 62670 series, published under the general title *Photovoltaic concentrators (CPV) – Performance testing*, 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 "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.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

PHOTOVOLTAIC CONCENTRATORS (CPV) – PERFORMANCE TESTING –

Part 3: Performance measurements and power rating

1 Scope

This part of IEC 62670 defines measurement procedures and instrumentation for determining concentrator photovoltaic performance at concentrator standard operating conditions (CSOC) and concentrator standard test conditions (CSTC), defined in IEC 62670-1, including power ratings.

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 60891, *Photovoltaic devices – Procedures for temperature and irradiance corrections to measured I-V characteristics*

IEC 60904-2, *Photovoltaic devices – Part 2: Requirements for photovoltaic reference devices*

IEC 60904-3, *Photovoltaic devices – Part 3: Measurement principles for terrestrial photovoltaic (PV) solar devices with reference spectral irradiance data*

IEC 60904-4:2009, *Photovoltaic devices – Part 4: Reference solar devices – Procedures for establishing calibration traceability*

IEC 60904-10, *Photovoltaic devices – Part 10 Methods of linearity measurement*

IEC 62670-1, *Photovoltaic concentrators (CPV) – Performance testing – Part 1: Standard conditions*

IEC 62817:2014, *Photovoltaic systems – Design qualification of solar trackers*

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

ISO 2859-1, *Sampling procedures for inspection by attributes – Part 1:Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 9060:1990, *Solar energy – Specification and classification of instruments for measuring hemispherical solar and direct solar radiation*

3 Concepts

The following concepts are used through this document.