



BSI Standards Publication

# Photovoltaic concentrators (CPV) - Performance testing

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Part 3: Performance measurements and power rating

## National foreword

This British Standard is the UK implementation of EN 62670-3:2017. It is identical to IEC 62670-3:2017.

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.

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EUROPEAN STANDARD

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**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)

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Europäisches Komitee für Elektrotechnische Normung

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## **European foreword**

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- 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- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-03-14

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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](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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	-





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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



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**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**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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PERFORMANCE TESTING –**
**Part 3: Performance measurements and power rating****FOREWORD**

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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.

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# 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.