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Solcellsmoduler – Provning av prestanda och angivande av märkvärden – Del 4: Klimatprofiler för referensändamål

*Photovoltaic (PV) module performance testing and energy rating –
Part 4: Standard reference climatic profiles*

Som svensk standard gäller europastandarden EN IEC 61853-4:2018. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 61853-4:2018.

Nationellt förord

Europastandarden EN IEC 61853-4:2018

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 61853-4, First edition, 2018 - Photovoltaic (PV) module performance testing and energy rating - Part 4: Standard reference climatic profiles**

utarbetad inom International Electrotechnical Commission, IEC.

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SEK Svensk Elstandard

Box 1284
164 29 Kista
Tel 08-444 14 00
www.elstandard.se

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English Version

Photovoltaic (PV) module performance testing and energy rating
- Part 4: Standard reference climatic profiles
(IEC 61853-4:2018)

Essais de performance et caractéristiques assignées
d'énergie des modules photovoltaïques (PV) - Partie 4:
Profils climatiques de référence normalisés
(IEC 61853-4:2018)

Prüfung des Leistungsverhaltens von photovoltaischen
(PV)-Modulen und Energiebemessung - Teil 4: Genormtes
Referenzklimaprofil
(IEC 61853-4:2018)

This European Standard was approved by CENELEC on 2018-10-04. 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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 82/1442/FDIS, future edition 1 of IEC 61853-4, prepared by IEC/TC 82 "Solar photovoltaic energy systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61853-4:2018.

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) 2019-07-04
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-10-04

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

Endorsement notice

The text of the International Standard IEC 61853-4:2018 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where 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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61853-3	-	Photovoltaic (PV) module performance-testing and energy rating – Part 3: Energy rating of PV modules		-
IEC/TS 61836	-	Solar photovoltaic energy systems -- Terms, definitions and symbols		-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

PHOTOVOLTAIC (PV) MODULE PERFORMANCE TESTING AND ENERGY RATING –

Part 4: Standard reference climatic profiles

FOREWORD

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International Standard IEC 61853-4 has been prepared by IEC technical committee 82: Solar photovoltaic energy systems.

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

FDIS	Report on voting
82/1442/FDIS	82/1452/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 61853, published under the general title *Photovoltaic (PV) module performance testing and energy rating*, can be found on the IEC website.

This standard contains attached files in the form of zip files. These files are intended to be used as a complement and do not form an integral part of the standard.

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.

INTRODUCTION

This International Standard series establishes IEC requirements for determining PV module performance in terms of power (watts), specific module energy rating (kWh/kW) and climatic specific energy rating (dimensionless). It is written to be applicable to all PV technologies including non-linear devices. The methodology does not take into account either progressive degradation or transient behaviour such as light induced changes and/or thermal annealing.

This series consists of four parts:

- IEC 61853-1: *Photovoltaic (PV) module performance testing and energy rating – Part 1: Irradiance and temperature performance measurements and power rating*, which describes requirements for evaluating PV module performance in terms of power (watts) rating over a range of irradiances and temperatures;
- IEC 61853-2: *Photovoltaic (PV) module performance testing and energy rating – Part 2: Spectral responsivity, incidence angle, and module operating temperature measurements*, which describes test procedures for measuring the effect of varying angles of incidence and sunlight spectra as well as the estimation of module temperature from irradiance, ambient temperature, and wind speed;
- IEC 61853-3: *Photovoltaic (PV) module performance testing and energy rating – Part 3: Energy rating of PV modules*, which describes the calculations for PV module ratings; and
- IEC 61853-4: *Photovoltaic (PV) module performance testing and energy rating – Part 4: Standard reference climatic profiles*, which describes the standard time periods and environmental data set that shall be used for the energy rating calculations.

PHOTOVOLTAIC (PV) MODULE PERFORMANCE TESTING AND ENERGY RATING –

Part 4: Standard reference climatic profiles

1 Scope

This part of IEC 61853 describes the standard reference climatic profiles used for calculating energy ratings.

IEC 61853-1 describes requirements for evaluating PV module performance in terms of power (watts) rating. IEC 61853-2 describes test procedures for determining module temperature from irradiance, ambient temperature and wind speed, a method for measuring angle of incidence effects, and spectral responsivity. IEC 61853-3 describes the calculation of PV module energy rating values, using the data from IEC 61853-1, IEC 61853-2 and IEC 61853-4.

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

IEC 61853-3, *Photovoltaic (PV) module performance testing and energy rating – Part 3: Energy rating of PV modules*