

SolarGrid Energy Solutions

Bifaciality Warranty for Photovoltaic Modules



Overview

Among the parameters that define a bifacial photovoltaic module, the bifaciality coefficients indicate the rear and front side ratio of the most representative IV curve points of a photovoltaic panel, that is, I_{sc} .

Do bifacial PV modules need a power rating method?

In response to the strong demand for an appropriate power rating method for bifacial PV modules, the international standard IEC 60904-1-2 has been proposed, which describes the test methods and additional requirements for the I-V characterization.

What is the status of bifacial photovoltaic (PV) module?

TABLE 2. Status of bifacial photovoltaic (PV) module. The bifacial modules were first conceived in the 1960s and were deployed in applications such as space exploration, telecommunication, and rural electrification [25, 30]. However, economic and technical barriers kept them out of the mainstream.

What are bifacial PV modules?

The global PV industry is experiencing a boom in bifacial PV modules. Coming with extra energy gain from the rear side, bifacial PV modules are finding themselves with versatile and promising application possibilities in many fields, from building-integrated photovoltaics to utility-scale power plants.

Can bifacial PV modules increase energy yield?

Bifacial PV modules can potentially increase energy yield of a PV system by 3 – 15 % compared to monofacial PV modules for the same available area. Establishing reliable and international standards that accurately determine the performance of bifacial PV products is crucial for bankability and further penetration of this technology into the market.

Do bifacial PV modules need to be electrically stabilized?

In accordance with IEC 61215-1,-1-1,-2 standards, PV modules should be electrically stabilized before any further measurement. As bifacial PV devices

are mostly PERT, PERC and HJT technology based, issues such as light-induced degradation (LID) exist and should not be neglected.

How bifacial PV modules can be characterized using a solar simulator?

In the process of characterizing the output power of bifacial PV modules using a solar simulator, three key steps are involved: establishing the bifaciality factor under standard test conditions (STC), assessing the power gain by examining the yield of rear-irradiance, and determining the output power at rear irradiances of 100 and 200 W/m².

Bifaciality Warranty for Photovoltaic Modules



Bi-facial Solar Modules

Discover high-performance bifacial solar panels at Waaree Technicians. Enhance energy efficiency with cutting-edge technology designed for optimal sunlight ...

LIMITED WARRANTY STATEMENT PHOTOVOLTAIC ...

Aug 6, 2025 · For the photovoltaic solar module products of the following module types delivered under the sales contract or purchase order signed on and after August. 1st, 2025, CSI Solar ...



A systematic literature review of the bifacial photovoltaic module ...

Aug 12, 2024 · The following keywords were combined in different ways for the search: solar energy, photovoltaic, bifacial PV modules, bifacial gain, monofacial PV module, front ...

Optimization and performance of bifacial solar modules: A ...

Feb 15, 2018 · With the rapidly growing interest in bifacial photovoltaics (PV), a worldwide map of their potential performance can help assess and accelerate the gl...



How Leading Manufacturers Are Revolutionizing ...

Feb 19, 2025 · The rapid evolution of bifacial solar panels has revolutionized the photovoltaic industry, with leading manufacturers achieving power generation ...

A systematic literature review of the bifacial photovoltaic module ...

Aug 12, 2024 · Under optimum conditions, bifacial modules offer up to 30% more energy than conventional modules. Comparative assessments also demonstrate higher energy output from ...



Bifacial Technology

Long Warranty for N-Type Panels. 30 years for linear power loss and at least 12 years for product give N-type modules Top positions in the PV market.

In addition, HJT gives a minimal risk of ...



Bifacial PV System Performance

Oct 2, 2019 · o Bifacial PV is becoming mainstream with GW's of installed projects o Energy gain depends on the site configuration and surface albedo. Models like SAM, PVSyst and ...



A photovoltaic degradation evaluation method applied to bifacial modules

Feb 1, 2023 · Bifacial PV modules is gaining larger share of market due to the higher energy and power density at almost the same price of conventional PV modules. In recent years, as PV ...

Tongwei Achieves New Bifaciality Record! TOPCon ...

Jul 4, 2025 · Meng Xiajie, Head of Cell Development at Tongwei Co., Ltd.'s PV Technology Center, revealed that

Tongwei has initiated trial production of modules exceeding 90% ...



HD HYUNDAI SOLAR MODULE

Jan 14, 2025 · 22.53% High-End Higher Long-Term Compatible For Residential High Efficiency TOPCon Bifaciality Reliability with Carport (Full Black Design) Technology Applications

What Defines Bifacial Module Power Generation ...

Mar 27, 2025 · IEC 61215 provides a reference irradiance condition for the nameplate rating of bifacial modules, known as "Bifacial Nameplate Irradiance ...



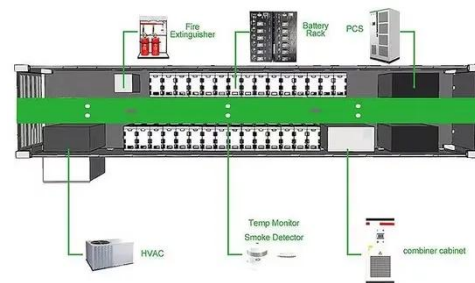
Bifacial Design guide

Jan 30, 2020 · Bifacial PV Module The bifacial PV Module doesn't use a white backsheet but uses a transparent backsheet (or glass) on the back. (Total produced energy) = (Energy from the ...



Measurement of Bifacial Solar Devices

Jun 30, 2025 · Bifacial PV modules can potentially increase energy yield of a PV system by 3 - 15 % compared to monofacial PV modules for the same ...



Performance characteristics of bifacial PV modules and ...

Oct 28, 2017 · How to address the bifacial gain on the PV module label or in the data sheet? Validation of output power specification is part of IEC 61215 product qualification testing. ...



TOP SOLAR MODULES Listing - April 2025

Apr 16, 2025 · The module, with a bifaciality of 70% and built with 120 half-cells, has a power rating of 410 W. SPIC is offering a 30-year power warranty for

...



Parameter analysis of 842 bifacial solar modules from 236 ...

Jul 24, 2025 · An international research team has conducted an extensive overview of bifacial solar modules from 39 countries. Their analysis took into account the best of the median ...

How bifacial PV modules work: Factors that ...

Oct 7, 2022 · Since the light reaching the module's rear side behaves differently than the light reaching the front side, bifacial modules must be understood in ...



Power rating and qualification of bifacial PV modules

May 21, 2024 · In response to the strong demand for an appropriate power rating method for bifacial PV modules, the international standard IEC 60904-1-2 has



been proposed, which ...

Bifacial Solar Modules , Maysun Solar

Bifacial photovoltaic modules are available in two types: single-glass bifacial modules and double-glass bifacial modules. Single-glass bifacial modules are ...



Tiger Neo N-Type TOPCon Module

Apr 8, 2024 · PRODUCTION Higher power, bifaciality, efficient production under extreme conditions, combined with the lower degradation, no LID and LeTID effects and a glass-glass ...

Canadian Solar unveils 630 W anti-hail TOPCon ...

Apr 4, 2025 · Chinese-Canadian solar module manufacturer Canadian Solar has unveiled a new bifacial TOPCon solar panel featuring anti-hail technology. ...

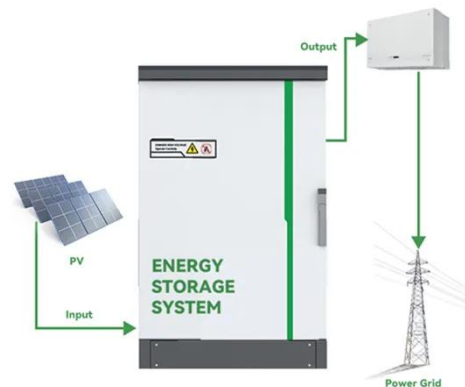


DT-M-0042 E ...

Jan 17, 2024 · bifaciality and low irradiation performance, party degradation:1% rst year,0.4% annually thereafter temperature coe cient $(-0.29\%/^{\circ}\text{C})$ additional power gain from back side ...

ASTRO N5-650W-78-Bifacial , Astronergy n-type TOPCon PV Modules

Oct 20, 2024 · With TOPCon 4.0 cell technology, SMBB technology, and M10 large-size silicon wafer design, ASTRO N5 series PV modules are adaptable to various application scenarios.



High Efficiency TOPCon Modules Product White Paper

Sep 5, 2024 · With over 20 years of technological accumulation, Canadian Solar has developed a comprehensive



core technology system, consistently leading the global photovoltaic industry ...

Krannich Solar Germany: Bifacial modules: ...

Nov 11, 2024 · Bifacial modules function similarly to standard modules. However, they can absorb solar energy from both sides, made possible by two key ...



Bi-facial modules

Aug 13, 2025 · PV Module - Standard one-diode-model PVModule Structure Bi-facial modules Nowadays more and more Si-crystalline modules are able to use light from the rear side for ...

What is a bifacial module? What performance ...

Aug 18, 2025 · In practice, it is complex to evaluate the power gain due to bifaciality. For transparent bi-glass modules installed on residential roofs, ...



A systematic literature review of the bifacial photovoltaic ...

Aug 12, 2024 · The following keywords were combined in different ways for the search: solar energy, photovoltaic, bifacial PV mod-ules, bifacial gain, monofacial PV module, front ...



Vertex_NEG21C.20_EN_2024_APAC_A_web

Mar 2, 2024 · bifaciality and low irradiation performance, party degradation:1% rst year,0.4% annually thereafter temperature coe cient (-0.29%/°C) additional power gain from back side ...



Bifacial solar photovoltaics - A technology review

Jul 1, 2016 · Bifacial solar photovoltaics (PV) is a promising mature technology that increases the production of



electricity per square meter of PV module through the use of light absorption ...

Elan Series_12BB PERT & PERC Halfcut Bifacial PV ...

May 29, 2024 · Warranty and certifications Product warranty** 12 years of product warranty Performance guarantee** Power degradation <2.0 % in first year < 0.55 % / year in 2-30 years



Contact Us

For catalog requests, pricing, or partnerships, please visit:
<https://www.wf-budownictwo.pl>