

BIPV Product Catalog



Content

01

Company

02

BIPV products

03

Projects

EINNOVA
SOLARLINE





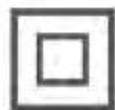
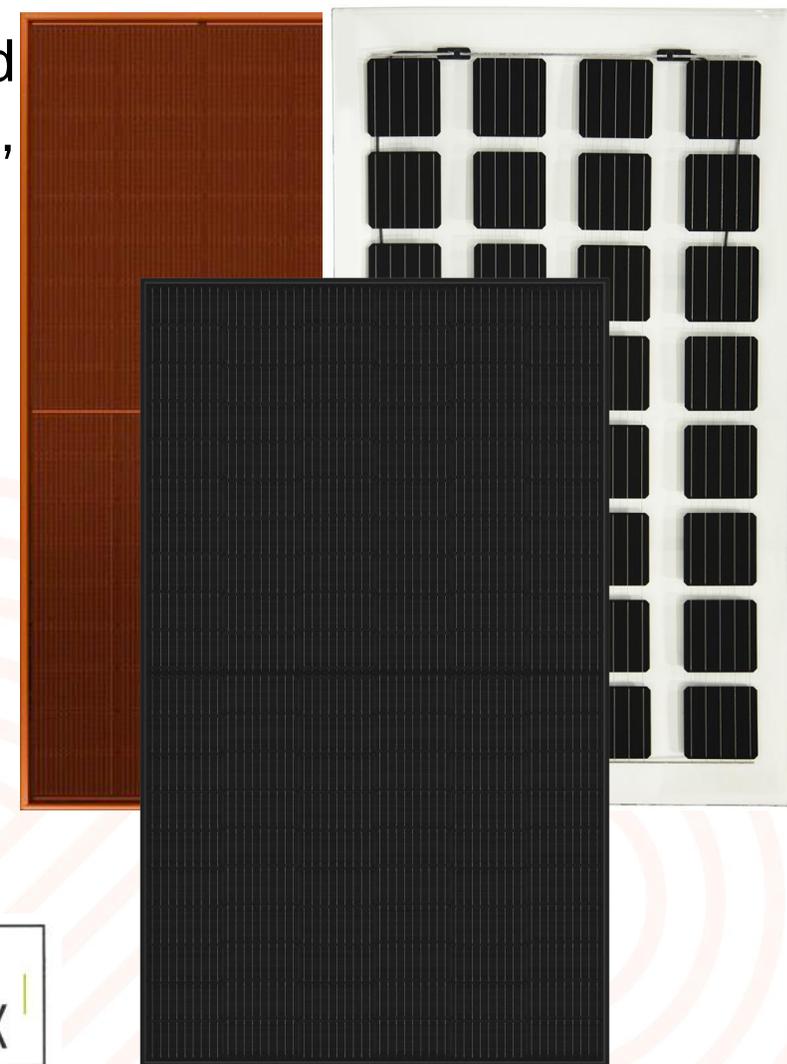
Company

Part One

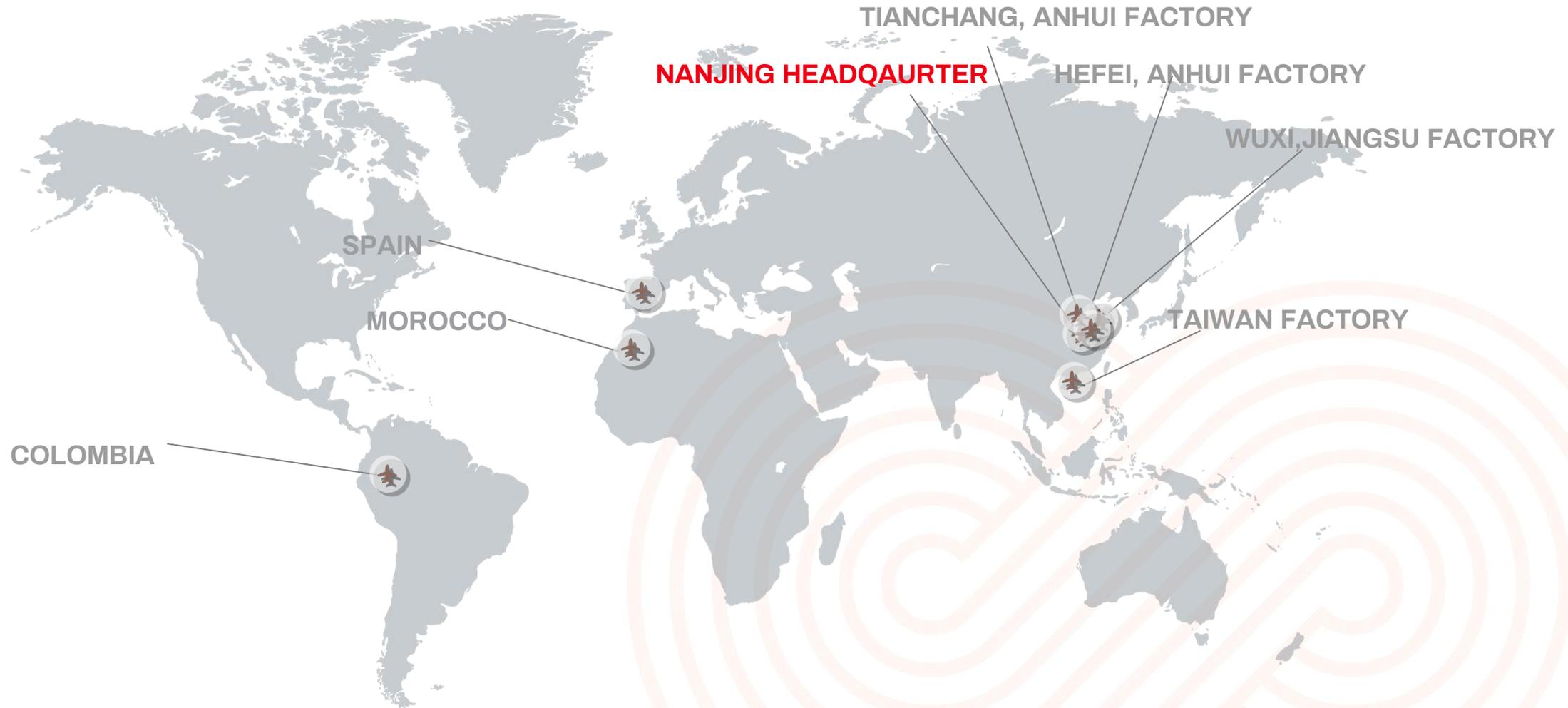


Company Profile

- Group company China Jiangsu International Group founded in 1980, dedicated to construction, real estate development, international business etc.;
- Einnova Solarline set up in 2008, focusing on solar module manufacturing and R&D;
- Einnova solar products used and installed in more than 50 countries all over the world;
- 2GW production capacity for solar modules: 1500MW for standard solar panels, 500MW for BIPV and customized& BIPV solar products;
- Four factories, state-of-the- art automatic production lines.
- One-stop provider for consulting, design and production.



Global Presence



State of The Art Production Line



ZINNOVA
SOLARLINE

BIPV Products

Part Two

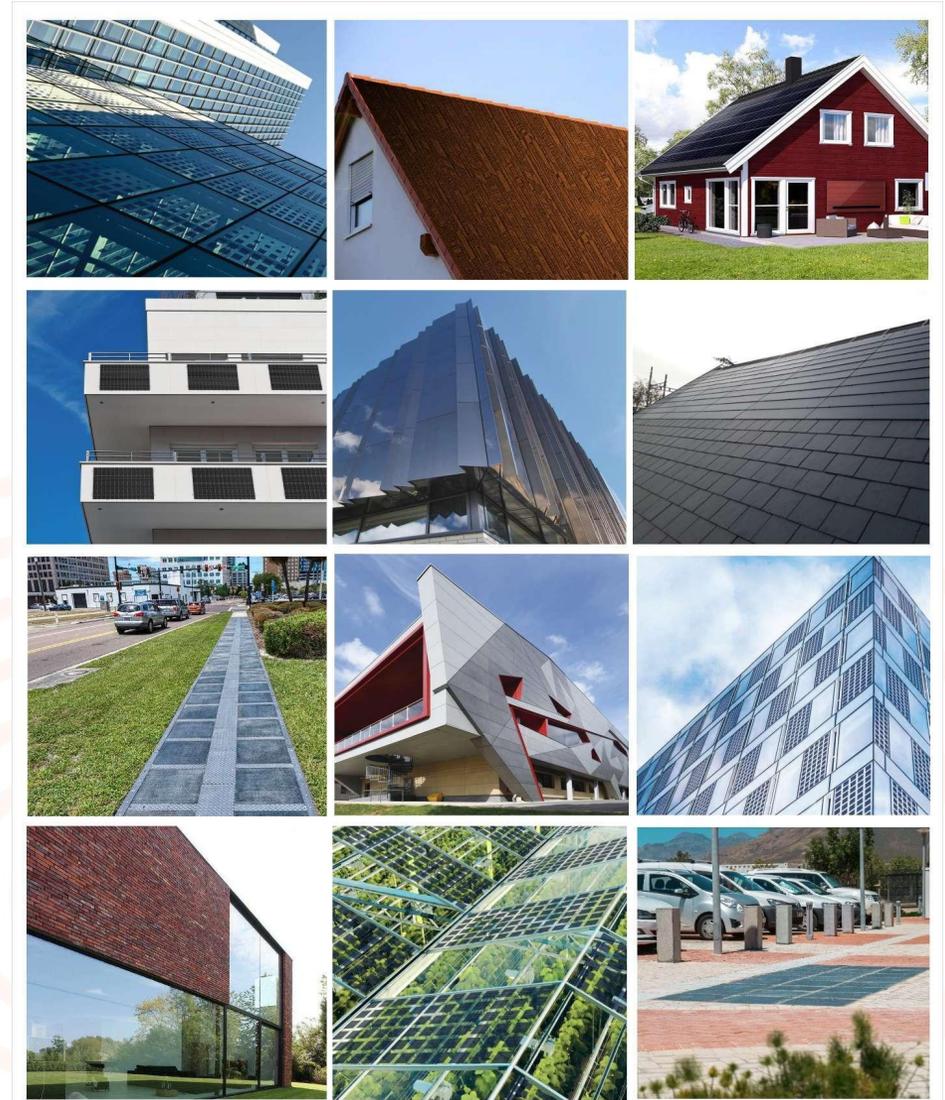


What is BIPV?

Building Integrated Photovoltaics (BIPV) is the integration of photovoltaics (PV) into the building envelope. The PV modules serve the dual function of building skin—replacing conventional building envelope materials—and power generator. By avoiding the cost of conventional materials, the incremental cost of photovoltaics is reduced and its life-cycle cost is improved.

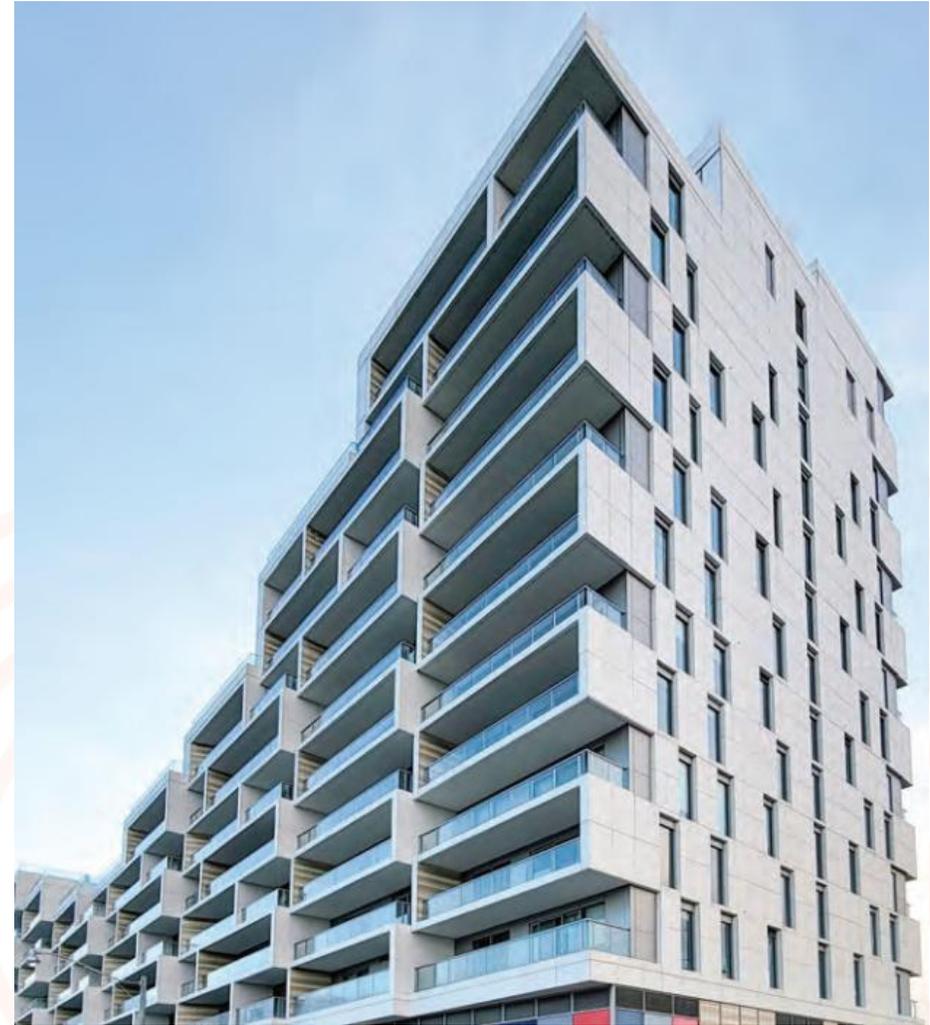
BIPV advantages and benefits:

- Generate clean, renewable energy;
- Provide shading and insulation;
- Improve a building's energy efficiency;
- Save cost by reducing conventional building materials;
- Enhance aesthetical looks of the buildings.



■ Einnova BIPV products portfolio

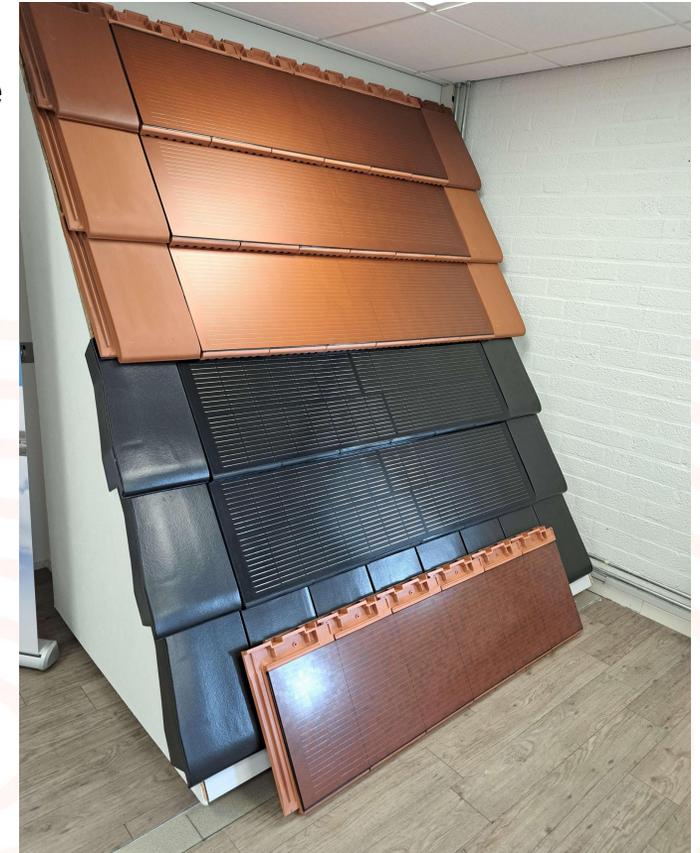
- 1. Solar Tiles**
- 2. Luminous Solar Panels**
- 3. Color Solar Panels**
- 4. Solar Pavement**
- 5. Solar Facade**
- 6. Customized Solar Panels**



Solar Tiles

Einnova Solarline solar roof tiles can take on the appearance of the most popular roofing patterns, allowing a visual integration with non-solar sections of the roof.

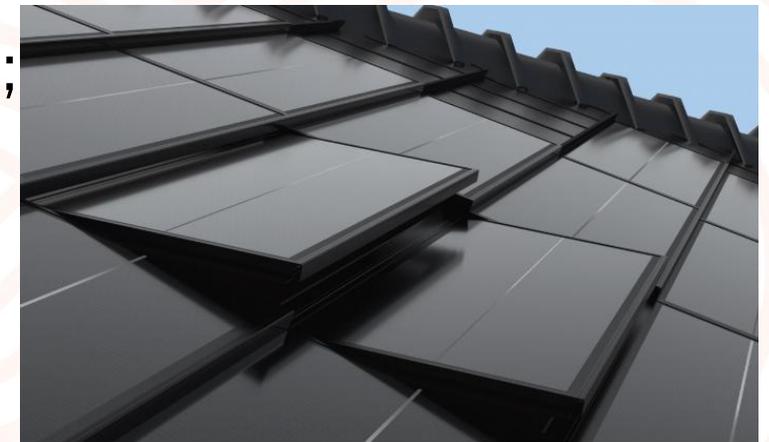
We have various textures and colours available. Our products feature the appearance of variety of roofs while generating electricity for the house.



■ Solar Tiles

Advantages of Einnova Solar Roof Tiles:

- Part of the building envelope, making the roof water-repellent, storm-resistant, snow-resistant and fire-resistant;
- Seamlessly and invisibly integrated into the roof;
- Increases not only the aesthetic but also the economic value of the home;
- Payback period of less than 5 years for a South-facing solar roof, after accounting for the saved roof tiles;
- Better ventilation than other in-roof solar energy systems;
- Various sizes available catering to different markets.



Solar Tiles-65W



ESM- 65W
Frame-less Black
Laminate for Roof Tile
Full Black 182mm Mono
Half Cell Laminate



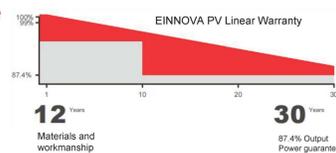
Module characteristics

- MBB Technology Half Cut Solar Cell
- Excellent Power Performance
- 100% Inspection 30years Guarantee
- Fire Class II
- 5400Pa Strengthened Mechanical Load
- High Efficiency

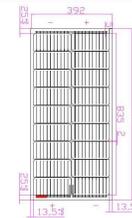


Long and reliable quality assurance

IEC61215(2016), IEC61730(2016)
ISO9001:2015: Quality management system
ISO14001:2015: Environmental management system
ISO45001:2018: Occupational health and safety management system

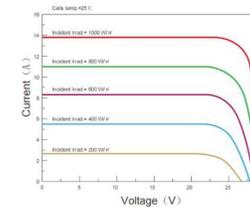


Mechanical Diagrams



All Dimensions in mm.
The above drawing is a graphical representation of the product.
For engineering quality drawings please contact EINNOVA.

Curve



Characteristics(STC)

Module Type	ESM-65
STC	STC
Maximum Power - Pmax(W)	65
Open Circuit Voltage - Voc(V)	12.02
Short-Circuit Current - Isc(A)	6.72
Voltage at Pmax - Vmp(V)	10.25
Current at Pmax - Imp(A)	6.35
Module Efficiency - ηm(%)	18.74
Power Tolerance(W)	(0, +4.99W)
Maximum System Voltage(V)	700Vdc (IEC/UL)
Maximum Series Fuse Rating (A)	25A

STC : Irradiance 1000W/m², Cell Temperature 25°C, Air Mass 1.5

Mechanical Specifications

Dimensions	885*392*5mm
Weight	3.0kgs
Solar Cells	Mono crystalline 182mm (2x9 pcs)
Front Glass	3.2mm
Frame	No Frame
Junction Box	IP67
Output Cables	4.0mm ² , 500mm, length can be customized
Connector	MC4 Compatible
Mechanical Load	Front Side Max. 5400Pa, Rear Side Max. 2400Pa

Temperature Characteristics

Pmax Temperature Coefficient	-0.290%/°C
Voc Temperature Coefficient	-0.250%/°C
Isc Temperature Coefficient	+0.045%/°C
Operating Temperature	-40 ~ +85°C
Nominal Operating Cell Temperature(NOCT)	45±2°C

Packing Configuration

Product size	885x392x5mm
Container	20'GP 40'HQ
Pieces per Pallet	58 58
Pallets per Container	5104 1740

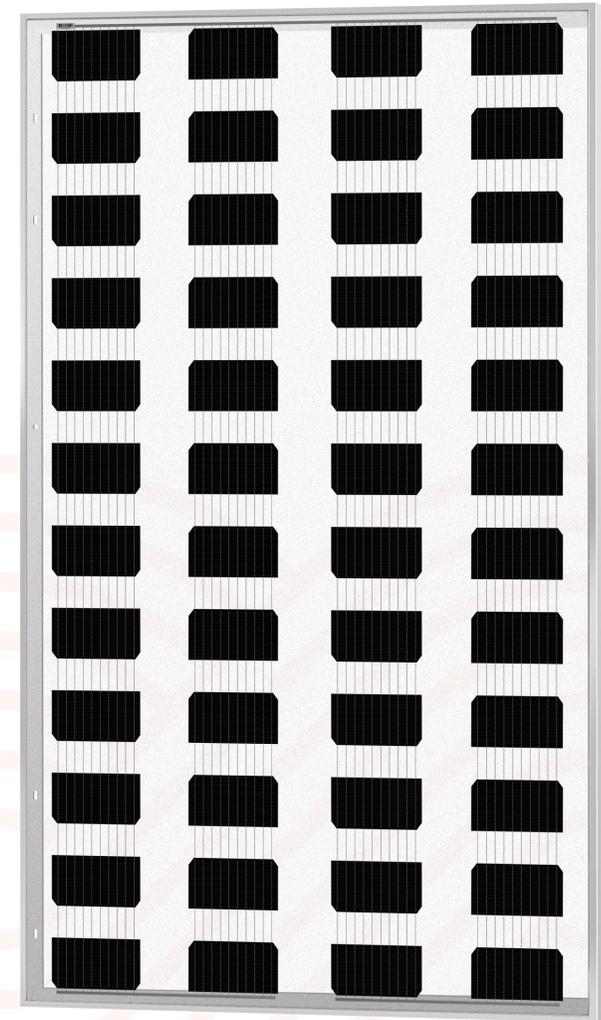
EINNOVA SOLARLINE ENERGY CORP. LIMITED
210000 Nanjing
PEOPLE'S REPUBLIC OF CHINA
TEL: +86-25-8479-2033
Cell: +86-138-13089384
EMAIL: einnova.wu@einnova-solarline.com
Website: www.einnova-solarline.com

The company reserves the right of final right of adjustment of this file.

Luminous Solar Panels

Einnova Solarline luminous solar panels feature big spacing between solar cell strings which allows more sunlight transmission through the panels.

Both aesthetic pleasing and with high efficiency, our Luminous solar panels are widely used for agricultural projects, sunshades, sunroofs, skylights, balconies, facades etc.



Luminous Solar Panels-185W

ESM-185 Luminous PV

**182mm Bifacial
Luminous Mono
Half Cell PV Module**

TRANSMITTANCE 40 (%)

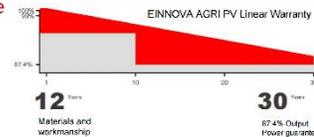


Module characteristics

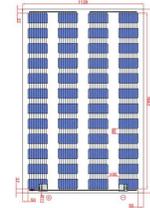


Long and reliable quality assurance

IEC61215(2016), IEC61730(2016)
ISO9001:2015: Quality management system
ISO14001:2015: Environmental management system
ISO45001:2018: Occupational health and safety management system

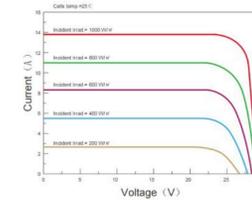


Mechanical Diagrams



All Dimensions in mm
The above drawing is a graphical representation of the product.
For engineering quality drawings please contact EINNOVA.

Curve



Characteristics(STC)

Module Type	ESM-185
STC	STC
Maximum Power - Pmax(W)	185
Open Circuit Voltage - Voc(V)	33.55
Short Circuit Current - Isc(A)	6.91
Voltage at Pmax - Vmp(V)	28.31
Current at Pmax - Imp(A)	6.57
Module Efficiency - ηm(%)	9.55
Power Tolerance(W)	(0, +4.99W)
Maximum System Voltage(V)	700Vdc (IEC/UL)
Maximum Series Fuse Rating (A)	25A

STC : Irradiance 1000W/m², Cell Temperature 25°C, Air Mass 1.5

Mechanical Specifications

Dimensions	1722*1134*30mm
Weight	19kgs
Solar Cells	Mono crystalline 182mm (4x12pcs)
Front Glass	3.2mm
Frame	Aluminum Silver Frame
Junction Box	IP67
Output Cables	4.0mm ² , 100cm (+), 120cm (-), length can be customized
Connector	MC4 Compatible
Mechanical Load	Front Side Max. 5400Pa, Rear Side Max. 2400Pa

Temperature Characteristics

Pmax Temperature Coefficient	-0.290%/°C
Voc Temperature Coefficient	-0.250%/°C
Isc Temperature Coefficient	+0.045%/°C
Operating Temperature	-40 ~ +85°C
Nominal Operating Cell Temperature(NOCT)	45±2°C

Packing Configuration

Product size	1716*1128*30mm
Container	20'GP 40'HQ
Pieces per Pallet	36 36
Pallets per Container	486 936

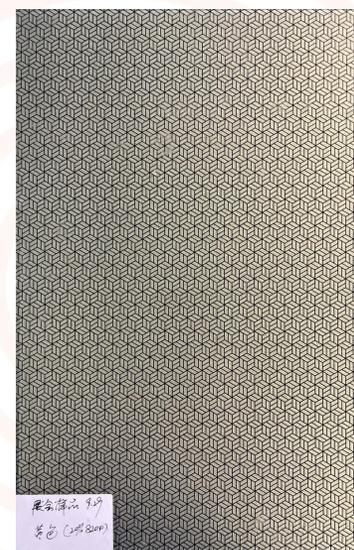
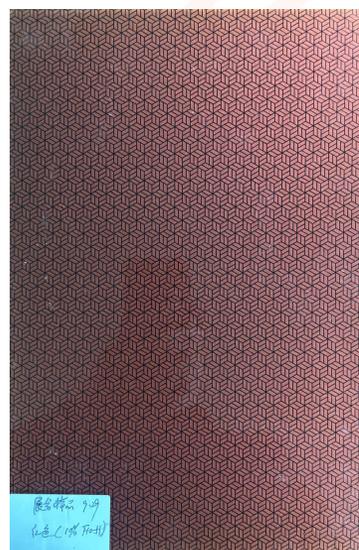
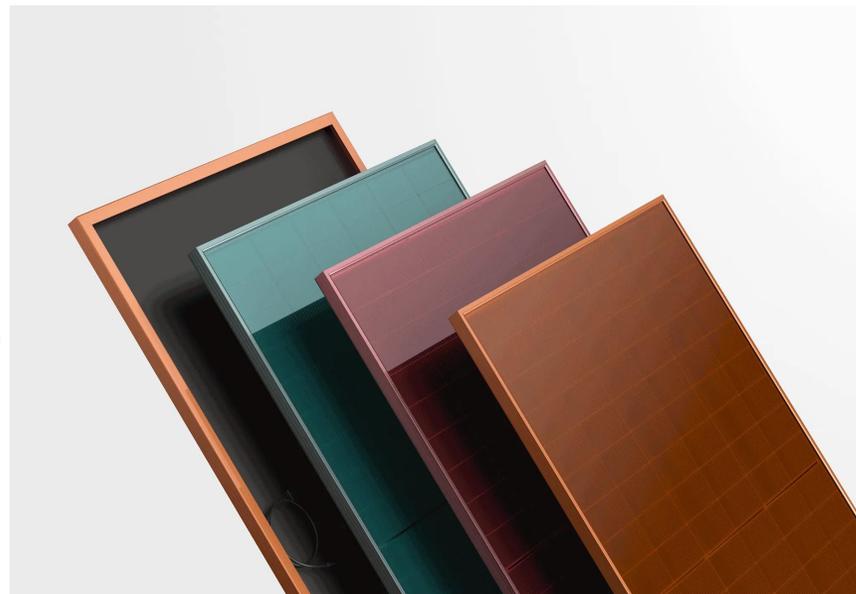
EINNOVA SOLARLINE ENERGY CORP. LIMITED
210000 Nanjing
PEOPLE'S REPUBLIC OF CHINA
TEL: +86-25-8479-2033
Cell: +86-139-13089394
EMAIL: emma.wu@einnova-solarline.com
Website: www.einnova-solarline.com

The company reserves the right of final right of adjustment of this file.

Color Solar Panels

Einnova color series solar panels come with a wide range of color options including but not limited to pure color, geometric, natural texture, nature stone colors etc.

With an ideal balance on light transmission rate and aesthetic appearance, our color solar panels are suitable for various environment and applications like roofs, facades, pavement etc.



Colar Solar Panels-125W



Red Colored BIPV Panel-125W

Innovative Building-integrated photovoltaics (BIPV) are photovoltaic materials that can be a better alternative to conventional building materials in parts of the building envelope to maintain the design sense of the building.

New Building Materials

Fashion Aesthetic Photovoltaic technology perfect combination of architecture.

Fashion

Optimizing the mainstream material textures of the building materials market, grasping the annual fashion colors, and becoming the trend leader of photovoltaic building materials.

Aesthetic

Class A fire protection, can be used as lighting ceiling, window, curtain wall etc., perfectly integrated into the architectural design.

Strength



A variety of colors available



Aesthetics and practicality



Construction-grade materials with the same life span as the building



Surface texture with low reflection is easy to clean



High strength, light, corrosion resistant



Transmittance customization

Red Colored BIPV Panel

ELECTRICAL PERFORMANCE

Electrical parameters at Standard Test Conditions (STC)				Electrical parameters at Nominal Operating Cell Temperature (NOCT)			
Module type	ESM-125 RED			Power output	Pmax	W	94
Power output	Pmax	W	125	Voltage at Pmax	Vmpp	V	28.2
Power output tolerances	Pmax	W	0-5	Current at Pmax	Impp	A	3.36
Voltage at Pmax	Vmpp	V	30.02	Open-circuit voltage	Voc	V	33.95
Current at Pmax	Impp	A	4.17	Short-circuit current	Isc	A	3.57
Open-circuit voltage	Voc	V	35.75				
Short-circuit current	Isc	A	4.43				

STC: 1000W/m² irradiance, 25°C cell temperature, AM1.5g spectrum according to EN 60904-3. Average relative efficiency reduction of 3.0% at 200W/m² according to EN 60904-1.

NOCT: Open-circuit module operation temperature at 800W/m² irradiance, 20°C ambient temperature, 1m/s wind speed.

OPERATING CONDITIONS

Max. system voltage	1500VDC
Max. series fuse rating	20A
Operating temperature range	-40°C- 85°C
Max. static load, front (e.g., snow)	5400Pa
Max. static load, back (e.g., wind)	2400Pa
Max. hailstone impact (diameter / velocity)	25mm& 23m/s

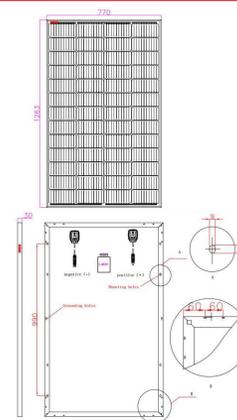
THERMAL CHARACTERISTICS

Nominal operating cell temperature	NOCT	°C	45 +/- 2
Temperature coefficient of Pmax	γ	%/°C	-0.36
Temperature coefficient of Voc	βVoc	%/°C	-0.30
Temperature coefficient of Isc	αIsc	%/°C	0.05

CONSTRUCTION MATERIALS

Glass	3.2mm
Cell	182X91mm
Encapsulating material	EVA and back sheet
Junction box (protection degree)	≥ IP67
Cable	300mm / 4mm ² /Also can be Customized
Connector	MC4 /IP67

UNIT:mm



GENERAL CHARACTERISTICS

Dimensions	1263x770x30mm
Weight	10kgs

QUALIFICATIONS & CERTIFICATES

IEC 61215, IEC 61730, ISO 9001:2015, ISO 14001:2015, ISO 45001: 2018.

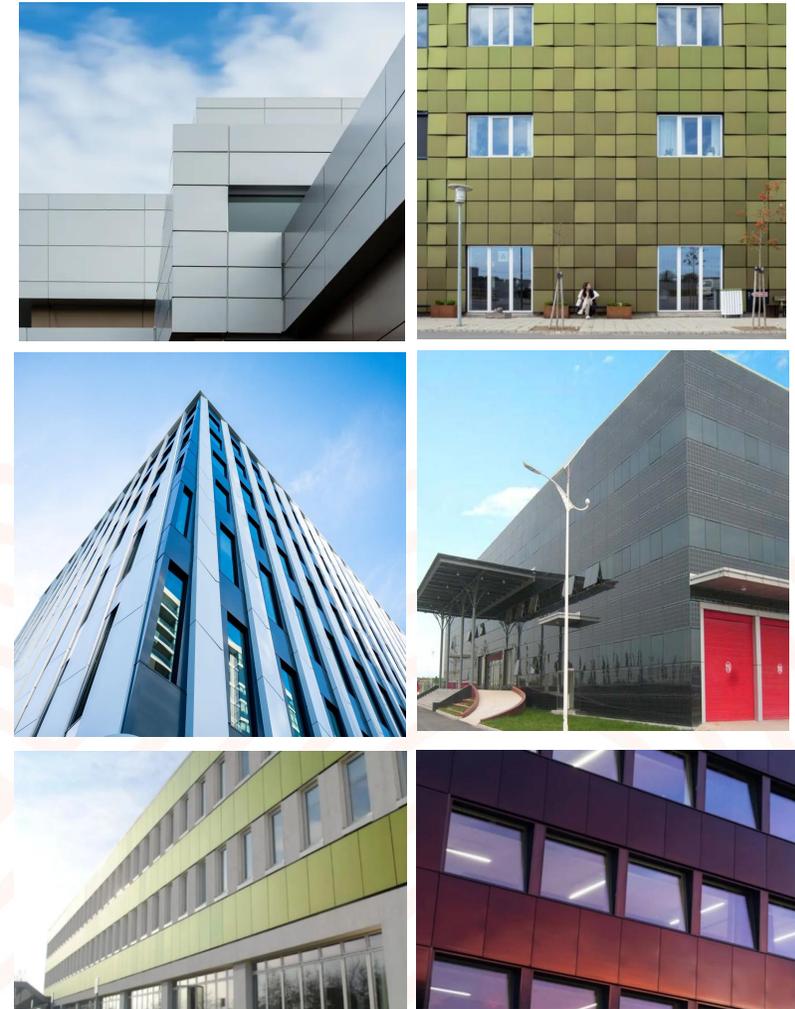
EINNOVA SOLARLINE ENERGY CORP. LIMITED
210000 Nanjing
PEOPLE'S REPUBLIC OF CHINA
TEL: +86-25-8479-2033
Cell: +86-13813088384
EMAIL: emma.wu@einnova-solarline.com
Website: www.einnova-solarline.com

■ Solar Facade

Einnova Solar Facade is a testament to the harmony of form and function. The elegance of architectural cladding meets the power of BIPVs, fusing aesthetic design, solar power, and unparalleled performance. Our innovative Solar Facade, is crafted to seamlessly replace your building's facade while harnessing the power of the sun.

With a robust design and a layer of high-efficiency solar cells, each of our solar facade module is a powerhouse of clean energy.

Lightweight, spac-saving, aesthetic pleasing and price competitive, our PV facade modules can be chosen as building cladding option to achieve both visual appeal and energy efficiency. They can also be customized to fit your preferred system of mounting/ fixation to the wall.



■ Solar Pavement

The solar pavement is a new emerging technology with the function of generating electricity and providing electrical supply for transportation infrastructures and/or facilities.

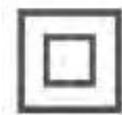
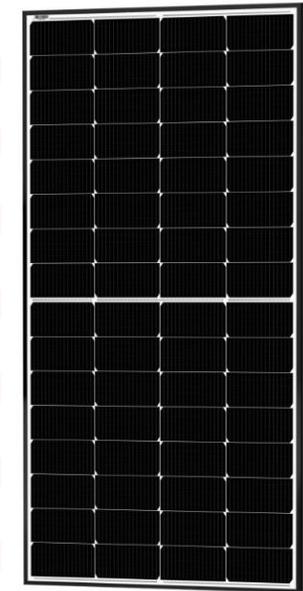
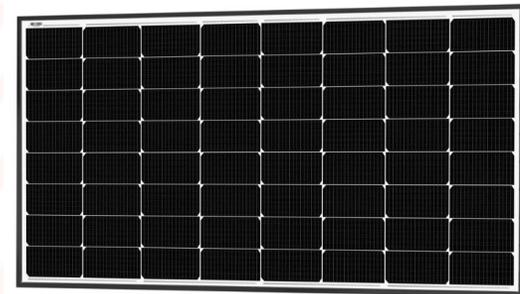
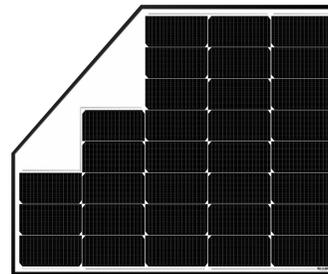
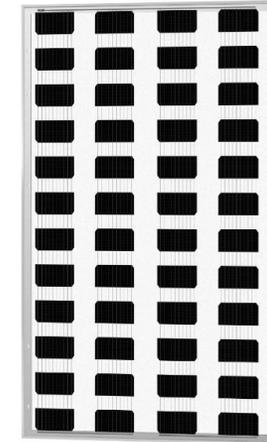
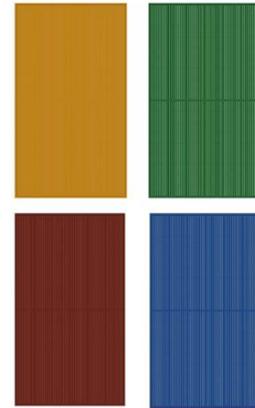
Einnova solar pavement solution is an innovative, energy-generating paver with an in-built solar panel available in different sizes and materials to cater for different kinds of roadways.

**Key Features: Easy for installation and maintenance;
Anti-slip& Anti-scratch;
Walkable; Aesthetic and space-saving design;
High load-bearing capacity.**



■ Einnova Solarline BIPV products are available in various customized designs:

- Size and shape
- Color of glass, solar cells, transparency
- Cell arrangement, gap differentiation
- Thickness and weight
- Efficiency, Junction Box
- Busbar coverage
- Adapt to various mounting
- Other variations on demand



ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ CERTIFICADO ◆ CERTIFICAT




CERTIFICATE

No. Z2 108801 0001 Rev. 01

Holder of Certificate: Einnova Solarline Energy Corp. Limited (Nanjing)
Room 818, Building 1, No. 58, Yunjin Road, Jianye District
210000 Nanjing City, Jiangsu Province
PEOPLE'S REPUBLIC OF CHINA

Certification Mark: 

Product: Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
Mono & Poly Crystalline Silicon Photovoltaic Module

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition, the certification holder must not transfer the certificate to third parties. This certificate is valid until the listed date, unless it is cancelled earlier. All applicable requirements of the testing and certification regulations of TUV SUD Group have to be complied. For details see: www.tuvsud.com/jps-cert

Test report no.: 701262007701-01
Valid until: 2025-05-27

Date: 2021-05-15

(ZhuLin Zhang)

Page 1 of 2
TUV SUD Product Service GmbH • Certification Body • Ridlerstraße 65 • 80339 Munich • Germany

Certificate n° CSVO-9XAH-Y67L-B956-2B56-E0CL



GLOBAL MEMBERSHIP

2021

www.pvcycle.org

PV CYCLE a.i.s.b.l.
hereby declares that based on current commitments

EINNOVA SOLARLINE ENERGY CORP. LIMITED (NANJING)

(Business registration nr.: 91320105062625970K)

- 1) benefits from collection and treatment services* for discarded PV panels and solar energy equipment
- 2) adheres to the high principle of PV CYCLE's PV waste management program
- 3) advocates and supports the development of sustainable PV waste management on a global scale
- 4) contributes to sustainable PV waste management by informing customers about legal developments and requirements

This certificate is valid until 31/12/2021 around the globe excluding the European Union Member States, UK, the EFTA countries and any other countries or regions where Extended Producer Responsibility legislation is in place.

Brussels, 01/01/2021

Jan Clyncke
Managing Director

*This membership does not cover the financing of collection, recycling and treatment of discarded PV panels and solar energy equipment. Details can be found in the signed terms and conditions.
The validity of this certificate can only be confirmed on <https://portal.pvcycle.org/en-US/Verify/MemberCertificate>
PV CYCLE a.i.s.b.l. is registered in Brussels, Belgium with BE 0893.027.827.



Certificado N° 0069

CERTIFICADO DE CONFORMIDAD DE PRODUCTO ESQUEMA 5

Certicheck S.A.S. otorga el presente certificado de conformidad de producto a:

EINNOVA SOLARLINE ENERGY CORP. LIMITED (NANJING)

NIT 91320105062625970K

Room 818, building 1, No 58, Yunjin road, Jianye District,
Nanjing, Jiangsu, China

Para el producto:

Paneles Solares Fotovoltaicos

El cual satisface los requisitos del referente normativo:

Numeral 20.22 de la Resolución 90708 del 30 de agosto de 2013 y adendas modificatorias
del Reglamento Técnico de Instalaciones Eléctricas - RETIE (Colombia)

Fecha de certificación inicial: 2022/07/13

Fecha de siguiente seguimiento: 2023/07/13

Fecha de última modificación:

Fecha de vencimiento del certificado: 2025/07/12

La información completa de características e identificación del producto se encuentran en las hojas anexas a este documento, las cuales son parte integral del mismo. Este documento consta de 3 páginas. La vigencia y validez de este certificado depende del cumplimiento de lo estipulado en el RC-CR-001 Reglamento de certificación de productos, de CERTICHECK



ISO/IEC 17065:2012
19-CPR-001


Director General

WWW.CERTICHECK.COM.CO

Circular 4 # 72 - 19, 050031, Medellín, Colombia
Teléfono: +57 300 6202817



Escanear para verificar el estado
del certificado o consultar en
www.certicheck.com.co

Certification



Page 1 of 16 Report No.: 210802299SHA-001

Test Report

Relatório de testes em laboratório

**Performance Measurement at STC of Photovoltaic(PV) Modules
Medição do desempenho de módulos Fotovoltaicos em condições padrão (STC)**

Report No. / Relatório Nº.: 210802160SHA-001

Date of issue / Data de questão: 09/08/2021

Client / Manufacturer / Cliente / Fabricante: Einnova Solarline Energy Corp. Limited (Nanjing)
Room 818, Building 1, No. 58, Yunjin Road, Jianye District, Nanjing, China

Brand / Marca: Einnova Solarline

Product / Produto a ensaiar: Photovoltaic (PV) Module(s)

Module Model / Modelo de modulo: ESM-550S

Date of receipt / Data de recepção: 08/23/2021

Testing Location / Local dos ensaio: Intertek Testing Services Ltd. Zhejiang
Building 2, Juanhu Science and Technology Innovation Park, No.500,
Shuiyuejing East Road, Haining, Zhejiang, China

Test Specification / Ensaio realizados: 10.1, 10.2, 10.3, 10.15 of IEC 61215:2005
Crystalline silicon terrestrial photovoltaic (PV) modules – Design
qualification and type approval

Prepared by:
Realizado por:

Zach Zhou

Eddie Shang
Certification Engineer
PV Division

Reviewed by:
Revisado por:

Clark Yang
Reviewer
PV Division



QUALITY MANAGEMENT SYSTEM CERTIFICATE

Certification No. 117 22 QU 0119-01 R0S

This is to certify that **EINNOVA SOLARLINE ENERGY CORP. LIMITED (NANJING)**

Unified social credit code 91320105062625970K

Registered Address Room 818, Building 1, No. 58, Yunjin Road, Jianye District, Nanjing, Jiangsu Province, China
Business Address Room A, 10/F, Chunfeng Building, No. 37, Huaqiao Road, Gulou District, Nanjing, Jiangsu Province, China

has been assessed and registered as meeting the requirements of

GB/T19001-2016/ISO9001:2015

Scope of approval Research& Development, Sales and Manufacture of Solar Modules

First Certification: 24 Jan. 2022

Expiry Date: 23 Jan. 2025

Signed by:



Shanghai Ingeer Certification Assessment Co.,Ltd.

Certification and Accreditation Administration of PRC:CNCA-R-2003-117
Tel: 400-182-9001+86 21-51114700
Web: www.icas.org.cn
Add: Room 801 HuaDing Mansion, 2368# West Zhongshan Rd.,
Xuhui District, Shanghai, China, 200235



Focus on our WeChat platform



For Smeless Audit, Social Smeless Audit, The Smeless Audit

The ownership of the certificate belongs to Shanghai Ingeer Certification Assessment Co., Ltd. The information & validation of this certificate can be checked on the CNCA website: WWW.CNCA.GOV.CN and ICAS website, or by calling ICAS's clients services Dept. The certificate is only valid when used together with related permits when appropriate. If the organization can't effectively maintain the above management system, ICAS has the right to withdraw the qualification certificate.



Certificate of Compliance

Certificate Number: ZTL-2020122202C

Applicant Address: EINNOVA SOLARLINE ENERGY CORP. LIMITED
ROOM 818, BUILDING 1, NO.58, YUNJIN ROAD, JIANYE DISTRICT,
NANJING, CHINA

Manufacturer Address: EINNOVA SOLARLINE ENERGY CORP. LIMITED
West of Jingqi Road, South of Weiyi road, Tianchang City, Anhui Province,
China

Product: SOLAR MODULE

Trademark: Einnova Solarline

Model No.: ESM310
ESM XXX, ESP XXX, ESM XXXH, ESP XXXH, ESM XXX-BDG,
ESP XXX-BDG, ESM XXX-BDGH, ESP XXX-BDGH, ESM-XXXX, ESP-XXXX,
ESM XXXBIPV, ESP XXXBIPV, ESM XXXSB, ESM XXXTB,
ESP XXXTB (XXX STAND FOR 1W-700W)

Test Standard: EN 61215-1-1:2016
EN 61215-1:2016
EN 61215-2:2017

This Attestation of Compliance is issued on a voluntary basis for electrical equipment below the voltage limits of Low Voltage Directive 2014/35/EU. The essential requirement are fulfilled accordingly based on the technical specifications applicable at the time of issuance. See also notes overleaf. It is only valid in connection with the test report number: ZTL-2020122202S.



Shenzhen ZTL Testing Technology Co., Ltd.

No. 302, 3rd Floor, Qiaotou Chuangke Center, No.168 Yongfu Road, Fuhai Street, Baoan District, Shenzhen, China
Fax: +86-755-27225865 Tel: +86-755-27225865 Email: ztl@ztl-lab.com Web: www.ztl-lab.com
This Certificate of Conformity is based on single evaluation of the submitted sample(s) of the above mentioned product.
It does not imply an assessment of the whole product and relevant. Directives to be observed.

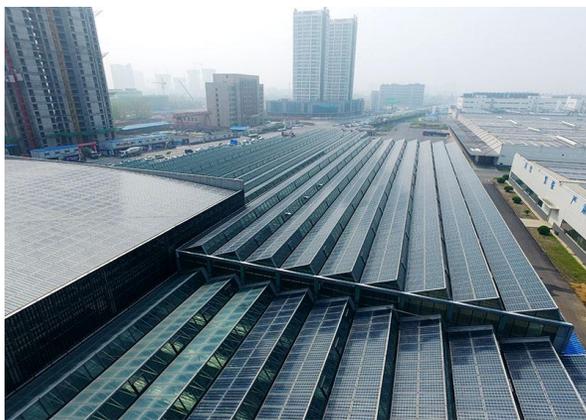
EINNOVA
SOLARLINE

Projects

Part Three



Projects



Look forward to cooperating with you!

THANK YOU!

www.einnova-solarline.com

EINNOVA
SOLARLINE