

**POTENCIA
VERDE®**

WIND • SOLAR & CONTRACTORS



KSN-EN10.0-202301

Xiamen Kseng Metal Tech. Co, Ltd

✉ ventas@potenciaverde.com

☎ +507 394-6696 / +507 6618-2630

🌐 www.potenciaverde.com

P-05 Mega Storage. Plaza MiCondado. Condado del Rey. Ciudad de Panamá
República de Panamá

Solar Racking & Tracking Systems Solution Provider

EMPOWERING OUR WORLD WITH CLEAN ENERGY





**POTENCIA
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Company Profile

About Kseng





Kseng Solar specializes in providing solar racking and tracking systems for residential, commercial, and utility-scale solar applications.

Driven by the mission of "Empowering our world with clean energy", Kseng Solar has increased its global presence with branches and offices in Netherlands, South Korea, Japan, Australia, Malaysia, Hong Kong S.A.R and other countries and regions. And it has up to 6GW annual production capacity with manufacturing bases in Indonesia, Malaysia, and China.

Since the inception of 2015, Kseng Solar has a proven track record as the ideal racking brand for its strong engineering, manufacturing and customer service capability. With its own manufacturing base to conduct strict quality control and numerous international standards accreditation, Kseng Solar has accomplished nearly 6.55GW of solar racking shipments by the end of 2022. It has ranked No.1 in Korean solar racking market and keeps the best annual growth rate for seven consecutive years in Japan's solar racking market.



Global Deployment

-  Headquarter: Xiamen, China
-  Branches: Netherlands, Korea, Japan, Australia, Malaysia, Hong Kong
-  Logistics Center: Japan, Germany, Netherlands, Poland
-  Production Bases: China,

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Enterprise Honor

Empowering Our World
With Clean Energy

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Kseng has won the honorary titles of national and Xiamen high-tech enterprises, top ten photovoltaic support suppliers, and top ten most popular photovoltaic support brands.



Research and Development

Senior R&D Engineering Team

More than 10 years' experience in PV industry

Megawatt-scale project experience with field-proven quality

Dynamic technical R&D team which consists of over 50 employees

Comprehensive coverage in the field of electrical, mechanical, material etc.

Patents and Certifications

Innovation-obsessed for independent research and products upgrading, and obtained hundreds of utility model patents.



Good master of design and architectural standards for global region, and obtained TUV, UL, CE, CPP and Gamcorp structural certifications.



Production and Quality

Self-own factory, reliable quality, on-time delivery

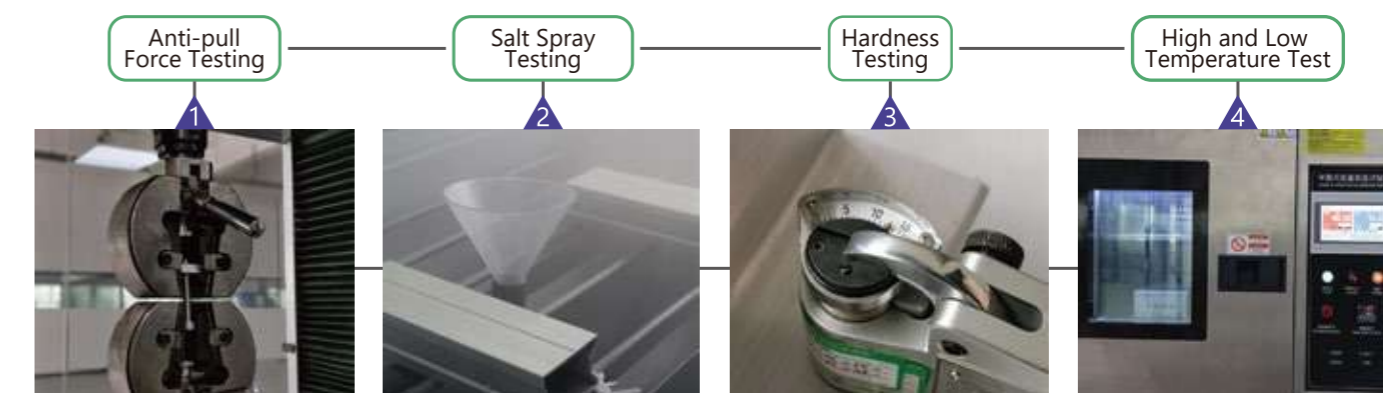
Self-own manufacturing base and reliable supply chain management equipped with automated production lines. 6GW annual production capacity to ensure stable supply for global market demand and differentiated customization.



Four Production Lines

- 1 Aluminum Solar Mounting System
- 2 Zn-Al-Mg Coated Steel Solar Mounting System
- 3 Tracking System and Controller
- 4 Ground Screw

Multiple Laboratory Testing



All-around Service

Whole Process Engineering Service



Pre-project
Site survey and technical analysis if necessary



On-site guidance
1 to 1 technical support, providing on-site installation assistance for large scale project



After installation
After-sales engineering team follow up the whole process

Multilingual Team Support

365d*24h instant response in your language

Full Coverage and Offering



Multilingual



365 days



24 hours



Global engineering
Design standards
Differentiated customization



Design drawing provided
within 48 hours



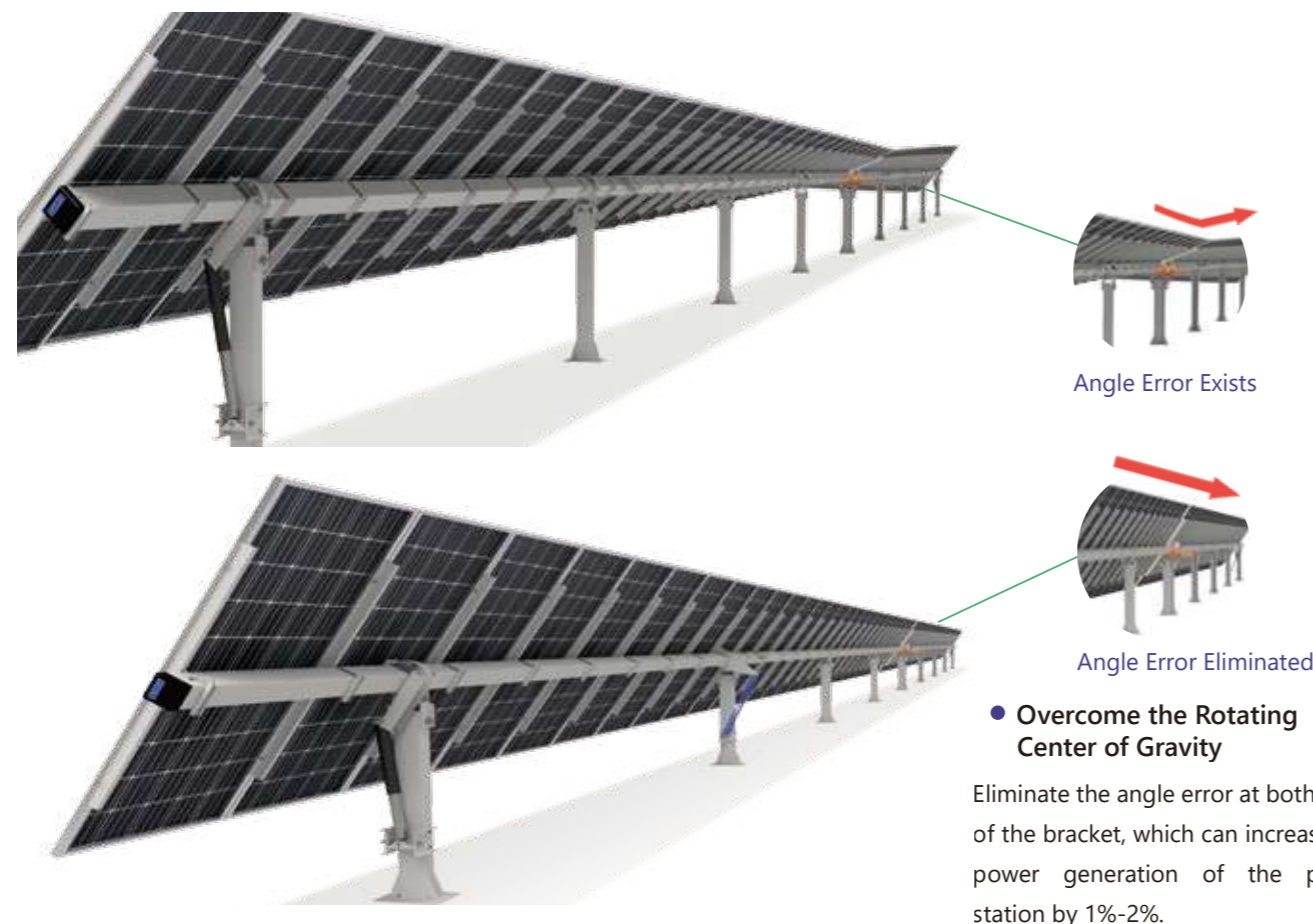
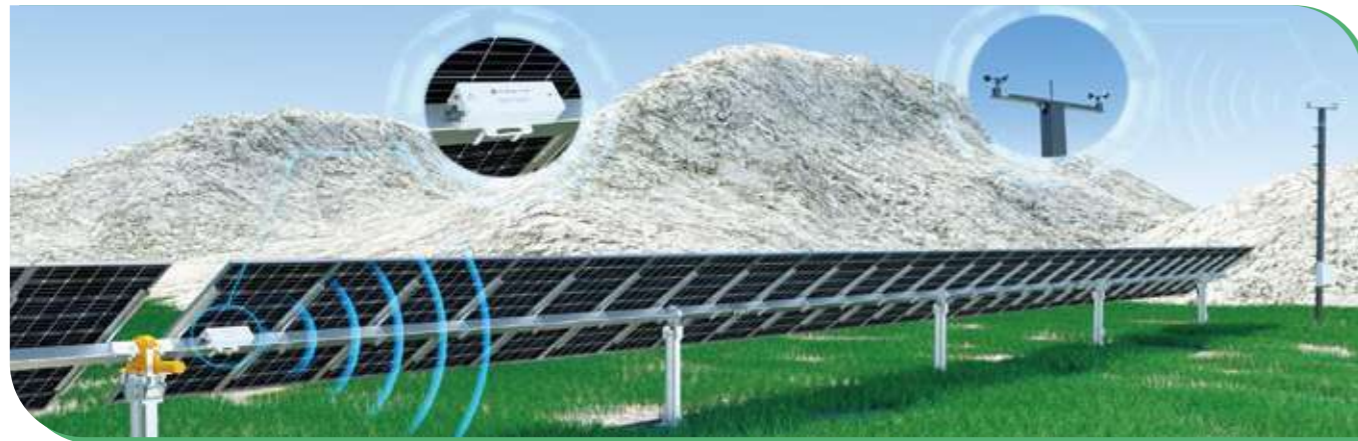
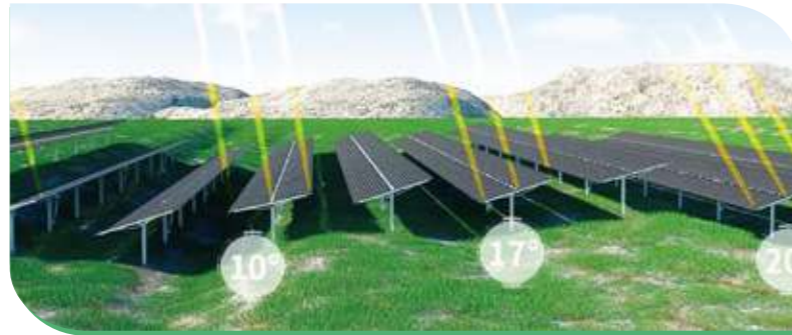
Complete technical
documents

KST SERIES SOLAR TRACKER

Power Generation Augment

• Advanced AI Tracking Algorithm

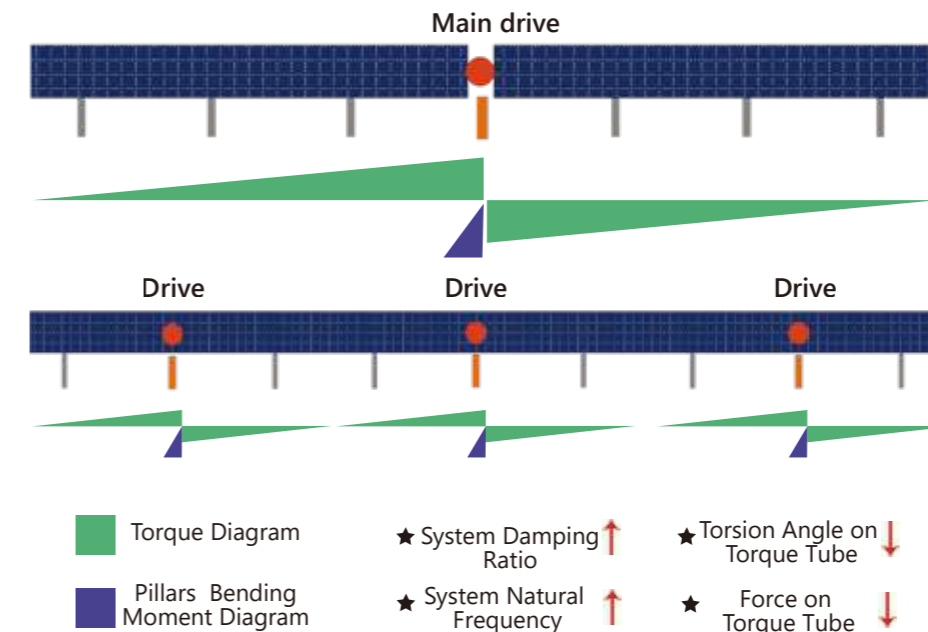
AI self-learning algorithm to optimize the angular deviation caused by terrain and bracket installation errors. Compared with the traditional tracking algorithm, the power generation of the power station can be increased by 2%-3%.



Stable and Reliable

• CPP Wind Tunnel Test

Kseng KST tracker have obtained the CPP wind tunnel test report, and further analyze the influence and instability under the action of aerodynamics to obtain a safer protection strategy, guarantees both strength and stability.



• Multi-drive

Adopt multi-drive with high nature frequency and no resonance risk, which can provide high torque tube protection and allow for a stable operation and accurate transmission.

Intelligent O&M

• Smart Human Machine Interactive System



Highly visualized Interface to improve the efficiency of on-site O&M; Portable & visual O&M application allowing for wireless operation simply by your phone.

• Fully Functional SCADA System



Self-developed SCADA system with a friendly simple & clear interface, enables remote monitoring and control.

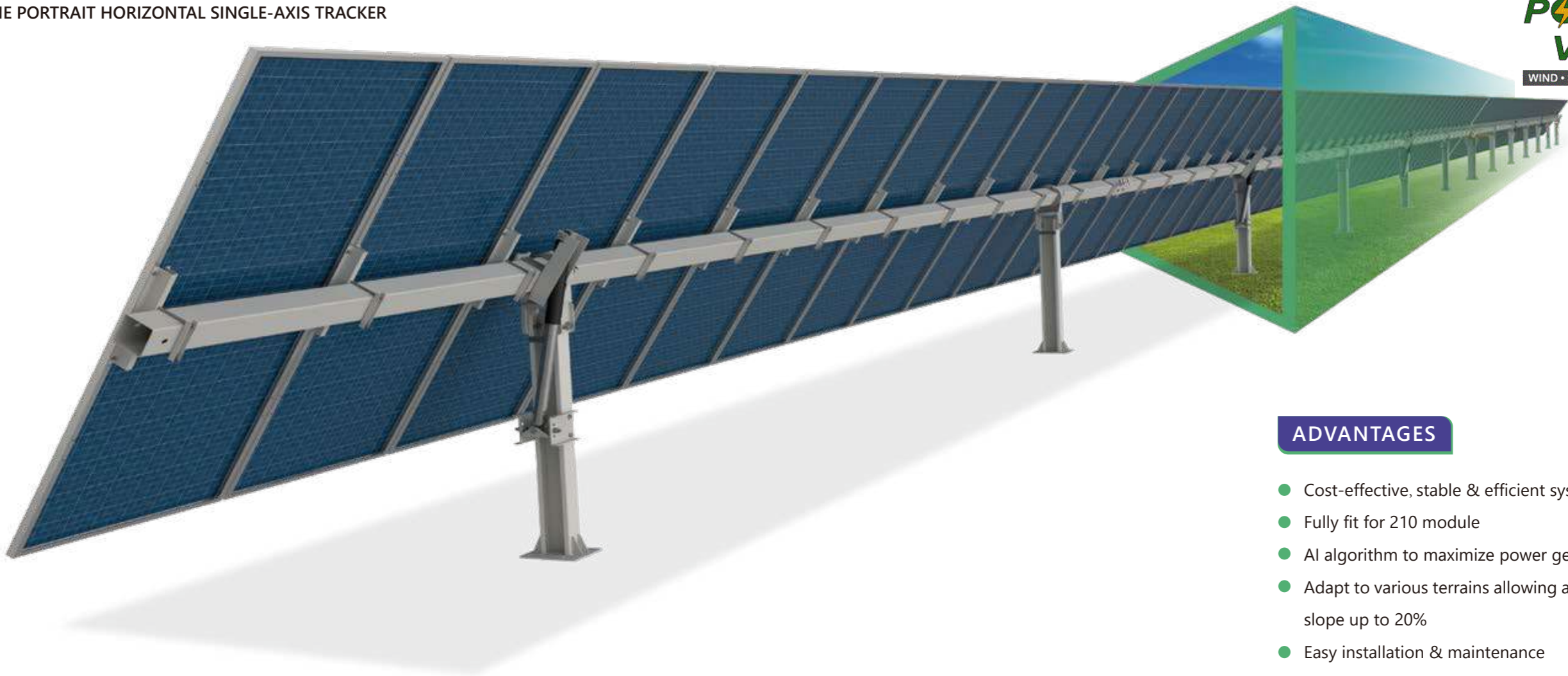
• Mistake-proofing Design



From component manufacturing to on-site installation, mistake-proofing designs are applied to reduce the accident rate, preventing the mistake from being made, and thus improving installation efficiency.

KST SERIES
KST-1P

ONE PORTRAIT HORIZONTAL SINGLE-AXIS TRACKER



ADVANTAGES

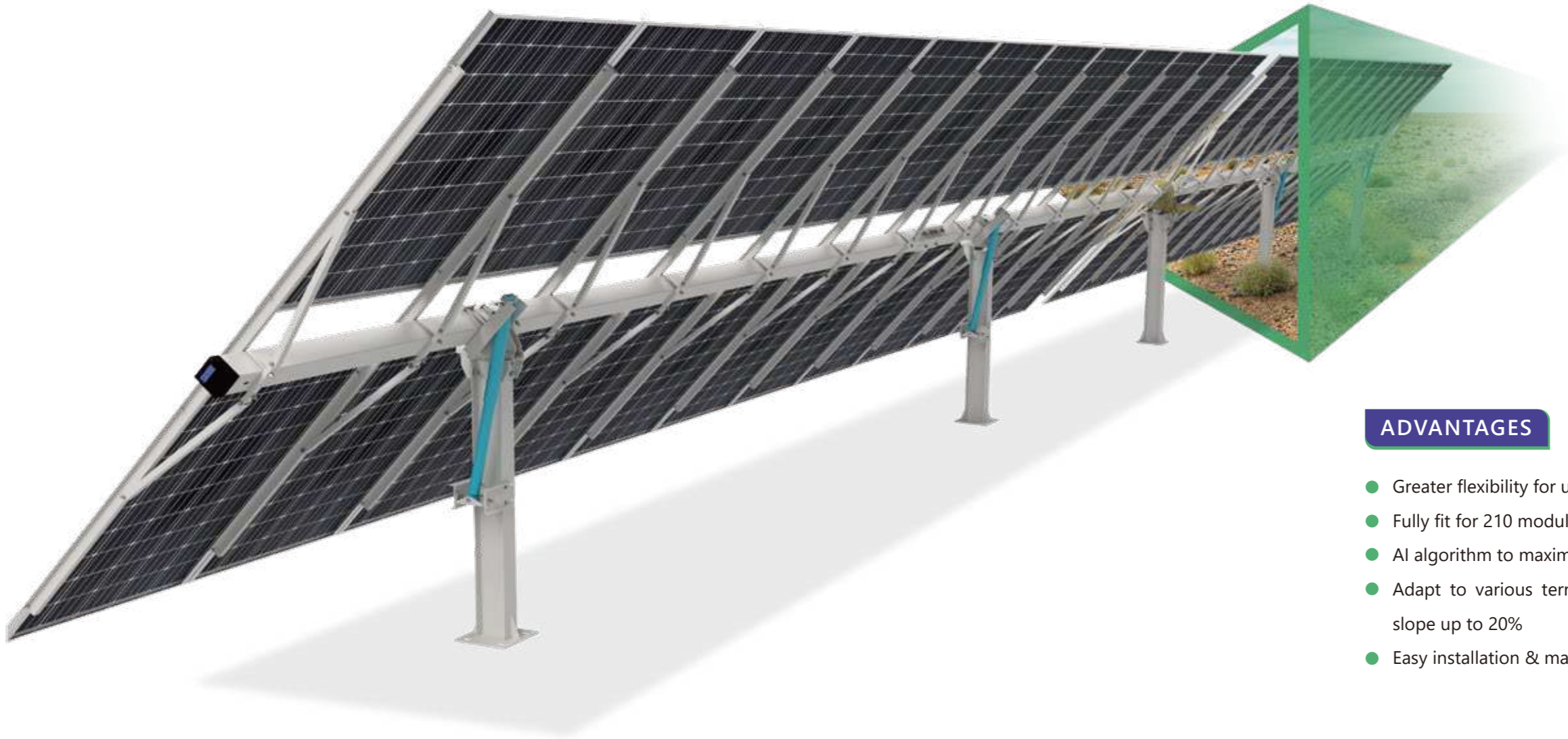
- Cost-effective, stable & efficient system
- Fully fit for 210 module
- AI algorithm to maximize power generation
- Adapt to various terrains allowing a north-south slope up to 20%
- Easy installation & maintenance

STRUCTURE		PROTECTION		ELECTRICAL		ENVIRONMENT & OTHER	
System type	One portrait horizontal single-axis tracker	Wind protection	≥18m/s	Tracking method	Astronomical algorithm+closed-loop control (AI)	Wind load	Customized
Maximum capacity per row	54KWp (Estimated with 600W PV-Modules)	Night stow mode	Yes	Control system	MCU	Operating temperature	-30°c to +60°c
PV-Module quantity per row	90 PCS (1x90)	Overheat prevention	Yes	Signal transmission	Wire (RS485) or wireless (Zig bee)	Pollution level	C5
Tracking range	±60° (Customized according to project)	Overload prevention	Yes	Drive method	Drive method - Slew Drive	Slope tolerance	North-south 10%~20%, East-west no limits
Tracking accuracy	±1°	Fault self-diagnosis	Yes	Motor type	24V DC Motor	Special tools	Not required
Motor quantity	1 unit	Rotate to horizontal time	5-6 mins	Power supply	AC-powered or self-powered	Load design standard	GB,ASCE,BS EN,AS ect
Structural materials	HDG Steel, Al-Mg-Zn Coating Steel			Backtracking	Yes	Warranty	5-year for drive&controller, 10-year for structure
Foundation	Concrete foundation,Steel pile, PHC pile			Manual operation	Yes		
Quantity of foundation/MW	205PCS/MW (Estimated with 600W PV-Modules)						
String design	Adapt to various strings requirements						

KST SERIES

KST-2P

DOUBLE PORTRAIT HORIZONTAL SINGLE-AXIS TRACKER



ADVANTAGES

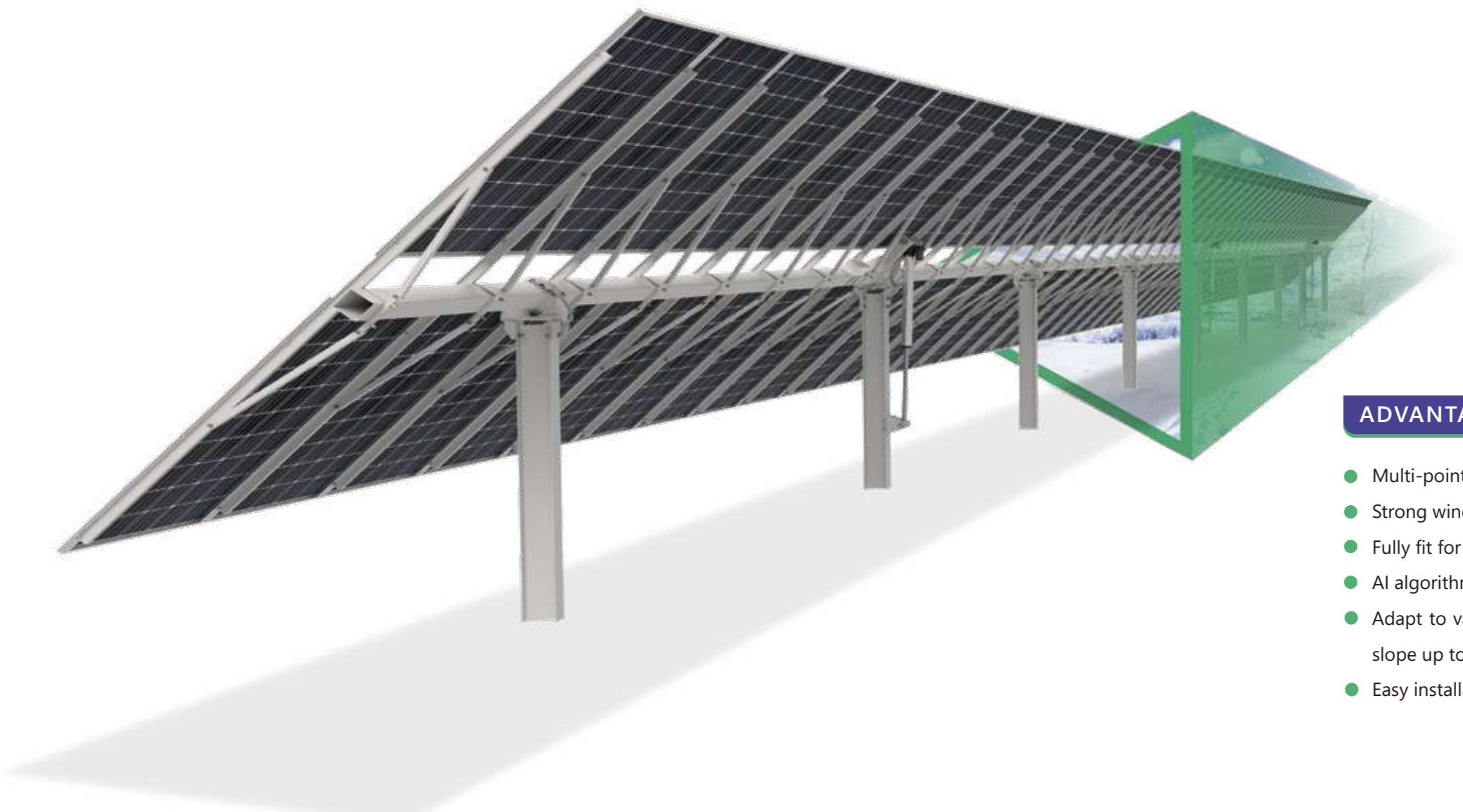
- Greater flexibility for undulating terrain
- Fully fit for 210 module
- AI algorithm to maximize power generation
- Adapt to various terrains allowing a north-south slope up to 20%
- Easy installation & maintenance

STRUCTURE		PROTECTION		ELECTRICAL		ENVIRONMENT & OTHER	
System type	Double Portrait Horizontal Single-axis Tracker	Wind protection	≥18m/s	Tracking method	Astronomical algorithm+closed-loop control (AI)	Wind load	Customized
Maximum capacity per row	54KWp (Estimated with 600W PV-Modules)	Night stow mode	Yes	Control system	MCU	Operating temperature	-30°c to +60°c
PV-Module quantity per row	2Px45、2Px30	Overheat prevention	Yes	Signal transmission	Wire (RS485) or wireless (Zig bee)	Pollution level	C5
Tracking range	±60° (Customized according to project)	Overload prevention	Yes	Drive method	Drive method - Slew Drive	Slope tolerance	North-south 10%~20%, East-west no limits
Tracking accuracy	±1°	Fault self-diagnosis	Yes	Motor type	24V DC Motor	Special tools	Not required
Motor quantity	1 unit	Rotate to horizontal time	5-6 mins	Power supply	AC-powered or self-powered	Load design standard	GB,ASCE,BS EN,AS ect
Structural materials	HDG Steel, Al-Mg-Zn Coating Steel			Backtracking	Yes	Warranty	5-year for drive&controller, 10-year for structure
Foundation	Concrete foundation,Steel pile, PHC pile			Manual operation	Yes		
Quantity of foundation/MW	130PCS/MW (Estimated with 600W PV-Modules)						
String design	Adapt to various strings requirements						

KST SERIES

KST-2PM

MULTI-DRIVE - DOUBLE PORTRAIT HORIZONTAL SINGLE-AXIS TRACKER



ADVANTAGES

- Multi-point linear-actuator drive system
- Strong wind-resistance capability
- Fully fit for 210 module
- AI algorithm to maximize power generation
- Adapt to various terrains allowing a north-south slope up to 20%
- Easy installation & maintenance

STRUCTURE		PROTECTION		ELECTRICAL		ENVIRONMENT & OTHER	
System type	Multi-drive - Double Portrait Horizontal Single-axis Tracker	Wind protection	≥18m/s	Tracking method	Astronomical algorithm+closed-loop control (AI)	Wind load	Customized
Maximum capacity per row	72KWp (Estimated with 600W PV-Modules)	Night stow mode	Yes	Control system	MCU	Operating temperature	-30°c to +60°c
PV-Module quantity per row	2Px60、2Px45	Overheat prevention	Yes	Signal transmission	Wire (RS485) or wireless (Zig bee)	Pollution level	C5
Tracking range	±60° (Customized according to project)	Overload prevention	Yes	Drive method	Linear-actuator	Slope tolerance	North-south 10%~20%, East-west no limits
Tracking accuracy	±1°	Fault self-diagnosis	Yes	Motor type	24V DC Motor	Special tools	Not required
Motor quantity	2-4 unit	Rotate to horizontal time	6-7 mins	Power supply	AC-powered or self-powered	Load design standard	GB,ASCE,BS EN,AS ect
Structural materials	HDG Steel, Al-Mg-Zn Coating Steel			Backtracking	Yes	Warranty	5-year for drive&controller, 10-year for structure
Foundation	Concrete foundation,Steel pile, PHC pile			Manual operation	Yes		
Quantity of foundation/MW	125PCS/MW (Estimated with 600W PV-Modules)						
String design	Adapt to various strings requirements						

STANDING SEAM ROOF MOUNTING SYSTEM



POTENCIA VERDE®
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Components



Roof Clamp
Item No.: RF-0030



Roof Clamp
Item No.: RF-0036



Roof Clamp
Item No.: RF-0003



Roof Clamp
Item No.: RF-0041



Roof Clamp
Item No.: RF-0008



Roof Clamp
Item No.: RF-0009



Roof Clamp
Item No.: RF-0015



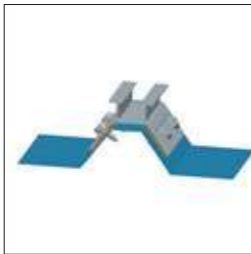
Roof Clamp
Item No.: RF-0017



Roof Clamp
Item No.: RF-0007



Roof Clamp
Item No.: RF-0027



Roof Clamp
Item No.: RF-0001



Roof Clamp
Item No.: RF-0016

Specifications

Material	Standard	Warranty	Wind Speed & Snow Load	Applicable Module
Aluminum AL6005-T5 Stainless Steel SUS304	AS/NZS 1170 JISC8955-2017 and other international standards	10 Years Warranty, 25 Years Service Life	Up to 60m/s Up to 1.4 kn/m²	Frame or Frameless

Details



Tripod Support



L Foot Clamp



T-shape Clamp



Roof Clamp

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Main Hooks



Art. No.: KS-RH-001



Art. No.: KS-RH-002



Art. No.: KS-RH-003



Art. No.: KS-RH-004



Art. No.: KS-RH-006



Art. No.: KS-RH-007



Art. No.: KS-RH-008



Art. No.: KS-RH-009



Art. No.: KS-RH-011



Art. No.: KS-RH-012



Art. No.: KS-RH-015



Art. No.: KS-RH-016



Art. No.: KS-RH-036



Art. No.: KS-RH-037



Art. No.: KS-RH-0801



Art. No.: KS-RH-0802

Components



Bolt



Hook



End Clamp



Mid Clamp



Rail



Rail Connector



Copper Grounding Lug



Self-tapping Screw

Specifications

Material	Standard	Warranty	Wind Speed & Snow Load	Applicable Module
Aluminum AL6005-T5 Stainless Steel SUS304	AS/NZS 1170 JISC8955-2017 and other international standards	10 Years Warranty, 25 Years Service Life	Up to 60m/s Up to 1.4 kn/m ²	Frame or Frameless



Components



L Foot



Rail



Rail Connector



End Clamp



Mid Clamp



Self-tapping Screw

Features



Fastest solution
One of the fastest solutions for metal roofs, can be installed directly with self-tapping screws



Great flexibility
Great flexibility to match various types of roof clamps



Lightweight
Lightweight system, easy transportation and installation



Pre-assembled
Highly pre-assembled accessories ensure quick and easy installation

Specifications

Material	Standard	Warranty	Wind Speed & Snow Load	Applicable Module
Aluminum AL6005-T5 Stainless Steel SUS304	AS/NZS 1170 JISC8955-2017 and other international standards	10 Years Warranty, 25 Years Service Life	Up to 60m/s Up to 1.4 kn/m ²	Frame or Frameless



Components



Rail



Beam



Pillar



Base Rail



Rail Splice



Beam Splice



Splice



Reinforcing Beam



End Clamp



Mid Clamp



Rail Clamp



Bolt

Features



Customized
Customized structure for Korean market



Pre-assembled
Highly pre-assembled before shipment to save construction time



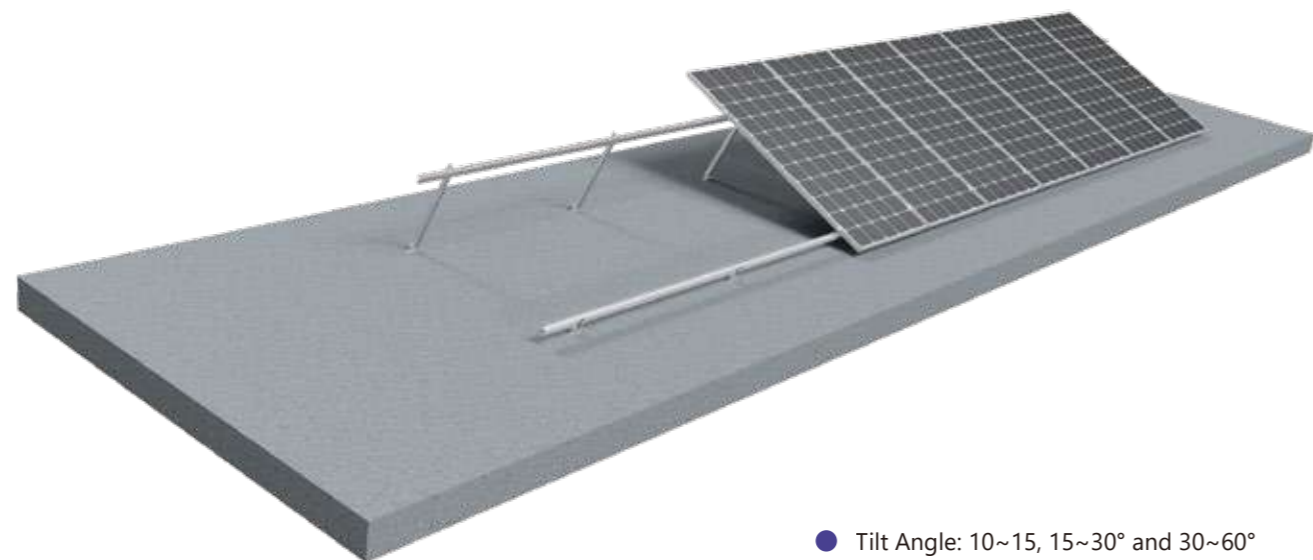
Corrosion protection
Aluminum structure allows excellent anti-corrosion performance



Lightweight
Lightweight system, easy transportation and installation

Specifications

Material	Standard	Warranty	Wind Speed & Snow Load	Applicable Module
Aluminum AL6005-T5 Stainless Steel SUS304	AS/NZS 1170 JISC8955-2017 and other international standards	10 Years Warranty, 25 Years Service Life	Up to 60m/s Up to 1.4 kn/m ²	Frame or Frameless



● Tilt Angle: 10~15, 15~30° and 30~60°



Components



Rail



Rail Connector



Front Leg



End Clamp



Mid Clamp



Rear Leg

Features

1

Adjustable angle
Specific adjustable angle range to optimize overall solar power yield

2

High-quality material
High-quality aluminum material, with excellent anti-corrosion performance and long service life

3

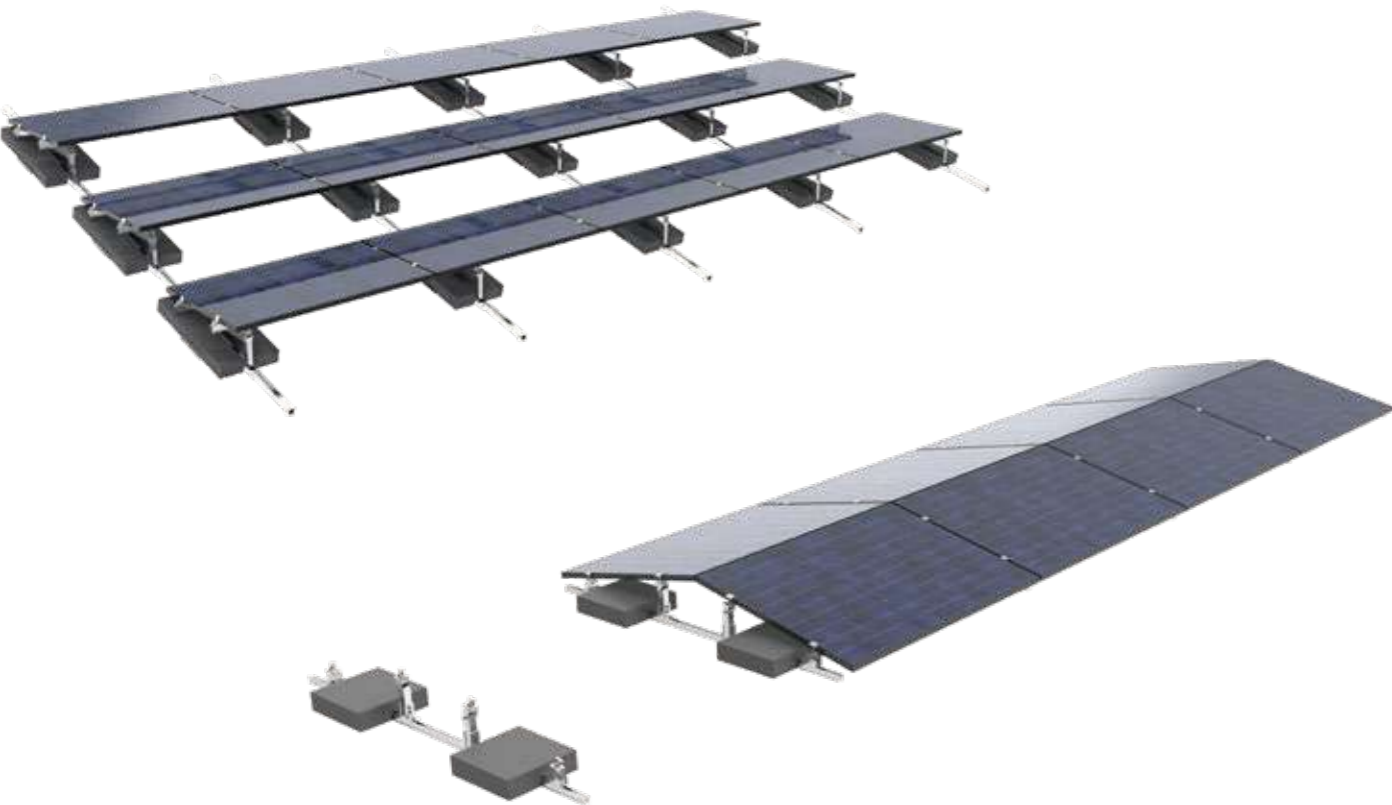
Lightweight
Easy transportation and installation

4

Easy installation
Simple and quick installation by attaching the clamps to the roof

Specifications

Material	Standard	Warranty	Wind Speed & Snow Load	Applicable Module
Aluminum AL6005-T5 Stainless Steel SUS304	AS/NZS 1170 JISC8955-2017 and other international standards	10 Years Warranty, 25 Years Service Life	Up to 60m/s Up to 1.4 kn/m ²	Frame or Frameless



Components



Pillar



Beam



Rail



Concrete Block



L Foot



U-shape Connector



End Clamp



Mid Clamp

Features



Non-penetrating design
Non-penetrating design won't cause any roof damage



Protecting windshield
Windshield is available for protect the whole system



Cost effective
East-west ballast mounting on the flat rooftop allowing for greater energy production



Pre-assembly
Maximum pre-assembled to save construction time and labor cost

Specifications

Material	Standard	Warranty	Wind Speed & Snow Load	Applicable Module
Aluminum AL6005-T5, Stainless SteelSUS304	AS/NZS 1170 JISC8955-2017 and other international standards	10 Years Warranty, 25 Years Service Life	Up to 60m/s Up to 1.4 kn/m ²	Frame or Frameless



Detail



KS1-MINI



KS2-MINI



KS3-MINI

Components



R001



R005



R013



R034



R007



R052



R009



R036

Features

- 1 Pre-assembled
Maximum pre-assembly to ensure quick and easy installation
- 2 Optional foundation
Ground screws or concrete foundation
- 3 High-quality material
Aluminum structure allows excellent anti-corrosion performance and long service life
- 4 Great flexibility
Great flexibility for different terrains, such as golf courses and slope ground

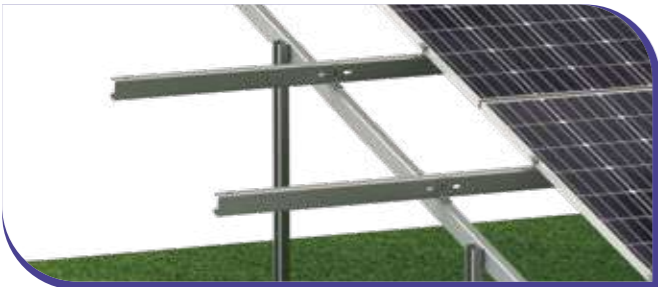
Specifications

Material	Standard	Warranty	Foundation
Aluminum AL6005-T5 Stainless Steel SUS 304	AS/NZS 1170 JISC8955-2017 and other inter- national standards.	10 Years Warranty, 25 Years Service Life	Screw or Concrete foundation



- Carbon steel
- Zn-Al-Mg coated steel

Details



Components



Pillar



Beam



Rail



Rail Connector



Connector



Mid Clamp



End Clamp

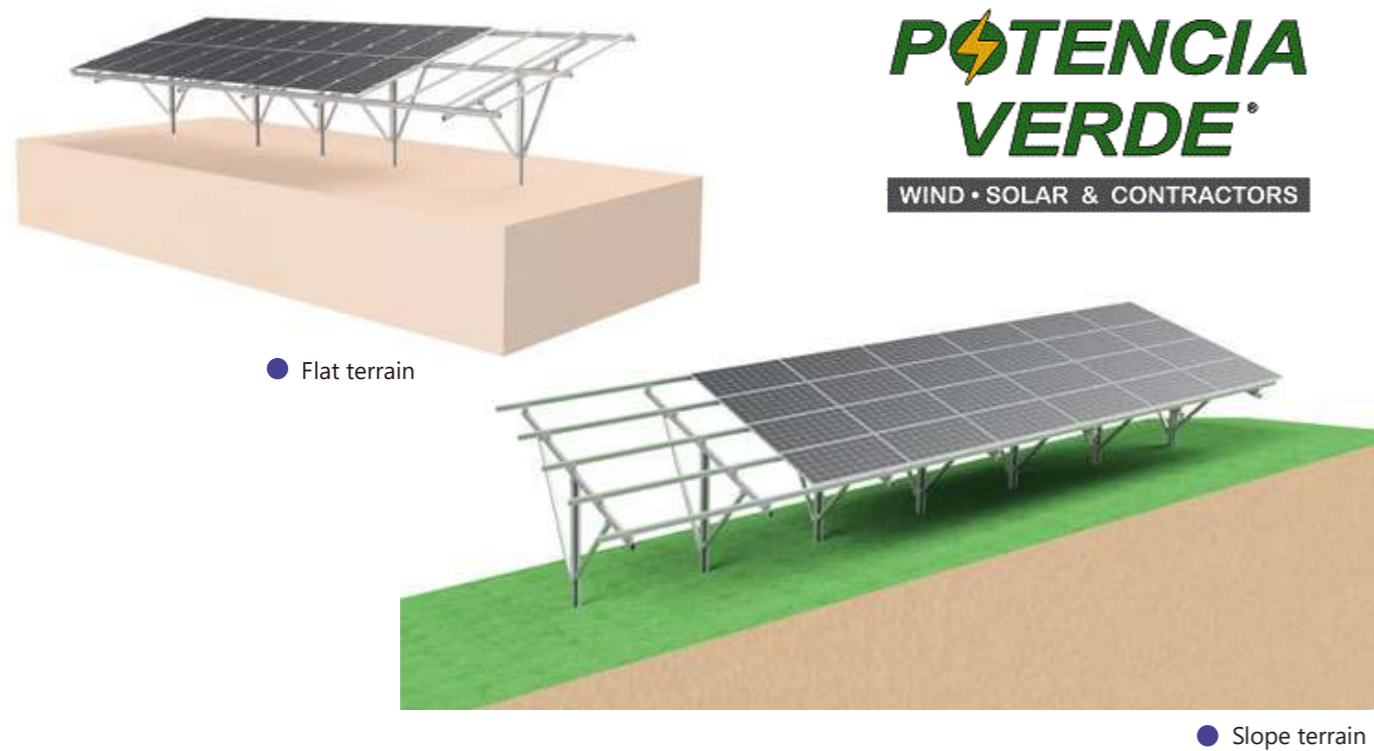


Features

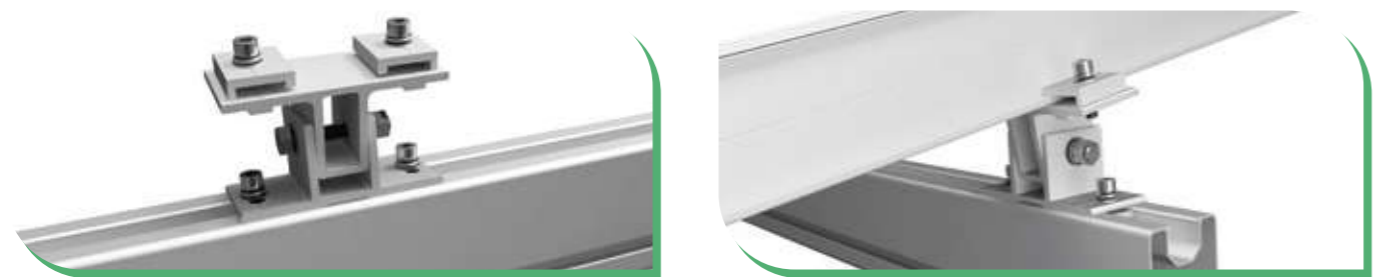
- 1 Economical solution
Most economical ground mounting system
- 2 Competitive price
Made of lower-cost carbon steel & MAC steel
- 3 Suitable for any soil type
Suitable for any soil type, can be installed on even or uneven slopes
- 4 Modular design
Modular design allows for simple and easy installation

Specifications

Material	Standard	Warranty	Foundation
Zn-Al-Mg coated steel or Q235B carbon steel	AS/NZS 1170 JISC8955-2017 and other international standards.	10 Years Warranty, 25 Years Service Life	Screw or Concrete foundation



Adjustable fixture



Features

- 1 Ideal solution
Ideal solution for flat ground, uneven complex terrain and slope conditions
- 2 Corrosion-resistant
Highly corrosion-resistant aluminum structure and galvanized steel post
- 3 Saving cost
Highly pre-assembly to save on-site installation time and labor cost
- 4 Wide applications
Applicable for terrain with 0-60° tilt angle from east-west direction

Specifications	Material	Standard	Warranty	Foundation
	Aluminum AL6005-T5 and Q235B carbon steel	AS/NZS 1170 JISC8955-2017 and other inter-national standards.	10 Years Warranty, 25 Years Service Life	Screw or Concrete foundation



Connector



Rail



Rail Connector



Pre-assembled



Pillar



Mid Clamp



End Clamp



Rail Clamp



● Carport Mounting System



● Waterproof Carport Mounting System

Components



Beam



Waterproof Rail Splice



Rail Splice



Waterproof Rail



Rail



End Clamp



Mid Clamp



Rail Clamp



Water guide gutter



Bracket

Features



Win-win solution
Win-win solution to effectively use the space while generating electricity



Waterproof design
Fully waterproof design for framed module installation



Flexible structure
Suitable for different topographic conditions



Optional foundation
Various foundation options include precast concrete, bored pier and ground screw

Specifications

Material

Aluminum
AL6005-T5
Stainless Steel
SUS 304

Standard

AS/NZS 1170
JISC8955-2017
and other inter-
national standards.

Warranty

10 Years
Warranty,
25 Years
Service Life

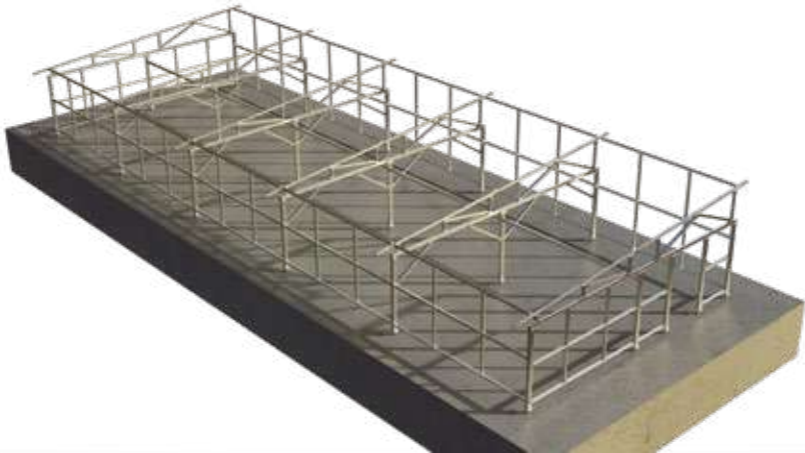
Foundation

Screw or
Concrete foundation





Conventional Agricultural Solar Mount



Greenhouse Solar Mount



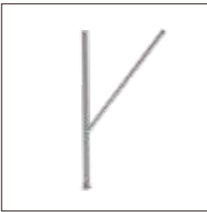
Components



Rail



Pre-assembled Beam



Pre-assembled Support



Tripod



Angel Support



Rail Connector



Beam Splice



Rail Clamp

Features



Perfect combination
Perfect combination for both power generation and cultivation



Cost savings
Significant saving time & labor cost by pre-assembled components



Customize layout
Customized layout to satisfy the different light exposure requirements of plants



Strong adaptability
Max span can up to 5-6 meters, accessible for agricultural vehicles and manual operations

Specifications

Material

Aluminum
AL6005-T5
Stainless Steel
SUS 304

Standard

AS/NZS 1170
JISC8955-2017
and other inter-
national standards.

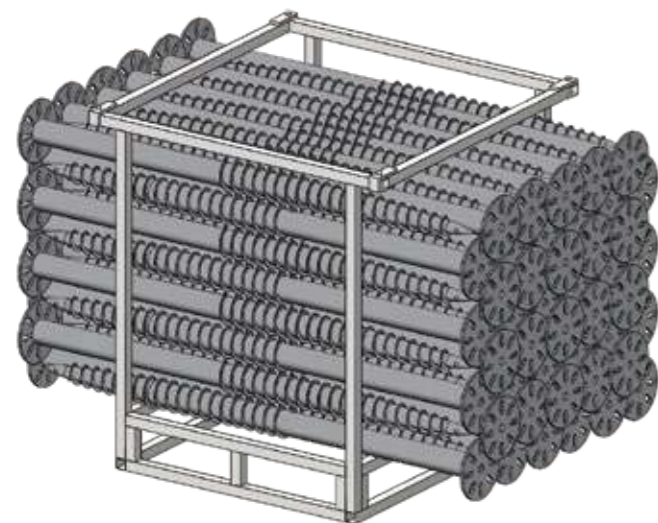
Warranty

10 Years
Warranty,
25 Years
Service Life

Foundation

Screw or
Concrete foundation

HOT-DIP GALVANIZED STEEL GROUND SCREW



Ground Screw with Large Blades

- Applicable for Mellow or Sandy Ground

Material	Hot Dip Galvanized Q235B
Outer Diameter	76mm
Thickness	3-3.5mm
Length	1000-3000mm
Flange Diameter	200mm&220mm



Adjustable Ground Screw

- Applicable for Uneven Ground

Material	Hot Dip Galvanized Q235B
Outer Diameter	76mm
Thickness	3-3.5mm
Length	1000-3000mm
Flange Diameter	200mm&220mm
Nut Diameter	M12*35



Common Ground Screw

- Applicable for Ordinary Ground

Material	Hot Dip Galvanized Q235B Q355B
Outer Diameter	76mm, 89mm, 102mm
Thickness	3-3.5mm
Length	1000-3000mm
Flange Diameter	200mm&220mm

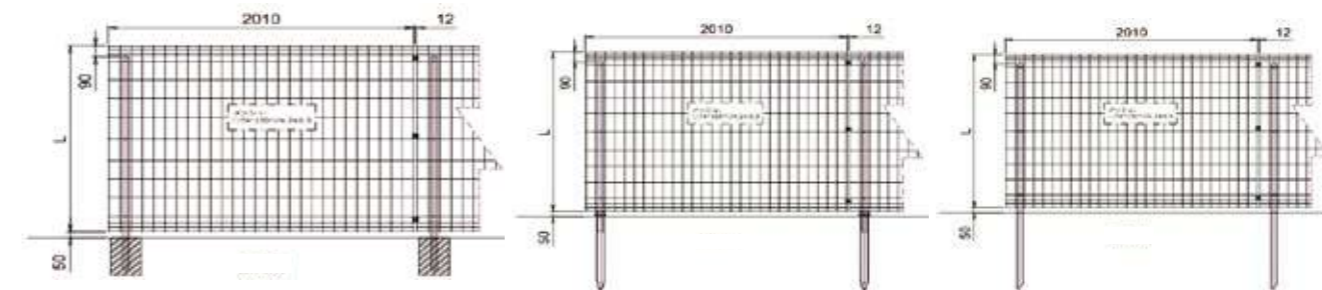


Adjustable Ground Screw with Large Blades

- Applicable for Uneven Mellow or Sandy Ground

Material	Hot Dip Galvanized Q235B
Outer Diameter	76mm
Thickness	3-3.5mm
Length	1000-3000mm
Flange Diameter	200mm&220mm
Nut Diameter	M12*35

SOLAR FENCE



► Concrete Foundation ► Ground Screw Foundation ► Integral Pile Foundation

Material	Height(mm)	Color
Plastic dipping steel Q235	1000mm 1200mm 1500mm	White Brown Silver
Galvanized steel Q235	1800mm 2000mm	Green

Features

- 1 Easy installation
- 2 Short lead time
- 3 Advanced design
- 4 High corrosion resistance and sturdy

GROUND COVER (WEED MAT)



Material	Color	Specification	Thickness
PET	Green or Black	Width 1.5m Length 5m	1mm 1.5mm 2mm

- 1 Weed control
- 2 Protect ground mounting system
- 3 Easy to install
- 4 5-10 years service life

PV CABLE

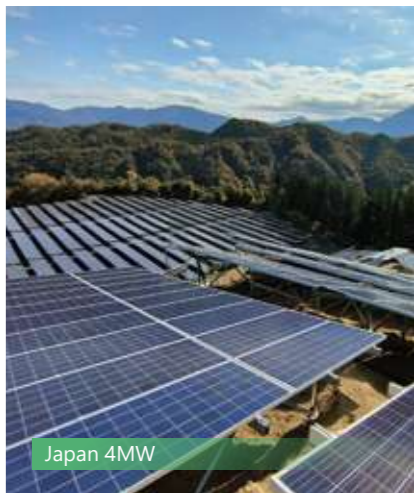


Features

- 1 TUV/JET certificates
- 2 High resistance to UV, water, ozone, fluids, salt, general weathering
- 3 High resistance to abrasion
- 4 High flexibility and good performance

GLOBAL PROJECTS^o

• Solar Fixed Structure / • Solar Tracker



GLOBAL SOLAR EXHIBITIONS^o



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