Solar Carport System

Product Features

- 10 years of guarantee, 25 years of service life.
- Hot-dip galvanizing surface treatment ensure high corrosion resistance.
- Firm and waterproof.
- The system was strictly tested for safety by mechanics calculation and simulation software.
- Quick installation.

Installation site	Open ground
Installation angle	0~20°
Module arrangement	Portrait or landscape
Module specification	Frame/ frameless crystalline/ thin film
Module size	On requirement
Material	Anodized aluminum
Windproof	60m/s
Snow load	1.4KN/m2
Service life span	25 years
International standard	ISO9001、CE

Components

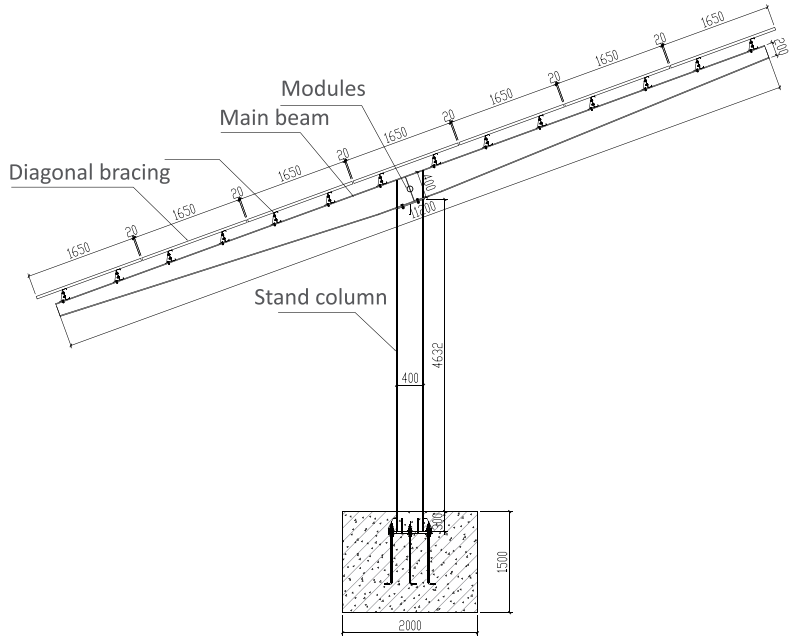
Base Bracing

Rail

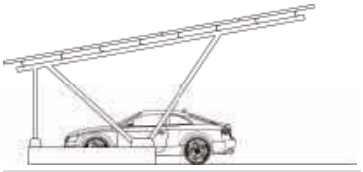
Main Beam

Stand Column

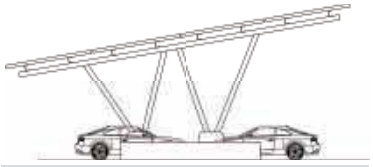
Sketch of Design(2 cars)



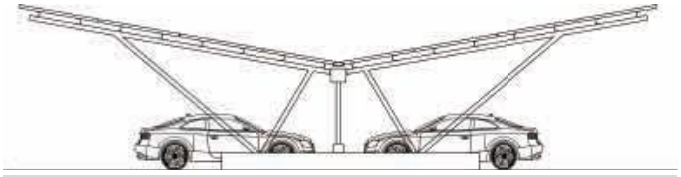
Carport Structured Types



Design for single car
（Max. up to 6m in length）



Design for 2 cars A
（Max. up to 13.5m in length）



Design for 2 cars B
（Max. up to 13.5m in length）

Project Cases

Ground Aluminum Mounting System

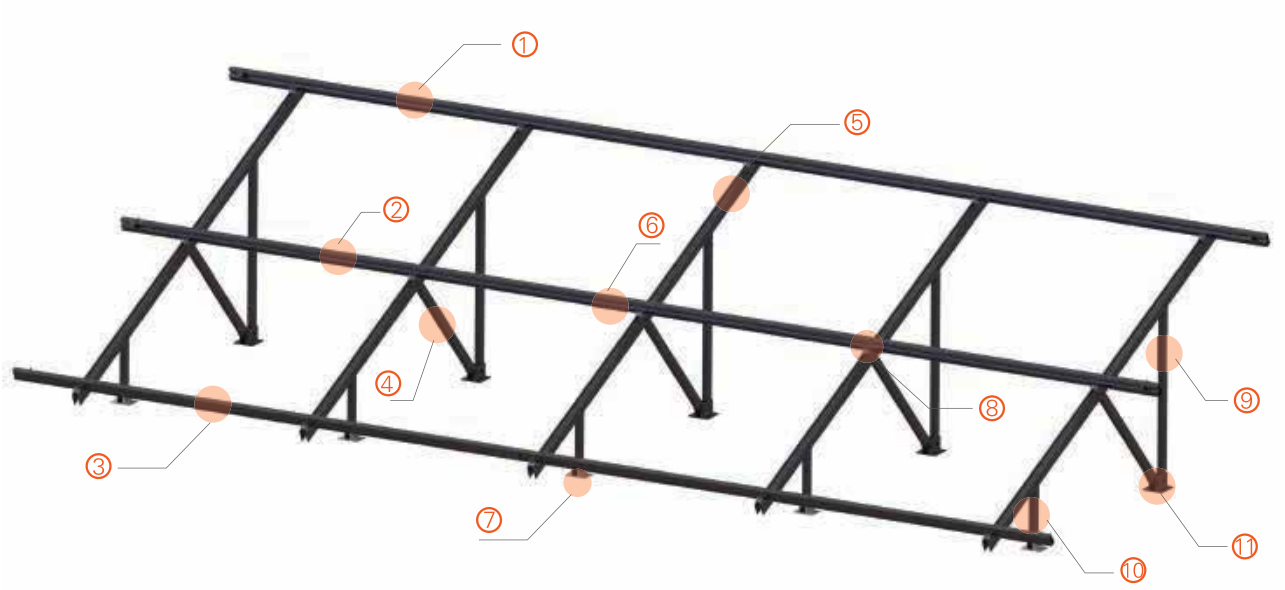
Product Features

- Rapid installation, few components, high commonality
  The system has the advantages of less parts, simple installation, and saving cost.
  Installing components through beams with card slot will be more effective and convenient.
- Reduction of construction error
  Using non block beams can save block position; Connecting beam and diagonal beam with slide nuts would helps reducing installation errors.
- High-strength and good erosion-resistance
  The main structure is in anodized 6005-T5, and its fasteners are in anodized SUS304, with neat appearance and good erosion-resistance.
- Wide range
  The special character of aluminum alloy and stainless steel determines the product can be applied to various fields.

Installation site	Open Ground
Installation angle	On requirement
Module arrangement	Portrait or landscape
Module specification	Frame/ frameless Crystalline/ thin film
Module size	On requirement
Material	Anodized aluminum
Installation height	On requirement
Windproof	60m/s
Snow load	1.4KN/m2
Warranty time	10 years
International standard	ISO9001、CE

Preview

Components



① Top Beam	② Mid Beam	③ Bottom Beam	④ Diagonal Bracing
⑤ Diagonal Beam	⑥ Beam Connection	⑦ Front column Bracing	⑧ Beam Block
⑨ Rear Column	⑩ Front Column	⑪ Rear column Bracing	

Components

Column

Material:
AL6005-T5
Thickness of anodized films:
≧12μm

EPDM

Diagonal Beam

Material:
AL6005-T5
Thickness of anodized films:
≧12μm

Top Beam

Material:
AL6005-T5
Thickness of anodized films:
≧12μm

Mid Beam

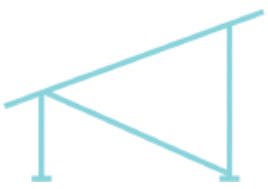
Material:
AL6005-T5
Thickness of anodized films:
≧12μm

Bottom Beam

Material:
AL6005-T5
Thickness of anodized films:
≧12μm

Type

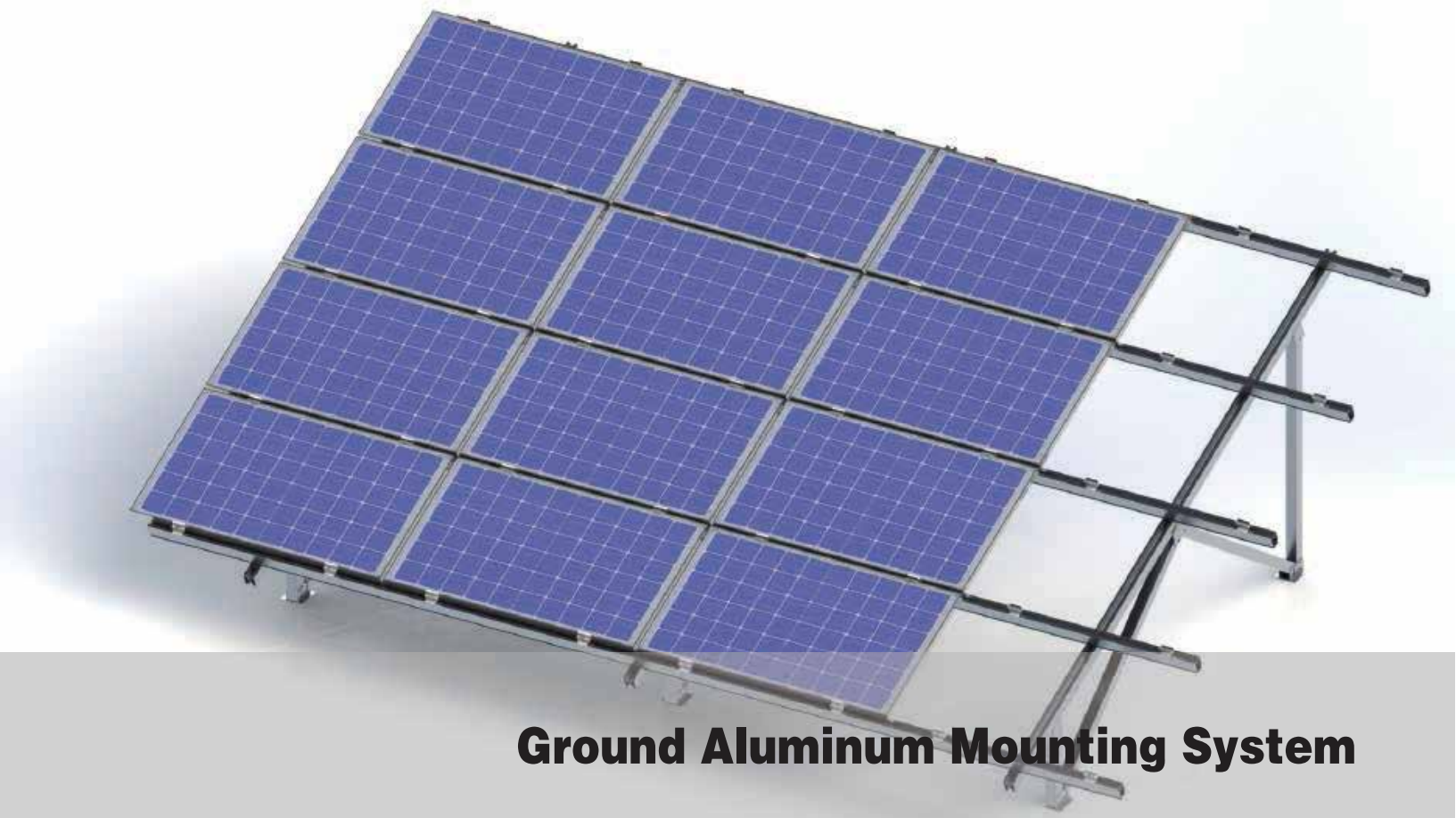
W-Type



N-Type

A-Type

Enhanced Type



Ground Aluminum Mounting System

Product Features

- Fast Installation

  Pre-assembly design, reduce site installation time with high efficiency.
- Eco-friendly Aluminum Material

  All of the aluminum steel could be recycled, no waste produced.
- Excellent Quality

  High quality ,AL 6005-T5 and SUS-304 are adopted as the main material.
- Wide Range of Application

  Applicable to complex terrain and all type of modules.

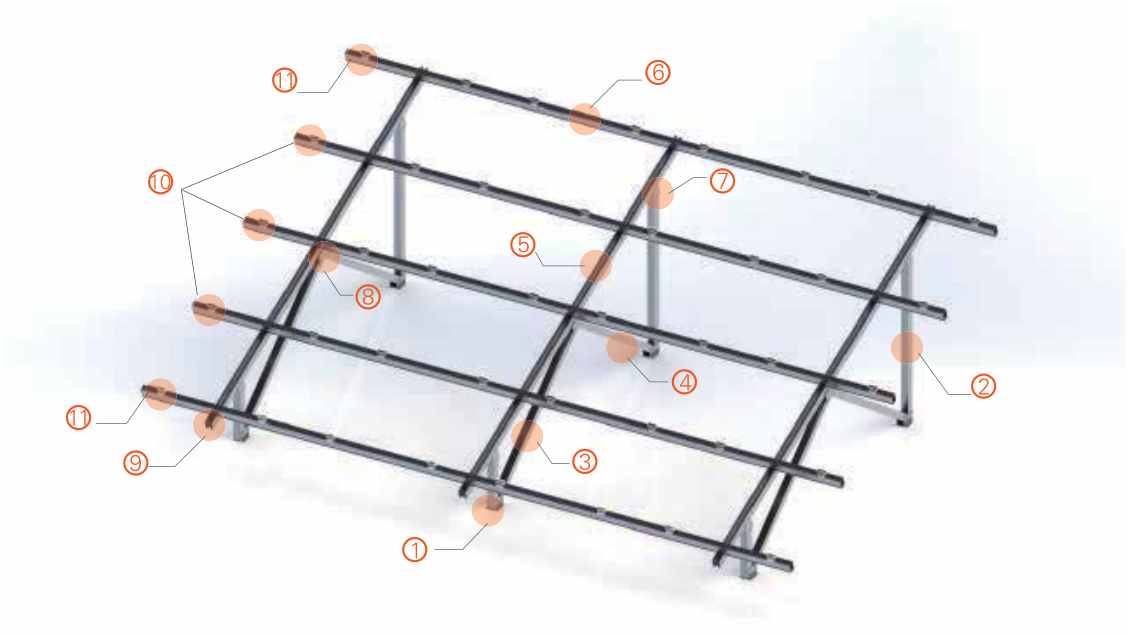
Installation site	Open Ground
Installation angle	On requirement
Module arrangement	Portrait or landscape
Module specification	Frame/ frameless Crystalline/ thin film
Module size	On requirement
Material	Anodized aluminum
Installation height	On requirement
Windproof	60m/s
Snow load	1.4KN/m2
Warranty time	10 years
International standard	ISO9001、CE

Bracket Foundation

Concrete foundation

Screw pile

Components

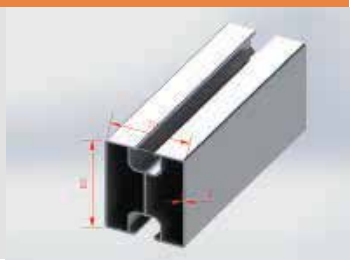


① Front Column	② Rear Column	③ Front Diagonal Bracing	④ Rear Diagonal Bracing
⑤ Beam	⑥ Rail	⑦ Connection	⑧ Connection
⑨ Connection	⑩ Mid Clamp	⑪ End Clamp	

Components

Column
Cross Profile: 70*70mm
Material: AL6005-T5
Thickness of anodized films: ≧12μm

Rail
Cross Profile 90*60mm
Material: AL6005-T5
Thickness of anodized films: ≧12μm



Beam
Section: 80*70mm
Material: AL6005-T5
Thickness of anodized films: ≧12μm

Type

W-Type

N-Type

A-Type

Enhanced Type

Ground Mounting System–Screw pile

Product Features

- Eco-friendiy and zero pollution.
- Adaptable for all kinds of soil conditions.
- 60-80um hot-dip galvanizing steel surface ensures high corrosion resistance.
- High installation efficiency,pile driving finished in max .3 minutes.
- Excellent mechannical property.

Installation site	Open Ground (Complex Terrain)
Foundation	Ground screw
Installation angle	On requirement
Installation height	On requirement
Module arrangement	Portrait or landscape
Module specification	Frame/ frameless crystalline/ thin film
Module size	On requirement
Material	Hot dip galvanizing steel
Windproof	60m/s
Snow load	1.4KN/m2
Warranty time	10 years
International standard	ISO9001、CE

Installation

Install the screw piles underground and keep the top of the pile in a same level.

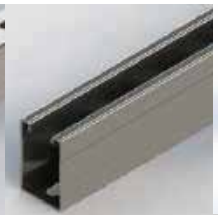
Connect the screw pile with foront stand pile and back stand pile.

Connect beam with stand pile

Connect beam with cross rails.

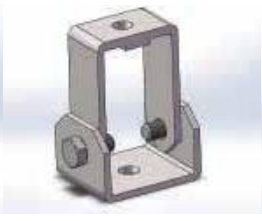
Fasten the PV modules by middle clamps and end clamps.

Splicer

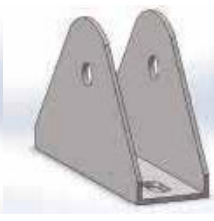


C-Type steel

Connecting fitting



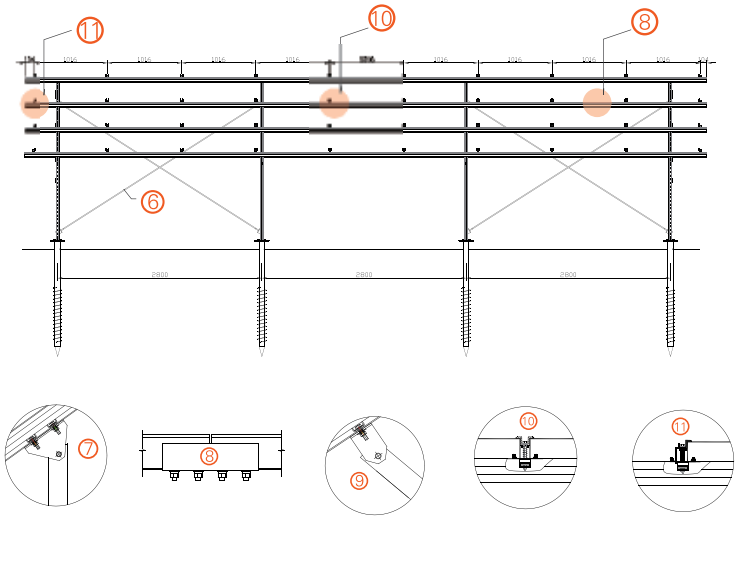
Connecting fitting

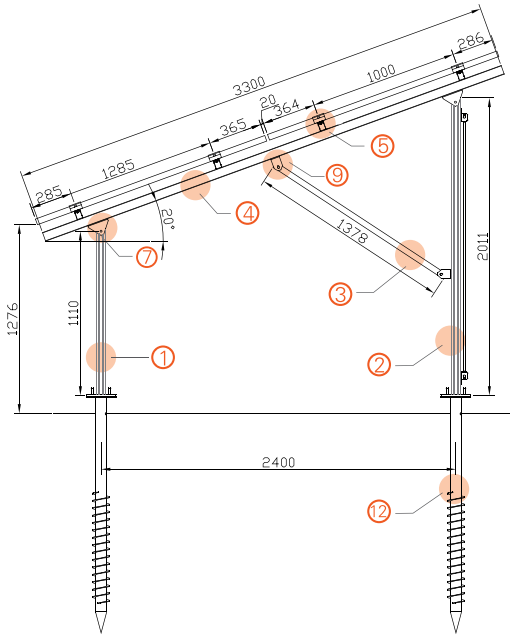


Connecting fitting

Connecting fitting

Components





① Front Column	② Rear Column	③ Diagonal Bracing	④ Main Beam
⑤ Rail	⑥ Rear Pull Rod	⑦ Connection	⑧ Connection
⑨ Connection	⑩ Mid Clamp	⑪ End Clamp	⑫ Screw Pile

Drawing

Project Cases

Ground Mounting System– Concrete foundation

Product Features

- Wide range of application
  The foundation is applicable to complex terrain (shallow, desert, grassland, gravel, etc)
- Strong anti-corrosion
  Hot-dip galvanizing steel, rust prevention(galvanized surface thickness: 80μm)
- Diverse Option
  Adapt corresponding concrete basement according to local terrain.(Applicable to individual base, strip foundation, precasted foundation, etc.)
- Excellent Mechanical Properties
  The system was strictly tested for safety by mechanics calculation and simulation software.

Installation site	Open Ground (Complex Terrain)
Foundation	Concrete
Installation angle	On requirement
Installation height	On requirement
Module arrangement	Portrait or landscape
Module specification	Frame/ frameless crystalline/ thin film
Module size	On requirement
Material	Hot dip galvanizing steel
Windproof	60m/s
Snow load	1.4KN/m2
Warranty time	10 years
International standard	ISO9001、CE

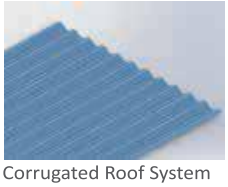
Project Cases

Metal Roof Mounting System

This system is widely used in flat roof and tilt roof and can be large-scale installed. With special aluminum rails, 'z' clamp and rail connection technology, there is no need in-situ processing which make the installation of panels faster and more convenient.

Product Features

- Apply in parallel roof solution and tilt angle roof solution
- Quick installation, structural stability and easy assembly
- Anodized aluminum rails, stainless steel components and long life span
- Optimizing solutions available according to actual environment of the roof

Metal Roof Types	Clamps	Fixed Approach
		
Corrugated Roof System		
		
Standing Seam Roof		
		
Trapezoidal Roof System		
		
Kliplok Roof System		

Installation site	Metal roof
Tilt Angle	As required
Building Height	≤20m
Module Arrangement	Landscape or portrait
Module Specification	Frame/frameless Crystalline/thin film
Module Size	As required
Material	Anodized Al6005-T5& SUS 304
Windproof	60 m/s
Snow Load	1.4KN/m²
Guarantee	10 years
Service Life Span	25 years
International Standard	ISO9001、CE

Installation

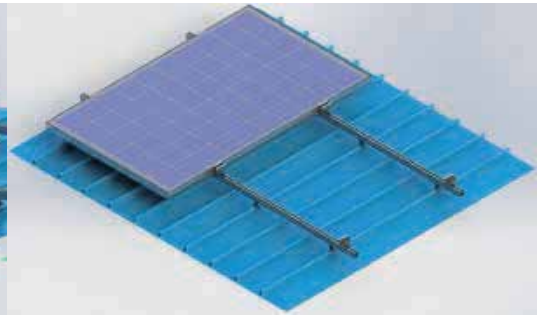


① Drill holes on the preset position of the corrugated roof and then fasten the hanger bolt.

② Insert the T-head bolt into the slot of the rail,and put the rail onto the hanger bolt, then fasten the rail.

③ Insert the end clamp and mid clamp into the slot of the rail.Then put the PV module onto the rail and then fasten it by inner hex bolt.





① Put the pre-assembled clamp onto the mental roof, then fasten the bolt nut.

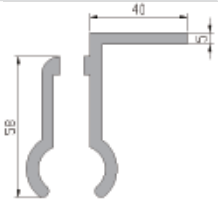
② Insert the bolt into the slot of the rail, put the rail onto the clamp and then make them fastened.

③ Insert the end clamp and mid clamp into the slot of the rail. Then put the PV module onto the rail and then fasten it by inner hex bolt.

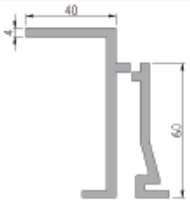
Clamp Type

Various types of clamp available for different roof metal shape. Adapting Pre-assembly design, superior aluminum alloy material make module connected with roof stably and firmly.

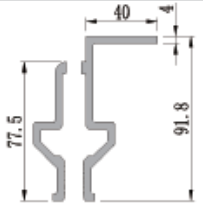
HDCL1401

HDCL1402

HDCL1403

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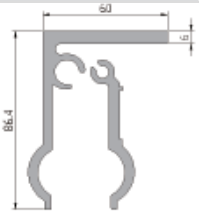
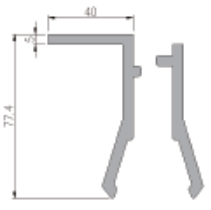


HDCL1405

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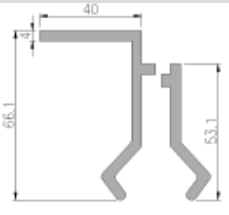
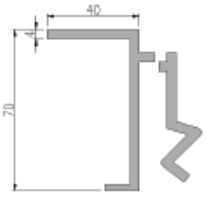
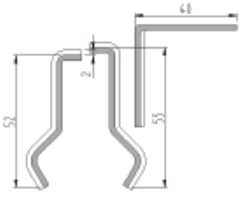


HDCL1409

HDCL1410

Agricultural Photovoltaic System

When it comes to solar power, everyone wins. It may seem quite obvious that the agriculture industry benefits from solar power, but the benefits it does receive from this type of power go far beyond what anyone would normally think. The amount and intensity of sunlight in any area is used to figure out what types of crops would grow best there and the best time of the year to plant them.

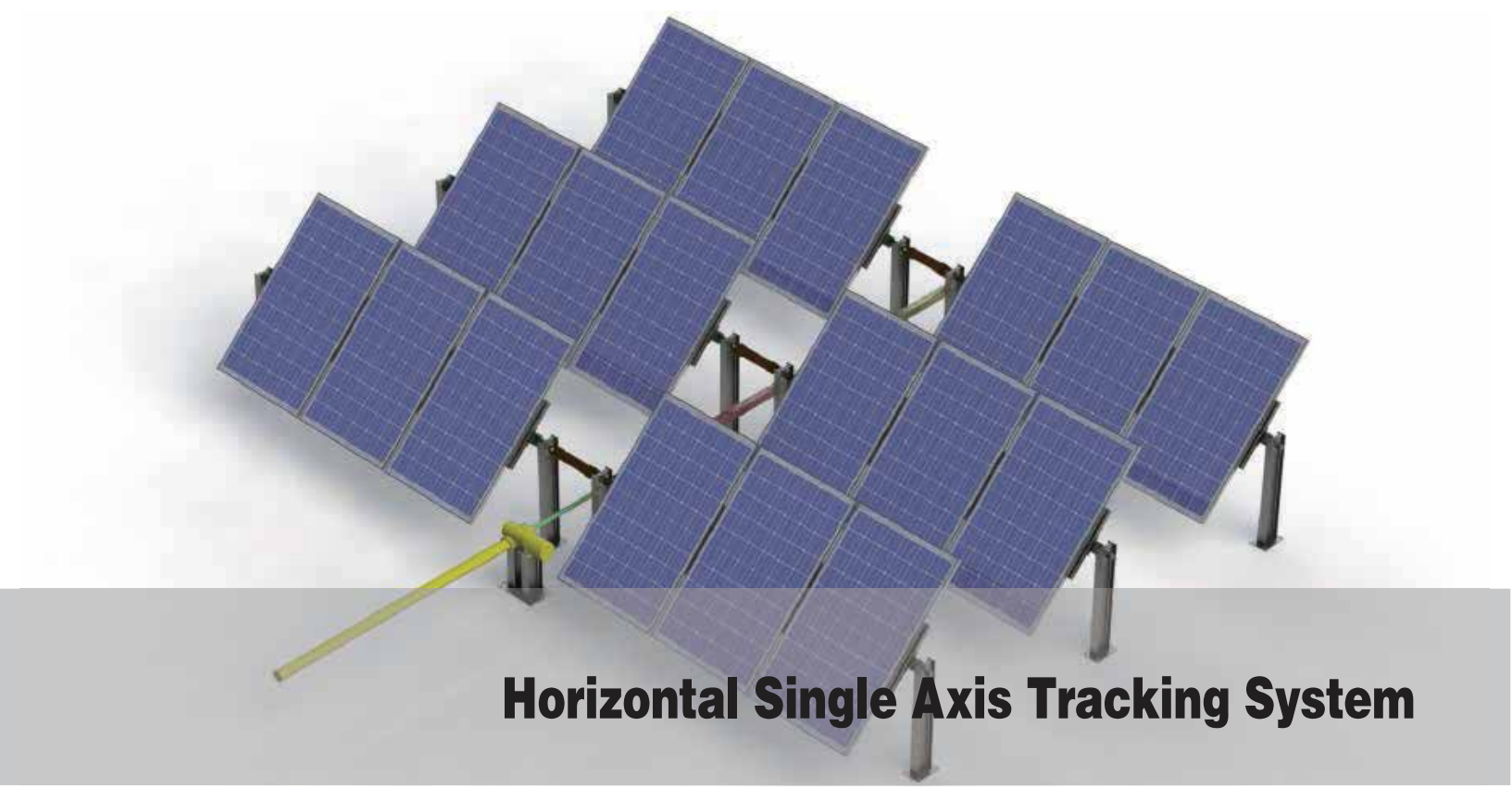
So it's obvious that farms are planted in areas that receive a lot of sunlight, which is also a requisite for getting the most energy out of a solar array.

Product Features

- Strong structure and maximum use of space realized.
- Fast installation without welding
- Hot dip galvanizing steel & stainless steel with strong anti-corrosion and long life span
- Adaptable to complex terrain and reach long span.
- Integrated perfectly power generating with farming and Improved the utilization of land efficiently

Installation site	Ground
Installation angle	On requirement
Installation height	On requirement
Module arrangement	Portrait or landscape
Module specification	Frame/ frameless Crystalline/ thin film
Module size	On requirement
Material	Hot-hip galvanizing steel & anodized aluminum
Windproof	45m/s
Snow load	1.4KN/m2
Service life span	25 years
International standard	ISO9001、CE

Project Cases



Horizontal Single Axis Tracking System

Solar horizontal single axis tracker adopts mechanical linkage structure with highly cost effective, and enables to increase power generation by 15%-20% annually than traditional fixed mounting.

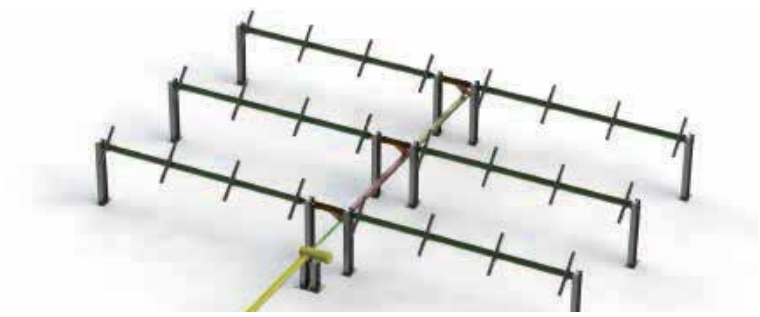
Product Features

- Joint connected by shaft; rapid installation.
- Using a self-lubricating, high wear resistance of polymer materials bearing; preventing dust damage; reducing maintenance frequency and vertical shaft hole design on transmission shaft; double collar positioning, improving system stability.
- Multi-linkage structure, adaptable to large scale solar power plant in mid and low latitude regions.

Control System Function

- With manual control mode, adjusting the angle of tracker can be artificial.
- Power-off protection.
- Back tracing function, reducing shadow visibility and max the power capacity.
- Automatically return to horizontal position at night.
- Meteorological supervision

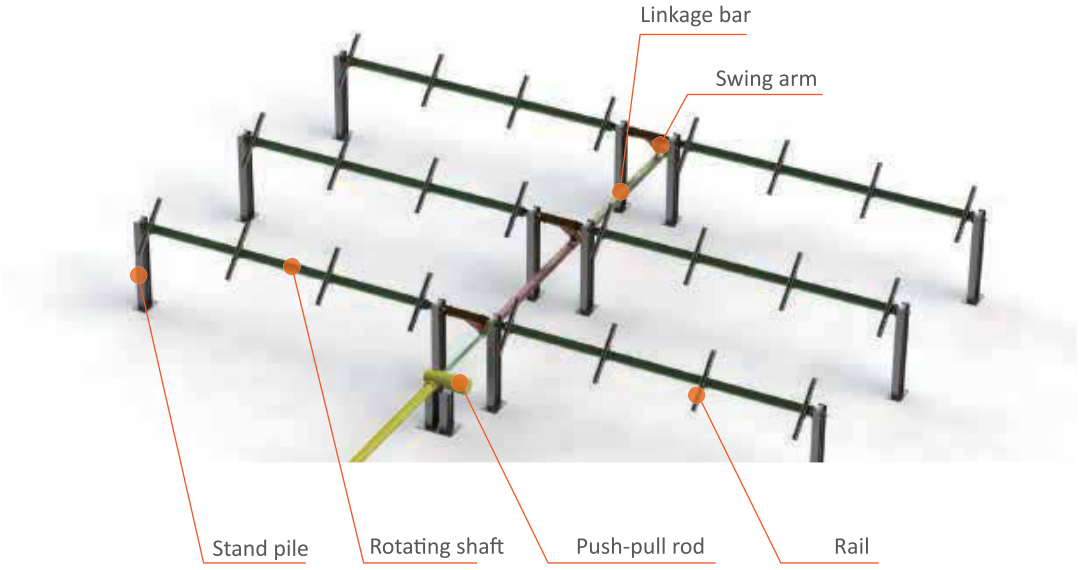
Control mode	Time control
Tracking accuracy	±1°
Driving power	AC 380V/ DC 24V
Driving capacity	90W
Tracking range	± 45°
Bearable limit wind speed	33m/s
Working wind speed	≤22m/s
Working temperature	-25℃~65℃
Operation mode	net working
Design life span	25 years
Material	Hot-dip galvanizing steel
Daily power consumption	according to the specific linkage mode
International standard	ISO9001、CE



Tracking Principle

Solar dual axis tracking system could automatically calculate the azimuth angle and elevating angle in accordance with local longitude, latitude and time. Then issue instructions to track the path of the sunlight timely.

Components



Project Cases

Dual Axis Tracking System

Solar dual axis tracking system could automatically calculate the azimuth angle and elevating angle in accordance with local longitude, latitude and time. Then issue instructions to track the path of the sunlight timely, with stable operating and increasing 25%- 40% power generation. Solar dual axis tracking system will be your ideal choice for solar power plants.

Product Features

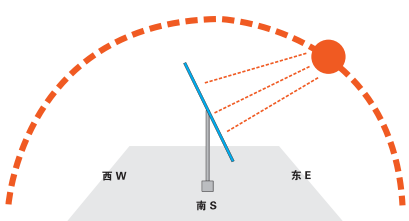
- Adapt to complex terrain for special pillar type installation.
- Hot-dip galvanized steel and anodized aluminum material, good anticorrosion with long life span.
- High precision of slewing driver with small gap, more stable.

Control System Function

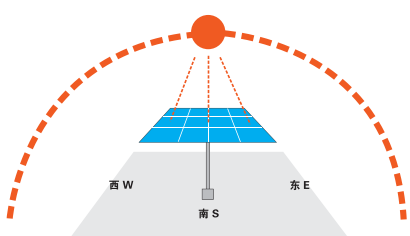
- Self-checking function and displaying present working condition.
- Return to original position automatically at night.
- Backward tracking function.
- Meteorological monitoring function: automatically perform corresponding evasive action to protect from the harsh wind, rainfall and snowfalls.
- With manual control mode, adjusting the angle of tracker can be artificial.
- Power-off protection and data memory function.

Control mode	Time control
Tracking accuracy	±1°
Driving power	AC 380V/ DC 24V
Driving capacity	90W
Tracking range	SN 20°~90° EW -120°~120°
Max. wind speed	33m/s
Working wind speed	≤22m/s
Working temperature	-25℃~65℃
Design life span	25 years
Material	Hot-dip galvanized Q235B
International standard	ISO9001、CE

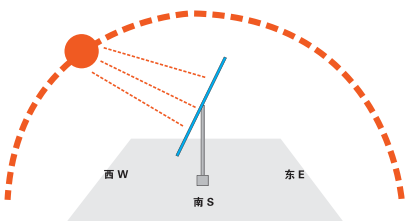
Tracking Path



9:00 AM



12:00PM



5:00PM

Components

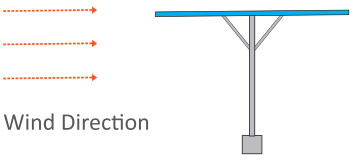
How to fight against extreme weather?

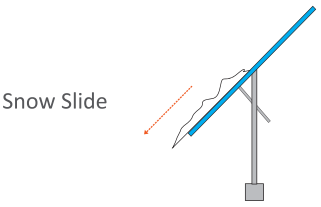
- **Windproof**

  The tracking system will give up tracking the path of the sun temporarily when wind speed reaches 22m/s and return to the horizontal position to protect itself; The tracking system will recover to track when wind speed detected less than 10m/s within 15 min.

- **Snow proof**

  The tracking system will give up tracking the path of the sun and adjust itself to tilt 45°when snowfall covered more than 10mm(this data can be resetted) within 12 hours for snow clean down. The tracking system will recover to track when there is no snowfall detected within 1 hour.





Project Cases

Tile-on Roof Mounting System

Product Features

- Widely used for various tiles (S-Type tile, Scales tile, slating, etc.) and for both crystalline and thin film modules.
- Special connection design makes installation more easy and quick.
- All components are made with anodized aluminum & stainless steel ensure high durability.

Installation site	Tile roof
Slop of roof	＜30°
Windproof	60m/s
Module arrangement	Portrait or landscape
Module specification	Frame/ frameless, crystalline/ thin film
Module size	On requirement
Material	Anodized aluminum
Small pieces	Anodized aluminum/Stainless steel
Windproof	60m/s
Snow load	1.4KN/m2
International standard	ISO9001、CE

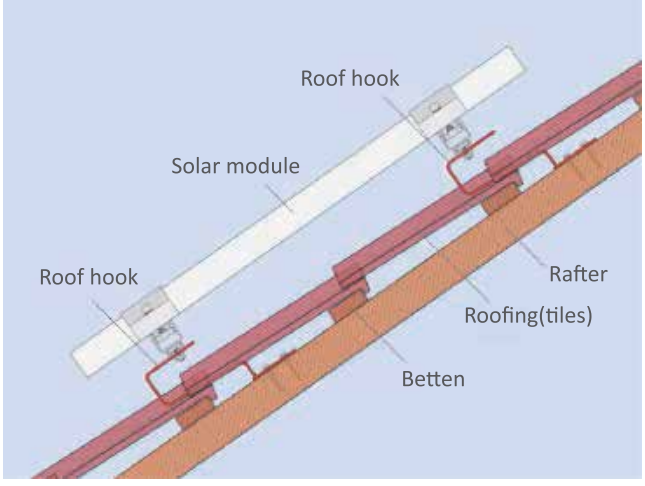
Installation

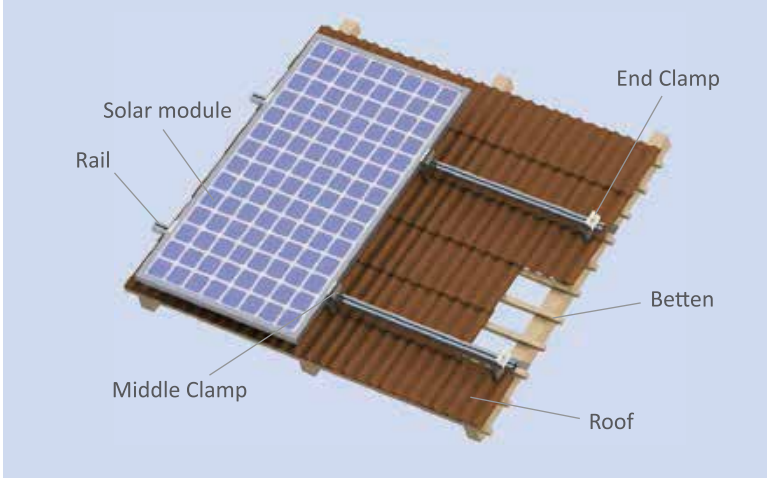
① Choose suitable roof hook according to the type of tile, fix the roof hook on to the wooden beam with screw.

② Fix the aluminum rail to the roof hook with T-head bolt and flange nut.

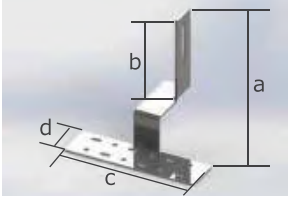
③ Fix the aluminum rail to the roof hook with T-head bolt and flange nut.

Components

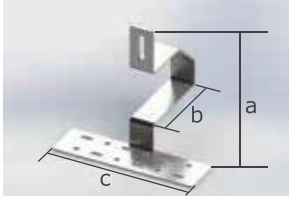




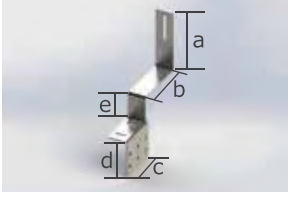
Components



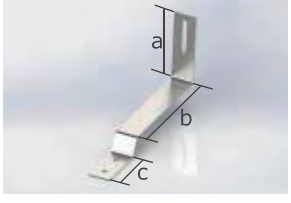
Product:
Ceramic tile roof hook 01
Specification:
a=166mm;b=115mm;c=180mm;d=50mm
Material:
SUS304



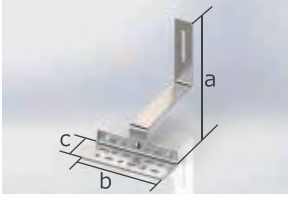
Product:
Ceramic tile roof hook 02
Specification:
a=130~160mm(adjustable)
b=115mm;c=180mm;d=50mm
Material: SUS304



Product:
Ceramic roof hook 03
specification:
a=120mm; b=106.5mm; c=80mm;
d=75mm; e=50mm
Material: SUS304



Product:
Asphalt shingle roof hook 01
Specification:
a=120mm; b=195mm; c=80mm
Material:
SUS304



Product:
Asphalt shingle roof hook 02
Specification:
a=156~168mm(adjustable);
b=140mm; c=54mm
Material: SUS304

Tilt Single Axis Tracking System

tilt single axis tracker is a cost effective product designed for large-scale PV ground mount systems. The unique linkage structure and maintenance-free rotary bearing provides excellent reliability, low failure rate and low maintenance cost. This system enables to increase power generation by20%-40% annually.

Product Features

- Pre-assembly design, reduce site installation time .
- Adaptable to large scale solar power plant in middle and high latitude regions.
- Hot-dip galvanized steel and stainless steel materials, high anticorrosion and long life span.
- Maintenance-free design, using polymer bearing can effectively prevent the erosion caused by sand, dust, rain and snow.
- Automatic recognition of protection for all kinds of weather(rain, snow, high wind, etc).

Control system function

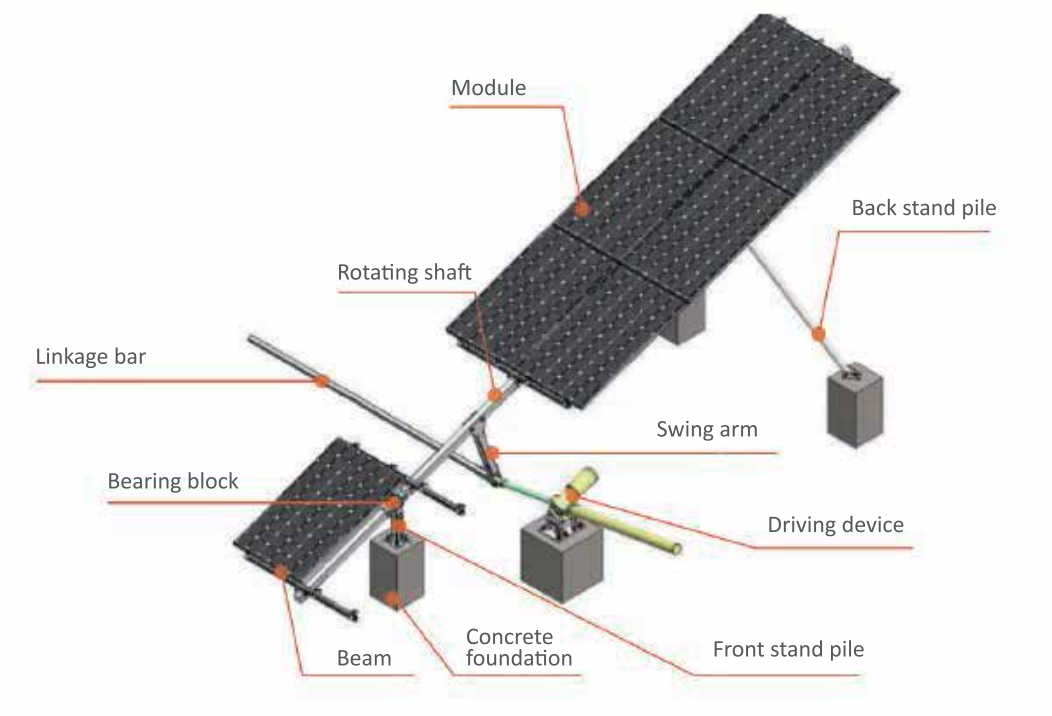
- Self-checking function and displaying present working condition.
- Automatically return to horizontal position at night.
- Obtaining mounting angle in real time; automatically tracking sunlight and maximizing power capacity.
- Meteorological monitoring function: automatically perform corresponding evasive action under the condition of rainfalls、 snowfalls and low-light; mounting system protection and maximum of power generation.
- With manual control mode, adjusting the angle of tracker can be artificial.
- Power-off protection and data memory function.

Control mode	Time control
Tracking accuracy	±1°
Driving power	AC 380V/ DC 24V
Driving capacity	90W
Tracking range	±45°
Tilt angle	≤30°
Bearable limit wind speed	33m/s
Working wind speed	≤22m/s
Operating mode	net working
Working temperature	-25℃~65℃
Design life span	25 years
Material	Hot-dip galvanizing steel
International standard	ISO9001、CE

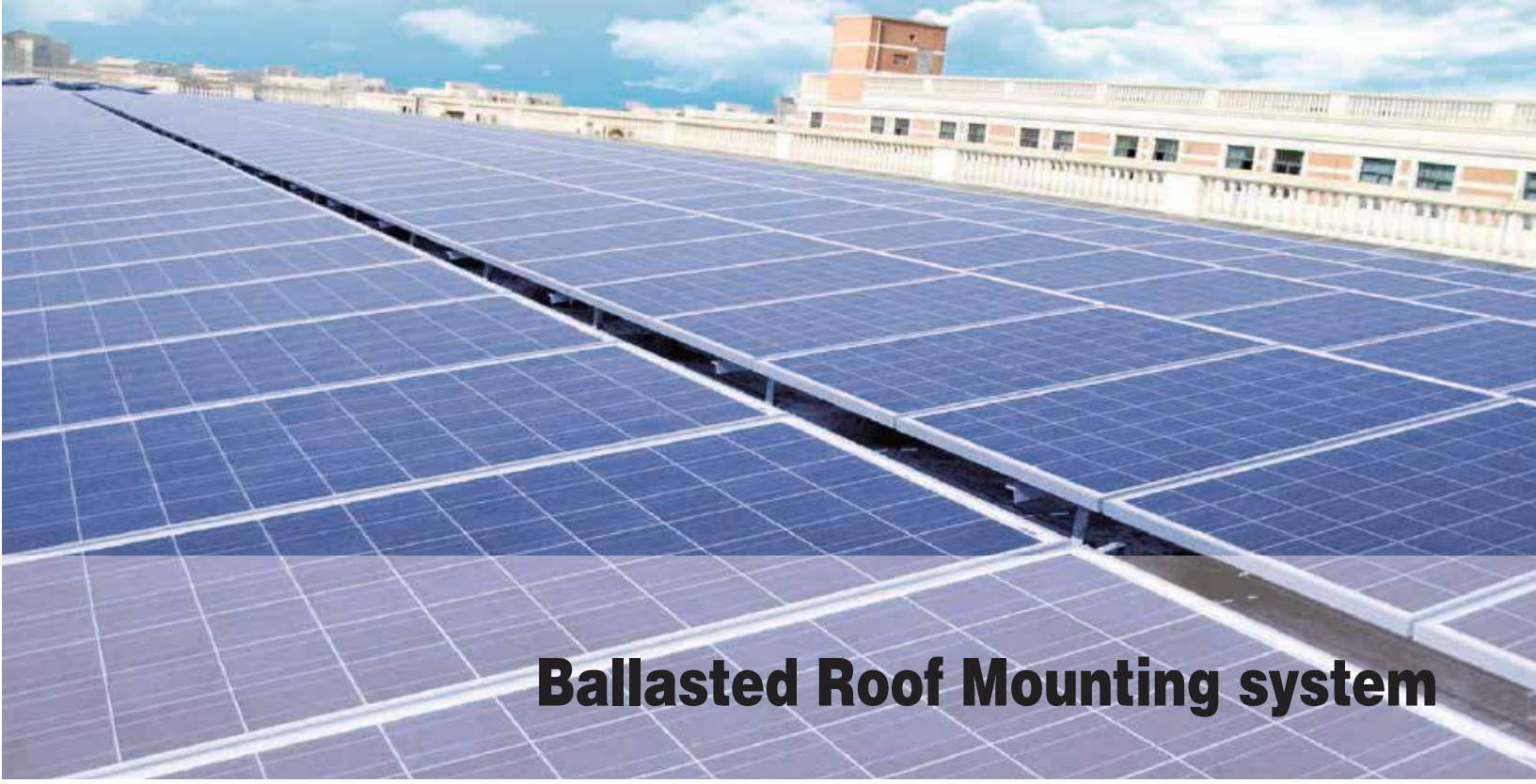
Horizontal single axis tracking system – 4 Linkage Unit



Components



Project Cases



Ballasted Roof Mounting system

Solar Ballasted Mounting System is a perfect engineered solution without damaging the flat roof. Made from lightweight and strong anodized aluminum materials to prevent corrosion. Pre-assembly and pre-cut components save your labor cost and installation time.

Product Features

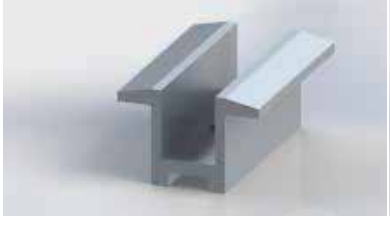
- High durability
  Adapting AL6005_T5, effectively prevent corrosion and ensure the strong load resistance.
- Rapid installation
  Aach set of array as an individual unit can be optionally adjustable.

Installation site	Flat roof
Tilt Angle	As required
Module	Frame/frameless Crystalline/thin film
Mould specification	As required
Module size	As required
Module Arrangement	Landscape or portrait
Material	Anodized Al6008-T5& Stainlesssteel 304
Fixed mode	Concrete block
Windproof	40 m/s
Snow load	1.4KN/m²
Guarantee	10 years
Service life	span 25 years
International standard	ISO9001、CE

U-Type Base

Anodized Aluminum Rail

Tooth Part



Middle Clamp

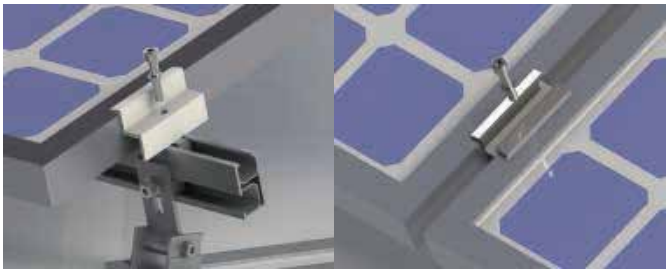
End Clamp

Installation

① Fix the pre-assembly U-type base on the aluminum bars by countersunk head screws with cross head.

② Make the aluminum rail fixed to the tooth part or L-type support by inside hex bolt of M8*25, flat washer, spring washer and slide nut.

③ Put the concrete block ballasted on the aluminum mounting.



④ Fasten Pv moudules onto the aluminum rails by middle clamps and end clamps.

⑤ The installation is complete.

Project case