



HANGZHOU HUADING SOLAR ENERGY TECHNOLOGY CO.,LTD.  
HANGZHOU HUADING NEW ENERGY CO.,LTD.

[www.hdsolartech.com](http://www.hdsolartech.com)

## Company Profile

HDsolar was established in 2009 as a leading supplier of PV mounting and tracking system for utility, commercial, industrial and residential projects worldwide.

Located in Hangzhou city, HDsolar has a workshop over 13,000 square meters with annual production capacity 1.2 GW and all of the products are stringently manufactured in accordance with ISO9001-2008; Over 10 years experience and successful cases made HDsolar a trustworthy partner and we continue to provide the most effective, reliable and durable solar products to our customers worldwide.

### PRODUCTS:

Ground Mounting System  
Ground Aluminum Mounting System  
Ballasted Roof Mounting System  
Metal Roof Mounting System  
Tile Roof Mounting System  
Dual Axis Tracking System  
Horizontal Single Axis Tracking System  
Tilt Single Axis Tracking System  
Agricultural Photovoltaic System  
Solar Carport System

### MISSION:

Comitted to develop innovative technologies and excellent service to meet the growing solar energy needs.

### VALUES:

Innovation; Trust; Efficiency ; Harmony.

## Certificates & Letters Patents

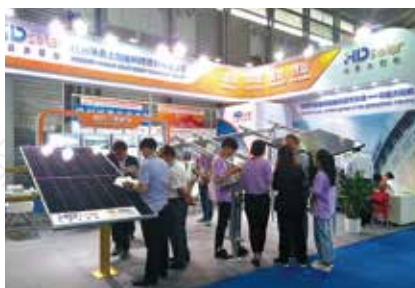




## About us



- ▶ Up to now, HDsolar has participated in PV exhibitions in China, Japan, Dubai, Philippines, Vietnam, Australia etc.



# CATALOG

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## Ground Aluminum Mounting System

### Product Features

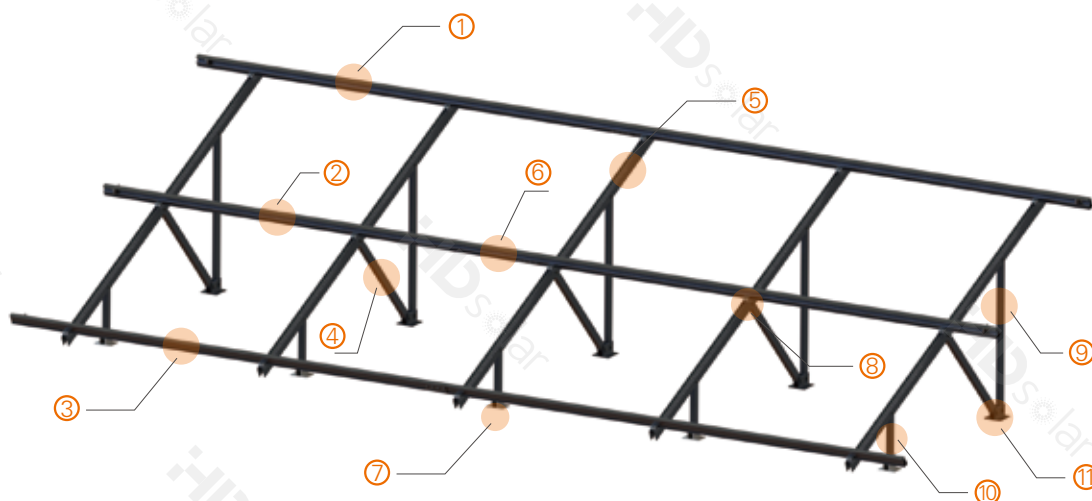
- ❖ **Rapid installation, few components, high commonality**  
The system has the advantages of less parts, simple installation, and cost saving. Installing components through beams with card slot will be more effective and convenient.
- ❖ **Reduction of construction error**  
Using non block beams can save block position; Connecting beam and diagonal beam with slide nuts would help 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
Principal Material	Anodized aluminum
Installation height	On requirement
Wind load	60m/s
Snow load	On requirement
Warranty time	On requirement
International standard	ISO9001、CE

### Preview




## Structural Drawing



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	

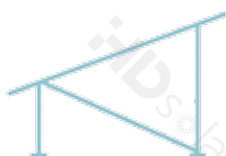
## Components

 <p><b>Column</b> Material: AL6005-T5 Thickness of anodized films: <math>\geq 12\mu\text{m}</math></p>	 <p><b>EPDM</b></p>	 <p><b>Diagonal Beam</b> Material: AL6005-T5 Thickness of anodized films: <math>\geq 12\mu\text{m}</math></p>
 <p><b>Top Beam</b> Material: AL6005-T5 Thickness of anodized films: <math>\geq 12\mu\text{m}</math></p>	 <p><b>Mid Beam</b> Material: AL6005-T5 Thickness of anodized films: <math>\geq 12\mu\text{m}</math></p>	 <p><b>Bottom Beam</b> Material: AL6005-T5 Thickness of anodized films: <math>\geq 12\mu\text{m}</math></p>

## Type



W-Type



N-Type



A-Type



Enhanced Type



## Ground Carbon Steel Support

### Product Features

- ❖ The foundation is applicable to complex terrain (shallow desert grassland gravel etc).
- ❖ Adaptable for all kinds of soil conditions.
- ❖ 60-80um hot-dip galvanizing steel surface ensures high corrosion resistance.
- ❖ Excellent mechanical property. The system can pass safety test by mechanics. calculation and simulation software.

Installation site	Open Ground
Installation angle	On requirement
Module arrangement	Portrait or landscape
Module specification	Frame/ frameless Crystalline/ thin film
Module size	On requirement
Principal Material	Anodized aluminum
Installation height	On requirement
Wind load	On requirement
Snow load	On requirement
Warranty time	10 years/ 20 years
International standard	ISO9001、 CE

### Bracket Foundation



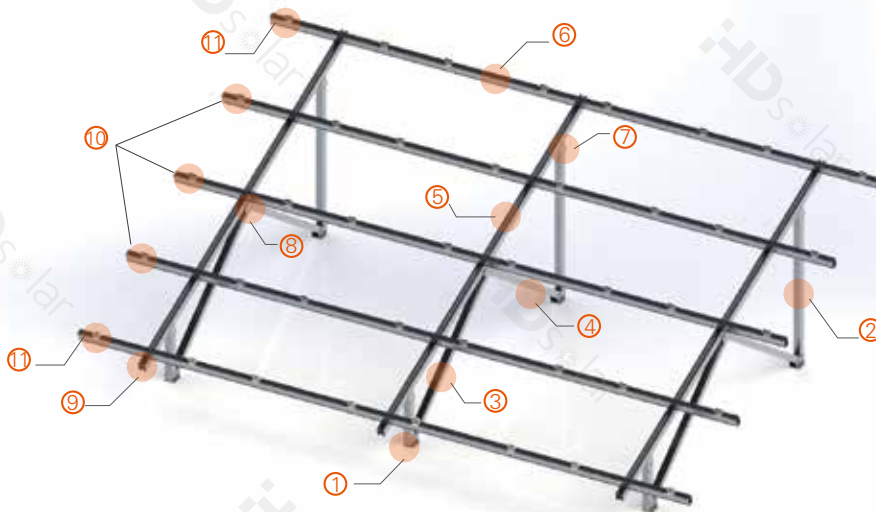
Concrete foundation



Screw pile

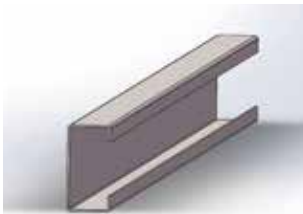


## Structural Drawing



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



### C-Type steel

Size(mm): Height 60~2000

Width 30~60

Thickness 2.0~3.0

Material: Q235B/Q355B

The galvanized thickness: over 65m galvanized



### H-Type steel

Size(mm): Height 100~300

Width 100~300

Thickness 4.0~12

Material: Q235B/Q355B

The galvanized thickness: over 65m galvanized



### U-type Steel

Size(mm): Height 41.3~74

Width 41.3

Thickness 2.0~3.0

Material: Q235B/Q355B

The galvanized thickness: over 65m galvanized



### Round Steel

Size(mm): Outer diameter 60~108

Width 3.0~6.0

Thickness 2.0~3.0

Material: Q235B/Q355B

The galvanized thickness: over 65m galvanized

## Type



W-Type



N-Type



A-Type



Enhanced Type



## Ground Mounting System-Screw Pile

### Product Features

- ❖ Eco-friendly and non-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 mechanical 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
Principal Material	Hot dip galvanizing steel
Wind load	On requirement
Snow load	On requirement
Warranty time	10 years
International standard	ISO9001、CE

### Installation



①

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



②

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



③

Connect beam with stand pile.



④

Connect beam with cross rails.



⑤

Fasten the PV modules by middle clamps and end clamps.



Splicer



C-Type steel



Connecting fitting



Connecting fitting

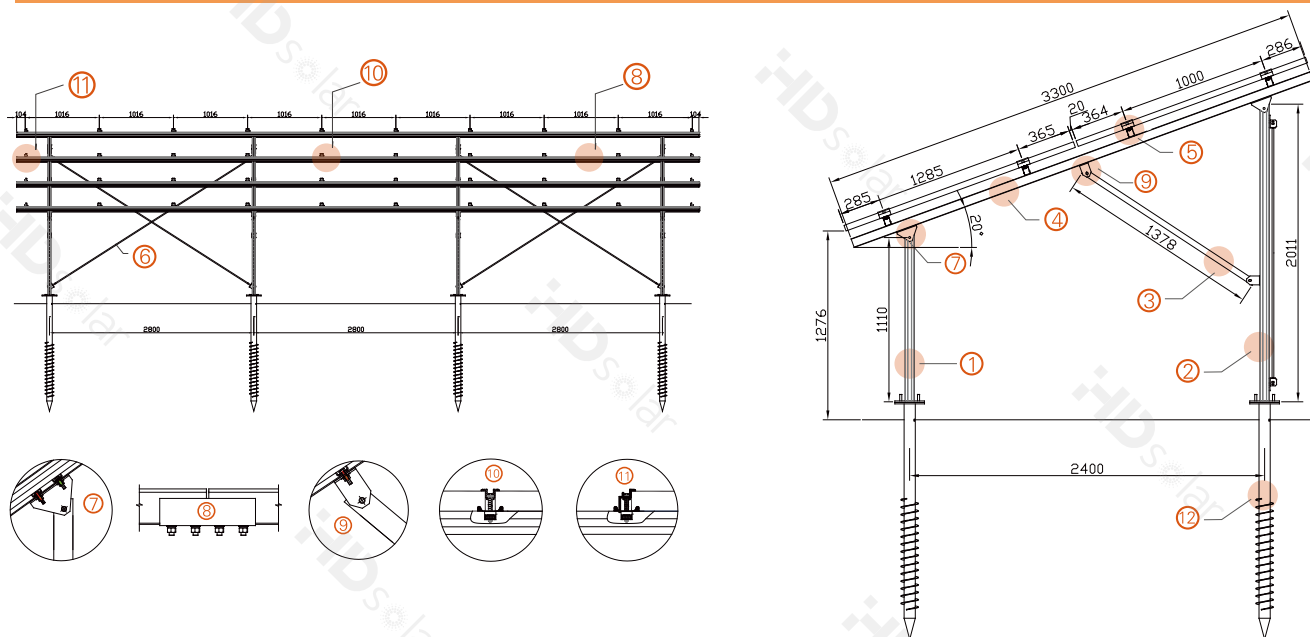


Connecting fitting



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





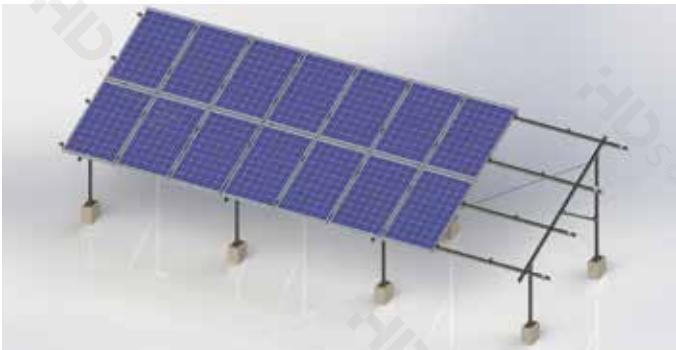


# Ground Mounting System-Concrete Foundation

## 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 Property**  
The system can pass safety test 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
Principal Material	Hot dip galvanizing steel
Wind load	On requirement
Snow load	On requirement
Warranty time	10 years
International standard	ISO9001、 CE









## C-type Steel Pile Foundation Carbon Steel Ground Mounting System

### Product Features

- ❖ **Environmental protection**  
No damage to vegetation and ecological environment, no pollution.
- ❖ **Wide application range**  
The pile foundation is suitable for various geological environments such as shallow beaches, deserts, grasslands, Gobi, and gravel strata etc.
- ❖ **High strength corrosion resistance**  
Using high-quality hot-dip galvanized steel with galvanizing thickness of 60-80μm or more in order to effectively prevent rusting.
- ❖ **High installation efficiency**  
Easy to install, complete piling within 3 minutes.
- ❖ **Good mechanical properties**  
The structure design is subject to professional and strict mechanical calculation to ensure that it can meet the mechanical and architectural specifications under different conditions and ensure safety and stability.

Installation site	Open Ground (Complex Terrain)
Foundation	C-shaped steel pile
Installation angle	On requirement
Installation height	On requirement
Module arrangement	Portrait or landscape
Module specification	Frame/ frameless crystalline/ thin film
Module size	On requirement
Principal Material	Hot dip galvanizing steel
Wind load	On requirement
Snow load	On requirement
Warranty time	10 years
International standard	ISO9001、CE

### Installation



①

After the C-shaped pile is driven into the ground, make sure that all the upper ends of the piles are kept at the same level.



②

Connect the main beam and the purlin fixing cleat.



③

Connect the main beam and the column.



④

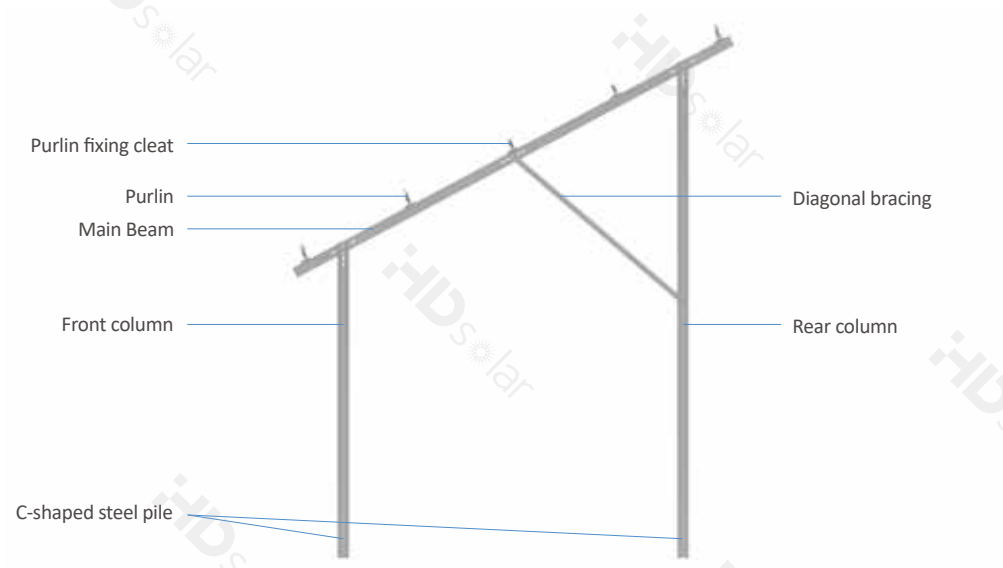
Connect the purlin and the main beam.



⑤

Fix the PV modules on the purlin with middle clamps and end clamps.





## Project Cases





## H-type Steel Pile Foundation Carbon Steel Ground Mounting System

### Product Features

- ❖ **Environmental protection**  
No damage to vegetation and ecological environment, no pollution.
- ❖ **Wide application range**  
The pile foundation is suitable for various geological environments such as shallow beaches, deserts, grasslands, Gobi, and gravel strata etc.
- ❖ **High strength corrosion resistance**  
Using high-quality hot-dip galvanized steel with galvanizing thickness of 60-80μm or more in order to effectively prevent rusting.
- ❖ **High installation efficiency**  
Easy to install, complete piling within 3 minutes.
- ❖ **Good mechanical properties**  
The structure design is subject to professional and strict mechanical calculation to ensure that it can meet the mechanical and architectural specifications under different conditions and ensure safety and stability.


Installation site	Open Ground (Complex Terrain)
Foundation	H-shaped steel pile
Installation angle	On requirement
Installation height	On requirement
Module arrangement	Portrait or landscape
Module specification	Frame/ frameless crystalline / thin film
Module size	On requirement
Principal Material	Hot dip galvanizing steel
Wind load	On requirement
Snow load	On requirement
Warranty time	10 years
International standard	ISO9001、CE

### Installation




①

After the H-shaped pile is driven into the ground, make sure that all the upper ends of the piles are kept at the same level.




②

Connect the main beam and the purlin fixing cleat.




③

Connect the main beam and the column.



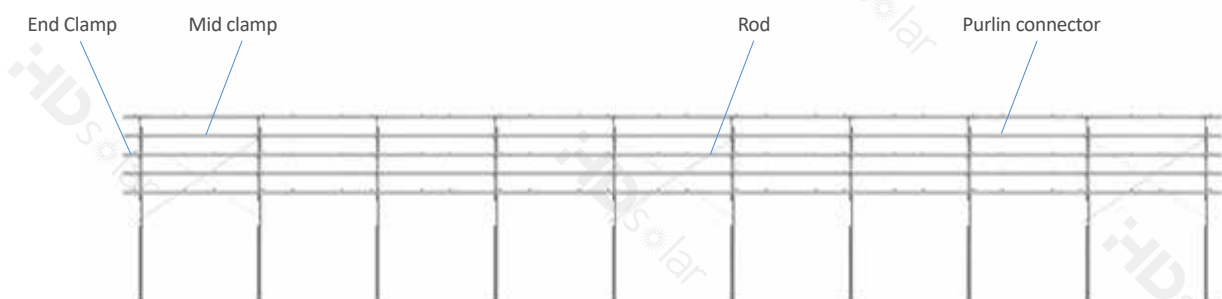
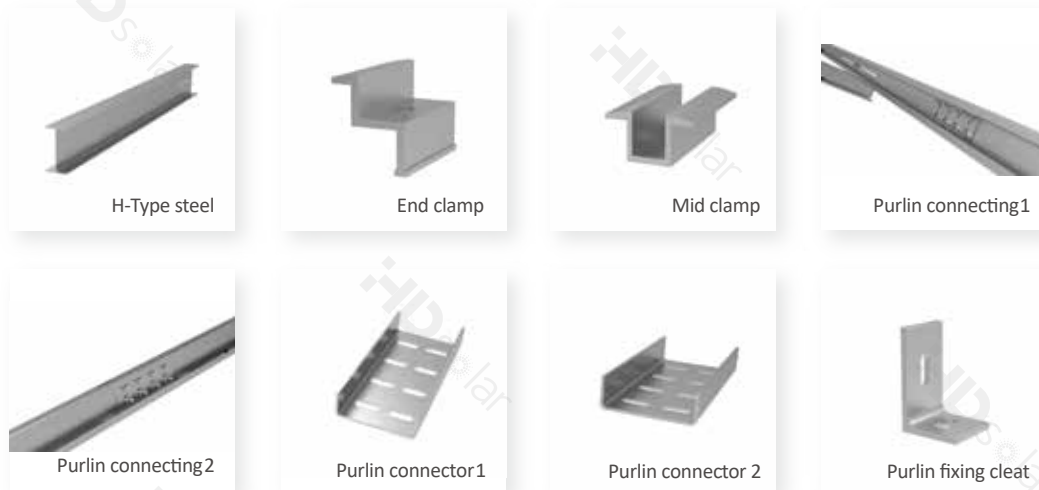
④

Connect the purlin and the main beam.



⑤

Fix the PV modules on the purlin with middle clamps and end clamps.



## Project Cases





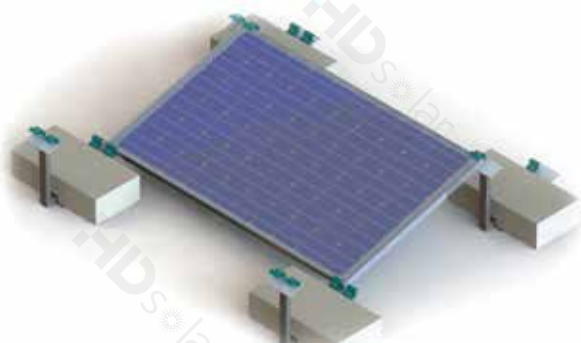


## Ballasted Roof Mounting System

HD Solar Ballasted Mounting System is a universal mounting system suitable for rooftop. Large scale installation can be realized without extra processing in site.

### Product Features

- ✦ Flexible and rapid installation.
- ✦ Simple structure with cost saved.
- ✦ Diversified application and customized solution available.
- ✦ No rooftop damaged and can be reused.



Installation site	Flat roof
Tilt Angle	As required
Wind load	On requirement
Module	Frame/frameless
Mould specification	As required
Material	Q235B
Fixed mode	Concrete block
Module Arrangement	Landscape or portrait
Life span	Span 25 years



Hinged connection




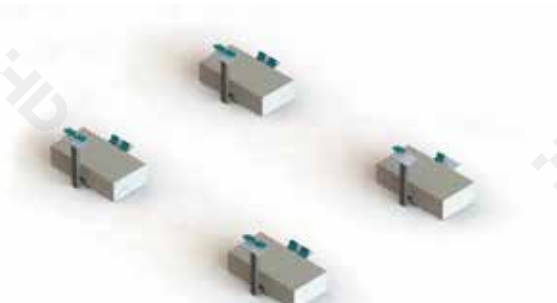
End clamp




Bracket

## Installation

- 
- ① The bracket is arranged on the roof according to the actual requirement.

- 
- ② Put the concrete block ballasted on the bracket.

- 
- ③ Fasten the hinged connection onto the bracket with bolt, and then fixed the module with the hinged connection.

- 
- ③ Installation is completed.

## Project Cases



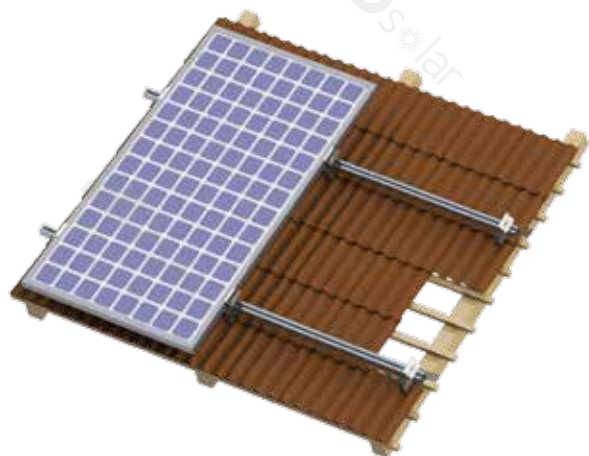




## Tile-on Roof Mounting System

### Product Features

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



Installation site	Tile roof
Slop of roof	< 30°
Wind load	On requirement
Module arrangement	Portrait or landscape
Module specification	Frame/ frameless, crystalline/ thin film
Module size	On requirement
Principal Material	Anodized aluminum
Components material	Anodized aluminum/Stainless steel
Snow load	On requirement
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.

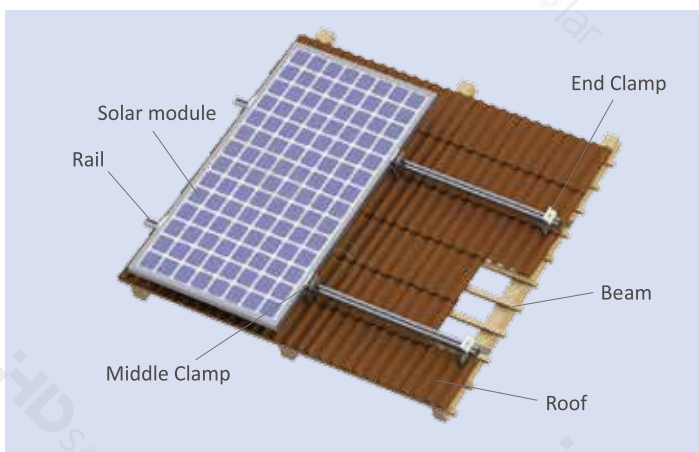
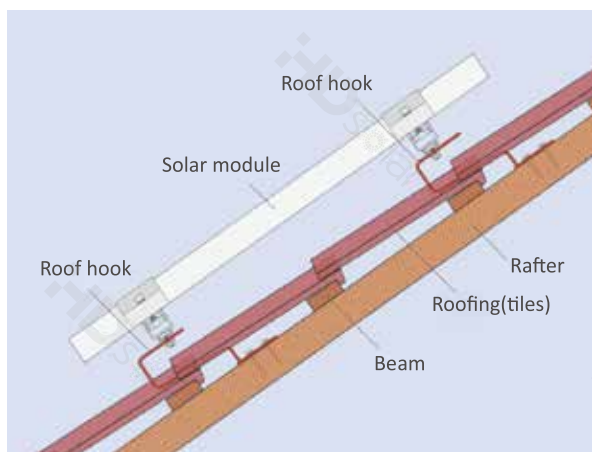


- ② Fix the aluminum rail to the roof hook with T-head bolt and flange nut.

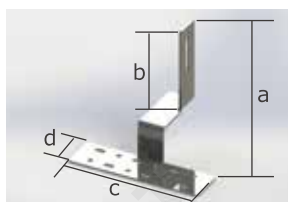


- ③ Fix the aluminum rail to the roof hook with T-head bolt and flange nut.

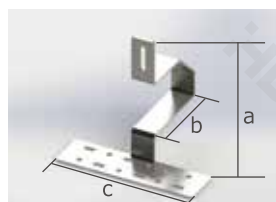
## Components



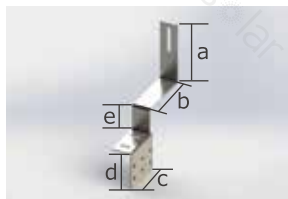
## Components



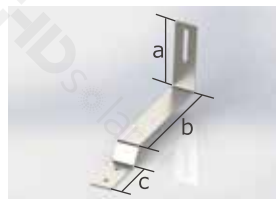
Product:  
Ceramic tile roof hook 01  
Specification:  
a=166mm;b=115mm;c=180mm;d=50mm  
Material:  
SUS304



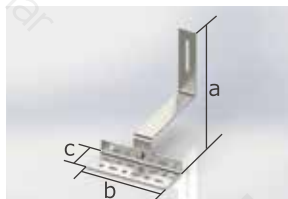
Product:  
Ceramic tile roof hook 02  
Specification:  
a=130~160mm( adjustable)  
b=115mm;c=180mm;d=50mm  
Material: SUS304



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

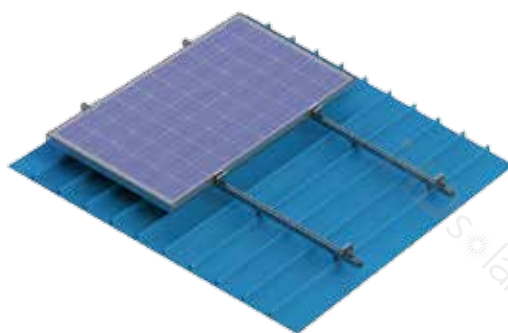


# Metal Roof Mounting System

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 for on-site 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 for long life span.
- ❖ Optimizing solutions available according to actual condition of the roof.



### Metal Roof Types



Corrugated Roof System



Standing Seam Roof



Trapezoidal Roof System



Kliplok Roof System

### Clamps



### Fixed Approach



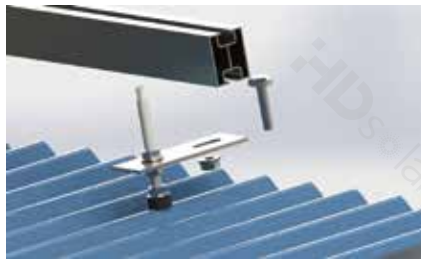
Installation site	Metal roof
Tilt Angle	As required
Building Height	≤20m
Module Arrangement	Landscape or portrait
Module Specification	Frame/frameless Crystalline/thin film
Module Size	As required
Principal Material	Anodized Al6005-T5& SUS 304
Wind load	On requirement
Snow Load	On requirement
Guarantee	10 years
Life Span	25 years
International Standard	ISO9001、CE



## Installation Diagram



- 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.



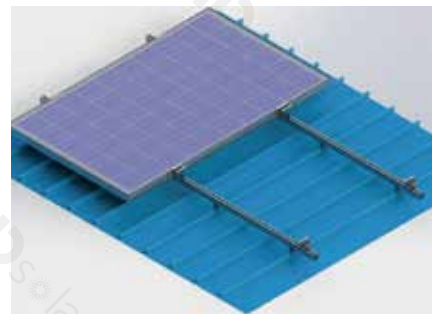
- ③ Insert the end clamp and mid clamp into the slot of the rail. Then put the PV module onto the rail and then fasten it by inner hex bolt.



- ④ Put the pre-assembled clamp onto the metal roof, then fasten the bolt nut.



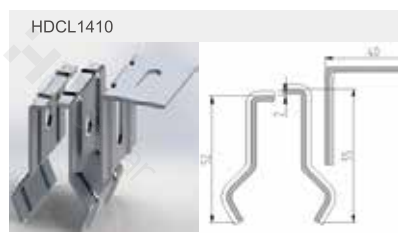
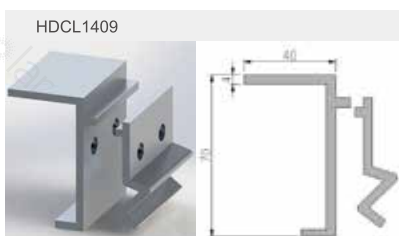
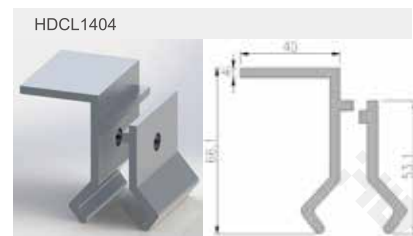
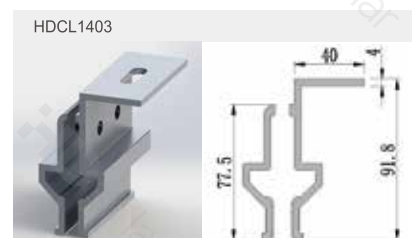
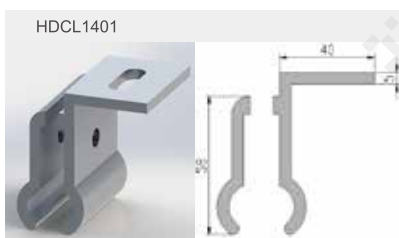
- ⑤ Insert the bolt into the slot of the rail, put the rail onto the clamp and then make them fastened.



- ⑥ 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.



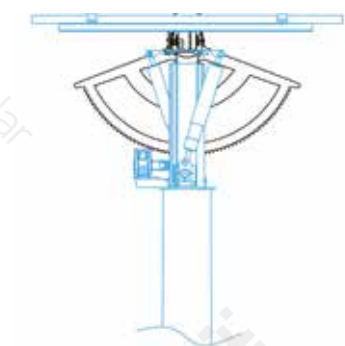
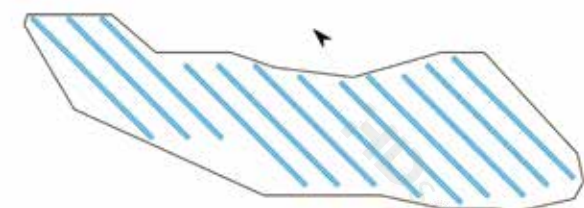




## Venus Series-sprocket Single Row Independent Drive Tracker

Venus series tracker is a new type of photovoltaic tracking system which independently developed by HDSolar with high stability and strong field adaptability. Venus series tracker is more flexible in the arrangement on long, narrow and continuous undulating grounds, and is ideal for photovoltaic power plants with complex terrain.

### Features



#### ❖ Can be flexibly arranged ,without limit of terrain

It can be flexibly arranged in coal mining subsidence areas, coal gangue mountains, hills, mountains and other narrow and undulating terrain to improve land utilization.

#### ❖ Clear passage between rows

The operation and maintenance machinery and equipment can pass freely between rows.

#### ❖ Cost less on power station construction, no external power cable wiring

Relying on string self-power supply, no external AC power supply is needed, reducing power station investment and shortening construction period.

#### ❖ Wireless communication device with higher reliability

The device comes with a wireless communication device, which reduces the investment cost of the power station and eliminates the need for on-site communication wiring construction and shortens the project construction period.

#### ❖ Accurate astronomical algorithm active tracking and closed-loop feedback control operation

The controller uses astronomical algorithm active tracking and its closed-loop feedback control operation to ensure product reliability and operating accuracy, and ensure the stable income of the entire photovoltaic power plant.

#### ❖ Overall high protection compatible with outdoor complex environment

The protection level of the control system and core transmission components is not less than IP65, which meets the application of long-term outdoor environment.

#### ❖ Impeccable evasive and protect system under bad weather

In the event of severe weather, the system can automatically detect and perform corresponding evasive actions to protect the safety of the mounting system and modules.



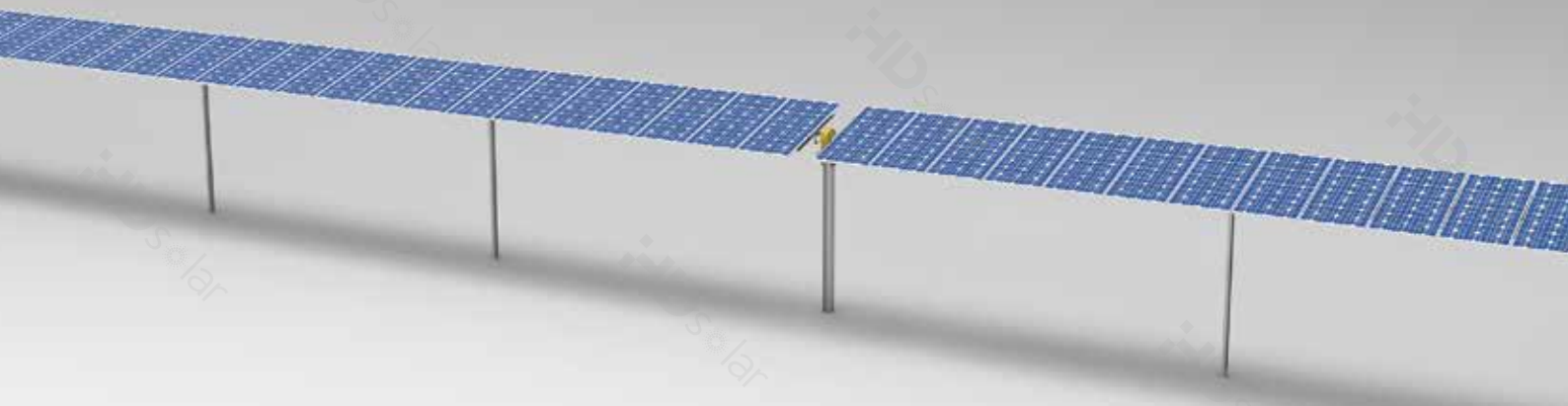
Basic parameters			
Product type	Single row independent drive tracker	Drive type	Sprocket drive
Tracking range	$\pm 60^\circ$	Zinc coating thickness	$\geq 65\mu\text{m}$
Main structural material	Q235/Q355	Land use rate(GCR)	$\geq 30\%$
Pile foundation form	PHC pipe pile/driven pile/cast-in-place pile		

Module and layout			
Module Type	Crystalline silicon / membrane	Ground Clearance(Min)	0.5m
Layout of Module	1V/2V		

Automatic control			
Tracking mode	Astronomical algorithm / active tracking anti shadow tracking	Tracking accuracy	$\leq 2^\circ$
Control mode	Closed loop feedback control	Control accuracy	$\leq 0.5^\circ$
Power supply mode	String self power supply	Daily power consumption of the system	$\leq 0.5\text{kWh}$
Controller	MCU	Working environment temperature	$-40^\circ \sim +60^\circ$
Communication mode	Zigbee wireless communication	Weather protection	Gale/snow

Warranty			
Structure	10 years	Transmission and automation control	5years





## Mars Series-Rotary Single Row Independent Drive Tracker

Mars series tracker is a new tracking system with simple design structure and convenient installation. The bearing parts are made of polymer material, and the modules are installed above the bearing pedestal. Compared to the traditional fixed mounting system which installed with fixed inclination Angle, this system has obvious advantages of reliability and cost performance, better ability in sand prevention, better fault identification, more flexible response, and increased power generation by 10%-20%.

### Product Features



#### ❖ Convenient installation

The system structure is simple, non-professionals can also easily complete the installation.

#### ❖ Convenient maintenance

Single row independent operation mode, less correlation between rows, can be maintained individually.

#### ❖ High working accuracy

The single rotary reducer drive can accurately drive the tracking system to track the sun in real time and improve the power generation efficiency.



#### ❖ High reliability

Special purlin design, instead of clamps, the modules are fixed directly on the purlin with screws to improve the reliability of the system.

#### ❖ Irregular terrain adaptation

It can be flexibly arranged in the complex and irregular terrain such as hills or slopes, in order to greatly improve the land utilization rate.

#### ❖ Long life span

The mounting parts are made of hot-dip galvanized steel, magnesium-aluminum-zinc steel or aluminum profile, which has strong corrosion resistance and longer life span.



Basic parameters			
Product type	Single row independent drive tracker	Transmission type	Rotary drive
Tracking range	±60°	Zinc coating thickness	≥65μm
Main structural material	Q235/Q355	Land use rate (GCR)	≥30%
Pile foundation form	PHC pipe pile/driven pile/cast-in-place pile		

Module and layout			
Module Type	Crystalline silicon / membrane	Ground Clearance(Min)	0.5m
Layout of Module	1V/2V		

Automatic control			
Tracking mode	Astronomical algorithm / active tracking anti shadow tracking	Tracking accuracy	≤2°
Control mode	Closed loop feedback control	Control accuracy	≤0.5°
Power supply mode	String self power supply	Daily power consumption of the system	≤0.5kWh
Controller	MCU	Working environment temperature	-40°~+60°
Communication mode	Zigbee wireless communication	Weather protection	Gale/snow

Warranty			
Structure	10 years	Transmission and automation control	5years

## Project Cases





## Saturn Series Chain Wheel Multi Row Linkage Tracker

Saturn series tracker adopts the installation method of components above the bearing pedestal, and the multi-row sprocket is driven by the three-phase motor through the multi-stage reduction gear. Compared with the traditional fixed inclination installation method of the bracket system, the single-tile steel quantity is less, the power generation is increased by 10%-20%, and the cost performance is higher. The bearing of the system is made of polymer material, which can adapt to the terrain of high and low drop.

### Product Features



#### ❖ Adapt to fluctuate terrain

The system consists of 600-800 modules, which can be arranged flexibly.

#### ❖ High cost performance

Simple structure, less steel used.

#### ❖ High power generation efficiency

Using a motor multi-stage deceleration drive sprocket, flexible driving, improve power generation efficiency.



#### ❖ High reliability

Special purlin design, instead of clamps, the modules are fixed directly on the purlin with screws to improve the reliability of the system.

#### ❖ Long life span

The mounting parts are made of hot-dip galvanized steel, magnesium-aluminum-zinc steel or aluminum profile, which has strong corrosion resistance and longer life span.

Basic parameters			
Product type	Multi row linkage	Transmission type	Sprocket drive
Tracking range	$\pm 45^{\circ}$	Zinc coating thickness	$\geq 65\mu\text{m}$
Main structural material	Q235/Q355	Land use rate (GCR)	$\geq 30\%$
Pile foundation form	PHC pipe pile/driven pile/cast-in-place pile		

Module and layout			
Module Type	Crystalline silicon / membrane	Ground Clearance(Min)	0.5m
Layout of Module	1V/2V		

Automatic control			
Tracking mode	Astronomical algorithm / active tracking anti shadow tracking	Tracking accuracy	$\leq 2^{\circ}$
Control mode	Closed loop feedback control	Control accuracy	$\leq 0.5^{\circ}$
Power supply mode	AC380~480V,50/60Hz	Daily power consumption of the system	$\leq 1\text{kWh}$
Controller	PLC	Working environment temperature	$-40^{\circ}\sim +60^{\circ}$
Communication mode	Zigbee wireless communication	Weather protection	Gale/snow

Warranty			
Structure	10 years	Transmission and automation control	5years

## Project Cases







## Jupiter Series Push Rod Multi Row Linkage Tracker

Jupiter series tracker adopts the installation mode of modules above the bearing pedestal, driven by a large thrust electric push rod to run together with multiple rows. Compared to the traditional fixed mounting system, this system has the advantages of less single-watt steel, power generation increased by 10%-20%, more cost-effective. The bearing of the system is made of polymer material, which has strong ability of sand control, fault identification and flexible reaction.

### Product Features



- ❖ **Suitable for flat site**  
The system consists of 600-800 components to form a module.
- ❖ **High cost performance**  
Simple structure, less steel used.
- ❖ **High power generation efficiency**  
Single large thrust electric push rod drive, flexible reaction, improve power generation efficiency.



- ❖ **High reliability**  
Special purlin design, instead of clamps, the modules are fixed directly on the purlin with screws to improve the reliability of the system.
- ❖ **Long life span**  
The mounting parts are made of hot-dip galvanized steel, magnesium-aluminum-zinc steel or aluminum profile, which has strong corrosion resistance and longer life span.

Basic parameters			
Product type	Multi row linkage	Transmission type	push rod drive
Tracking range	$\pm 45^{\circ}$	Zinc coating thickness	$\geq 65\mu\text{m}$
Main structural material	Q235/Q355	Land use rate (GCR)	$\geq 30\%$
Pile foundation form	PHC pipe pile/driven pile/cast-in-place pile		

Module and layout			
Module Type	Crystalline silicon / membrane	Ground Clearance(Min)	0.5m
Layout of Module	1V/2V		

Automatic control			
Tracking mode	Astronomical algorithm / active tracking anti shadow tracking	Tracking accuracy	$\leq 2^{\circ}$
Control mode	Closed loop feedback control	Control accuracy	$\leq 0.5^{\circ}$
Power supply mode	AC380~480V,50/60Hz	Daily power consumption of the system	$\leq 1\text{kWh}$
Controller	PLC	Working environment temperature	$-40^{\circ}\sim +60^{\circ}$
Communication mode	Zigbee wireless communication	Weather protection	Gale/snow

Warranty			
Structure	10 years	Transmission and automation control	5years

## Project Cases





## Uranus Series-single Column Double Axis Tracker

Jupiter series tracker 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 45% power generation. HuaDing solar dual axis tracking system will be your ideal choice for solar power plants.

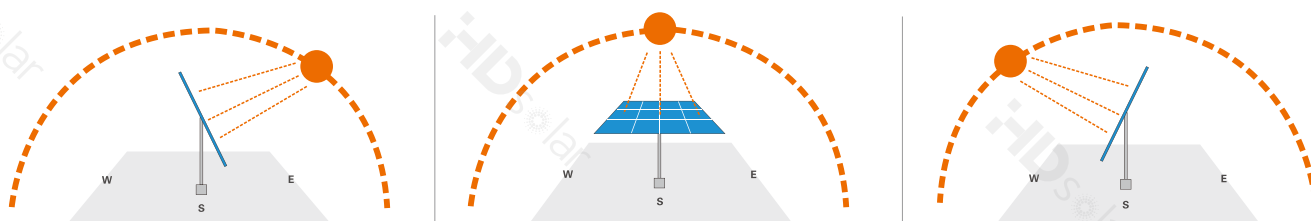
### Product Features

- ❖ 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.

### Tracking Path





Basic parameters			
Product Type	Single column double axis tracker	Transmission type	Rotary drive
Tracking range	Elevation angle:0-70°azimuth:±120°	Foundation Type	PHC/bored pile
Main structural material	Q235/Q355	Zinc coating thickness	≥65μm

Module and layout			
Tracking mode	Astronomical algorithm/active tracking anti shadow tracking	Tracking accuracy	≤2°
Control mode	Closed loop feedback control	Control accuracy	≤0.5°
Power supply mode	String self power supply	Daily power consumption of the system	≤0.5kWh
Controller	MCU	Working environment temperature	-40°~+60°
Communication mode	Zigbee wireless communication	Weather protection	Gale/snow

Warranty			
Structure	10 years	Transmission and automation control	5years

## Project Cases





# Tilt Single Axis Tracking System

HuaDing 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 by 20%-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.

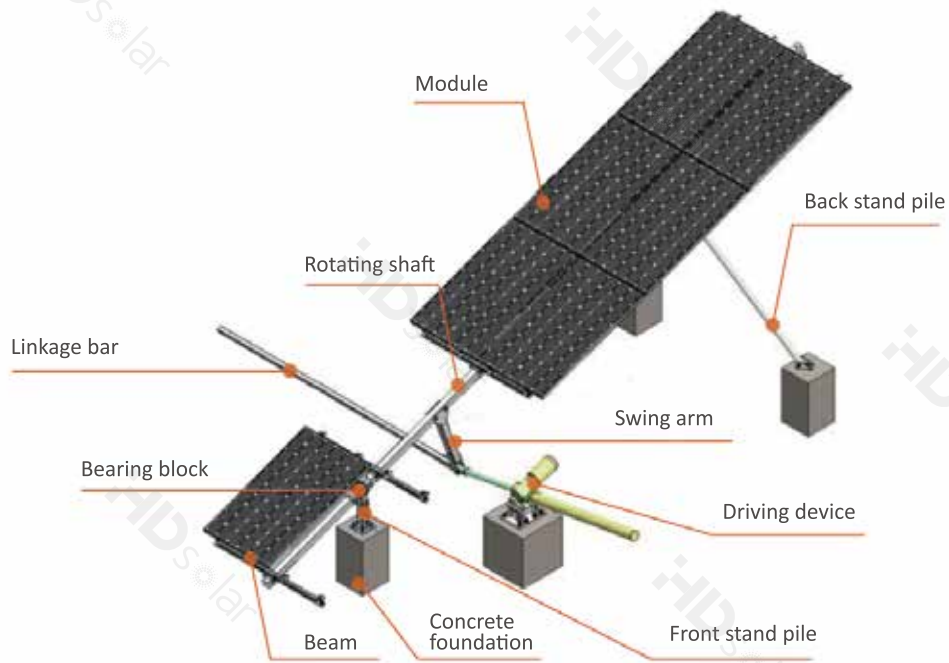
Control mode	Time control
Tracking accuracy	±1°
Driving power	AC 380V/ DC 24V
Driving capacity	90W
Tracking range	±45°
Tilt angle	≤30°
Bearable limit wind speed	On requirement
Working wind speed	On requirement
Operating mode	net working
Working temperature	-25 C ~65 C
Design life span	25 years
Principal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

## Horizontal single axis tracking system – 4 Linkage Unit





## Components



## Project Cases







# 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
Principal Material	Anodized aluminum
Wind load	On requirement
Snow load	On requirement
Service life span	25 years
International standard	ISO9001、 CE

## Components



Base Bracing



Rail

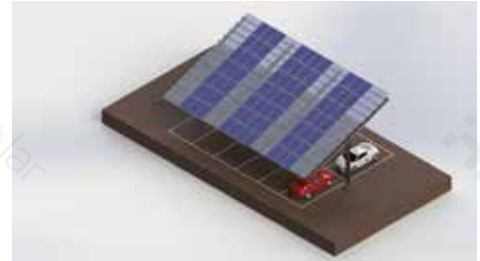
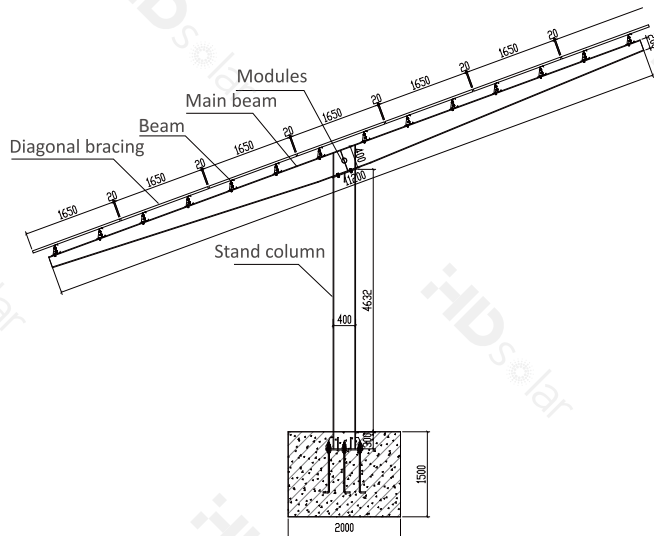


Main Beam

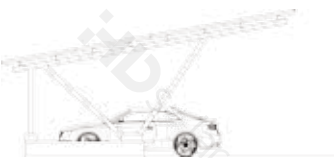


Stand Column

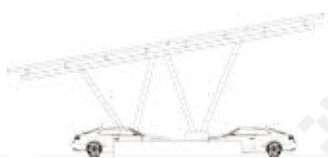
## Sketch of Design(2 cars)



## 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







## Agricultural Photovoltaic System

It seems 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 utilization of space
- ❖ 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
Principal Material	Hot-hip galvanizing steel & anodized aluminum
Wind load	On requirement
Snow load	On requirement
Service life span	25 years
International standard	ISO9001、 CE







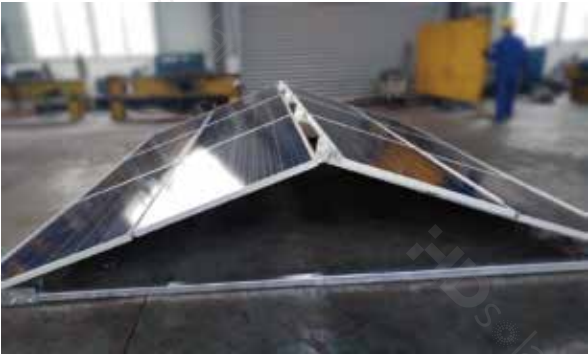


# Folding PV Mounting System

HD 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. HuaDing Solar dual axis tracking system will be your ideal choice for solar power plants.

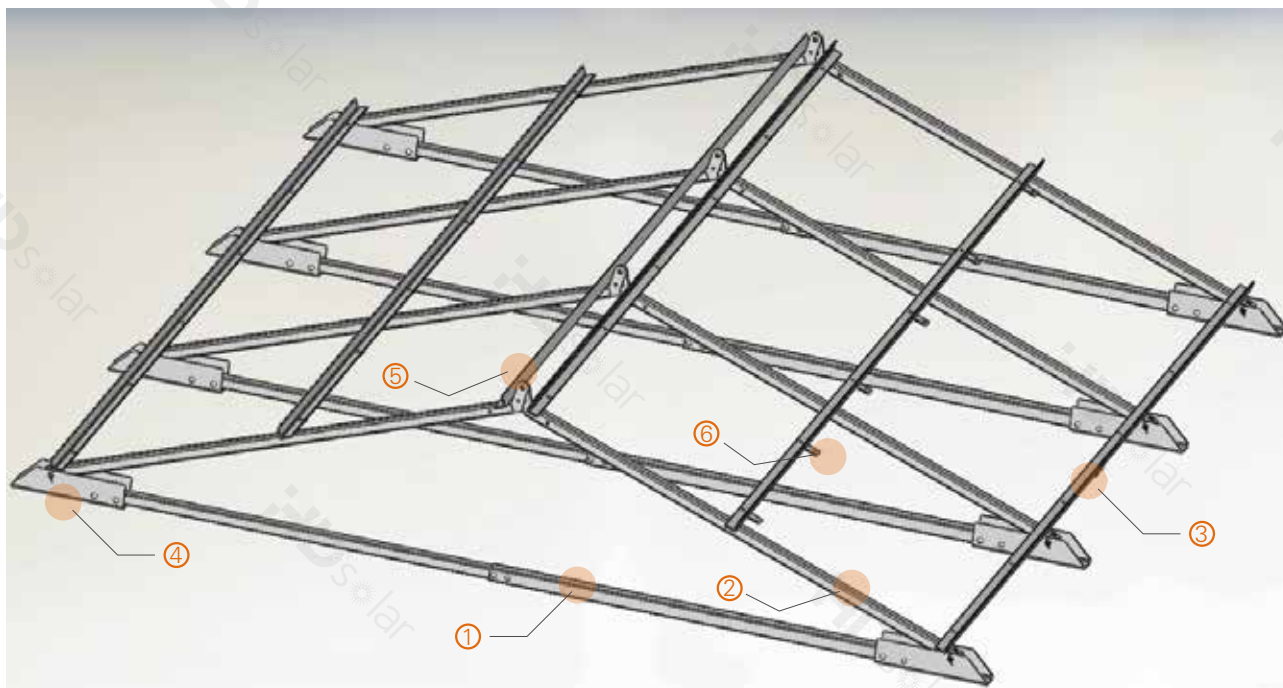
## Product Features

- ❖ The foldable photovoltaic support structure of the utility model comprises a container and a photovoltaic support module, which is composed of a plurality of foldable support units.
- ❖ The folding support system can be moved at any time according to the power consumption, and can be rapidly expanded or folded for easy movement and transportation.
- ❖ Replacing the original photovoltaic support guide rail, using the structure of hinge and connecting rod to connect the upper and lower components, saving materials and reducing costs.



Installation site	Open Ground
Installation Angle	As required
Installation Height	As required
Module Arrangement	Portrait or landscape
Module Specification	Frame/frameless crystalline/thin film
Module Size	As required
Principal Material	Hot dip galvanizing steel
Wind load	On requirement
Snow load	On requirement
Design Life Span	25 years
Warranty Time	10 years
International Standard	ISO9001,CE,TUV

## Structural Drawing



① Ground support

② Main beam

③ Purline

④ Angle Brace

⑤ Hinge

⑥ Mid clamp

## Product Display





## Domestic Project Cases



Location:Meiqiao Ningbo  
Type:Solar carport system  
Date:09.2018  
Capacity:377.6KW



Location:Songyang zhejiang  
Type:Ground mounting system  
Date:05.2018  
Capacity:35MW



Location:Yuanqu shanxi  
Type:Ground mounting system  
Date:04.2018  
Capacity:10MW



Location:Sanmenxia Henan  
Type:Ground mounting system  
Date:03.2018  
Capacity:20MW



Location:Changxing Zhejiang  
Type:EPC Project  
Date:07.2017  
Capacity:90MW



Location:Datang Zhejiang  
Type:Ground mounting system  
Date:06.2017  
Capacity:40MW



Location:zhoushan zhejiang  
Type:tilt single axis tracking system  
Date:06.2017  
Capacity:130KW



Location:Jinzhou liaoning  
Type:EPC Project  
Date:05.2017  
Capacity:15MW



Location:Laiyuan Hebei  
Type:Ground mounting system  
Date:05.2017  
Capacity:20MW



Location:Yueqing zhejiang  
Type:Ground mounting system  
Date:04.2017  
Capacity:50MW



Location:Jiande zhejiang  
Type:Water surface mounting system  
Date:02.2017  
Capacity:20MW



Location:Anji zhejiang  
Type:Ground mounting system  
Date:01.2017  
Capacity:35MW

## Domestic Project Cases



Location:Qujiang zhejiang Date:08.2016  
Type:Ground mounting system Capacity:40MW



Location:Zaozhuang Shandong Date:12.2015  
Type:Ground mounting system Capacity:10MW



Location:Yongchang Gansu Date:10.2015  
Type:Ground mounting system Capacity:20MW



Location:Quzhou zhejiang Date:08.2015  
Type:Ground mounting system Capacity:45MW



Location:Mongolia inner Date:08.2015  
Type:Ground mounting system Capacity:100MW



Location:Xinghua Jiangsu Date:05.2015  
Type:Water surface system Capacity:80MW



Location:Datong Shanxi Date:12.2014  
Type:Ground mounting system Capacity:50MW



Location:Peixian Xuzhou Date:11.2014  
Type:Ground mounting system Capacity:10MW



Location:Jiayuguan Gansu Date:06.2014  
Type:Ground mounting system Capacity:30MW



Location:Taizhou Jiangsu Date:04.2014 Capacity:80MW  
Type: Fishing Light Complementary Mounting Bracket



Location:Xi'an Shanxi Date:04.2014  
Type:Ground mounting system Capacity:150MW



Location:Quzhou Jiangsu Date:03.2014  
Type:Ground mounting system Capacity:45MW



## International Project Cases



Location:Malaysia  
Type:Ground mounting system  
Date:12.2019  
Capacity:45MW



Location:Ukraine  
Type:Ground mounting system  
Date:10.2019  
Capacity:114MW



Location:Hokkaido Japan  
Type:Ground mounting system  
Date:4.2019  
Capacity:12MW



Location:Nha Trang, Vietnam  
Type:Ground mounting system  
Date:11.2018  
Capacity:50MW



Location:Mexico  
Type:Ground mounting system  
Date:10.2018  
Capacity:1.02MW



Location:Binh Dinh,Vietnam  
Type:Ground mounting system  
Date:09.2018  
Capacity:50MW



Location:Hokkaido, Japan  
Type:Ground mounting system  
Date:08.2018  
Capacity:5MW



Location:HCMC,Vietnam  
Type:Roof mounting system  
Date:07.2018  
Capacity:700KW



Location:Dau Tieng,Vietnam  
Type:Ground mounting system  
Date:07.2018  
Capacity:253MW



Location:Romblon,Philippines  
Type:Ground mounting system  
Date:06.2018  
Capacity:7.6MW



## International Project Cases



Location:Hokkaido, Japan Date:04.2018  
Type:Ground mounting system Capacity:5MW



Location:Ghana/Tanzania Date:12.2017  
Type:Ground folding mounting system Capacity:316.8KW



Location:Afghanistan Date:12.2017  
Type:Roof mounting system Capacity:300KW



Location:Argentina Date:12.2017  
Type:Roof aluminum mounting system Capacity:221.6KW



Location:Brazil Date:10.2017  
Type:Solar carport system Capacity:221.6KW



Location:Japan Date:07.2017  
Type:Roof mounting system Capacity:800KW



Location:Chile Date:04.2017  
Type:Roof aluminum mounting system Capacity:300KW



Location:Philippine Date:01.2017  
Type:Single axis tracking system Capacity:20KW



Location:Philippine Date:12.2016  
Type:Roof mounting system Capacity:500KW



Location:Egypt Date:11.2016  
Type:Roof aluminum mounting system Capacity:300KW



Location:Japan Date:06.2016  
Type:Solar carport system Capacity:108KW



Location:Saudi Arabia Date:12.2015  
Type:Dual axis tracking system Capacity:20KW

## Partner





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