



www.fda-solar.at

Gesamtangebot Bausatz

Grosshandel ab 05.03.2024

ohne Montage
Preise ab Lager Graz







BLUESUN SOLAR Module

Modul	Info	AB STÜCKPREIS Netto/Stk.
450W Half Cell TOPCON NEUESTE TECHNOLOGIE Hoher Wirkungsgrad mit 23,04% 	Power: 450W Full Black Shingled (Entspiegelt) GLAS/GLAS, Power: 450W Weight: 22 KG Size: mm 1722*1134*30	€ 109,00
425W half cut solar Panel 	Power: 425W Weight: 21,5 KG Size: mm 1722*1134*30	€ 95,00
560W half cut solar Panel 	Power: 560W Weight: 28,6 KG Size: mm 2278*1134*35	€ 109,00
440W Full Black Shingled (Entspiegelt) 	Power: 440W Weight: 21,2 KG Size: mm 1812*1096*30	€ 105,00
BIPV 365W Double Glass Monocrystalline 	Power: 365w Weight: 32 KG Size: mm 1956*1090*9	€ 249,00
700W Glas/Glas 2mm Panel 	Power: 700W Weight: 39 KG Size: mm 2384*1303*35	€ 175,00

zertifizierte Wechselrichter

Artikelnummer	Leistung	Zertifikat	AB STÜCKPREIS Netto/Stk.
4KTL-M1	max. 4 KW Output	HYBRID / CE	€ 1.163,34
5KTL-M1	max. 5 KW Output	HYBRID / CE	€ 1.227,41
6KTL-M1	max. 6 KW Output	HYBRID / CE	€ 1.373,01
8KTL-M1	max. 8 KW Output	HYBRID / CE	€ 1.627,81
10KTL-M1	max. 10 KW Output	HYBRID / CE	€ 1.828,74
12KTL-M5	max. 12 KW Output	CE	€ 1.926,08
12K-MB0	max. 12 KW Output	HYBRID / CE	€ 2.335,42
15KTL-M5	max. 15 KW Output	CE	€ 2.173,42
15K-MB0	max. 15 KW Output	HYBRID / CE	€ 2.638,27
17K-MB0	max. 17 KW Output	HYBRID / CE	€ 2.692,14
20KTL-M5	max. 20 KW Output	CE	€ 2.344,66
20K-MB0	max. 20 KW Output	HYBRID / CE	€ 2.843,57
25KTL-M5	max. 25 KW Output	CE	€ 2.422,22
25K-MB0	max. 25 KW Output	HYBRID / CE	€ 2.910,54
30KTL-M3	max. 30 KW Output	CE	€ 2.633,83
36KTL-M3	max. 36 KW Output	CE	€ 3.038,67
40KTL-M3	max. 40 KW Output	CE	€ 3.204,66
50KTL-M3	max. 50 KW Output	CE	€ 3.246,87
100KTL-M2	max. 100 KW Output	CE	€ 5.077,07
115KTL-M2	max. 115 KW Output	CE	€ 5.597,52
Wifi Modul (Fernwartung)			€ 200,00
Smartmeter 3 Phasig			€ 250,00
Überspannungsableiter 1er Box			€ 238,80
Überspannungsableiter 2er Box			€ 342,00

zertifiziertes Batteriesystem

Artikelnummer	Beschreibung	Foto	AB STÜCKPREIS Netto/Stk.
Huawei LUNA2000-5-S0	Batterietyp LITHIUM Hersteller HUAWEI Autarkie Notstromfähig Systemspannung V High voltage	5 KW 	€ 3.335,54
Huawei LUNA2000-10-S0	Batterietyp LITHIUM Hersteller HUAWEI Autarkie Notstromfähig Systemspannung V High voltage	10 KW 	€ 5.700,41
Huawei LUNA2000-15-S0	Batterietyp LITHIUM Hersteller HUAWEI Autarkie Notstromfähig Systemspannung V High voltage	15 KW 	€ 8.065,27
Huawei LUNA- Wandhalterung	Gewicht 7,50 kg		€ 84,45
Huawei Blackout- Box Compact FRT	 für Huawei SUN2000-3-10KTL-M1 Wechselrichter 3~	Netztyp: Dreiphasig (3P/N/PE) Nennspannung: 230V / 400V AC / 50 Hz Gültige Netzformen: TT, TN-S Netztrennung: 3- oder 4-polig (per Jumper konfigurierbar) Max. zulässige Vorsicherung: 25 A Umschaltzeit: 5 Sekunden Integrierter FI: Typ A, selektiv, 100 mA Netzanschluss: Einphasig (L/N/PE)	€ 1.173,54
Huawei Blackout- Box FRT	 für Huawei SUN2000-3-10KTL-M1 Wechselrichter 3~	Netztyp: Dreiphasig (3P/N/PE) Nennspannung: 230V / 400V AC / 50 Hz Gültige Netzformen: TT, TN-S Netztrennung: 3- oder 4-polig (per Jumper konfigurierbar) Max. zulässige Vorsicherung: 25 A Umschaltzeit: 5 Sekunden Integrierter FI: Typ A, selektiv, 100 mA Netzanschluss: Einphasig (L/N/PE)	€ 1.173,54

zertifizierte Wechselrichter

Artikelnummer	Beschreibung	Zertifikate	AB STÜCKPREIS Netto/Stk.
6KTL3-X	max. 6 KwP DC	 CE	€ 1.150,00
10KTL3-X	max. 10 KwP DC		€ 1.150,00

Balkonkraftwerk mit/ohne Speicher

Artikelnummer	Beschreibung	Zertifikate	AB STÜCKPREIS Netto/Stk.
SKY800M1-EU-230	800 Watt Wechselrichter	 CE	€ 145,00
M-ESS 1.6KW	SAKO M-ESS 1.6KW Lithium Battery Pack	 CE	€ 798,00
M-ESS 3.2KW	SAKO M-ESS 3.2KW Lithium Battery Pack		€ 1.087,80

Solarkabel

Verlängerungen

Produkt	Foto	Länge	AB STÜCKPREIS Netto/Stk.
Verbinder 4.0mm² 55A AC0.6/1KV,DC1.0/1.8KV IP67		2 Meter (pro Set)	€ 4,50
		3 Meter (pro Set)	€ 6,00
		5 Meter (pro Set)	€ 9,00
Verbinder 6.0mm² 70A AC0.6/1KV,DC1.0/1.8KV IP67		2 Meter (pro Set)	€ 6,75
		3 Meter (pro Set)	€ 9,50
		5 Meter (pro Set)	€ 14,50

Einzelkomponenten

Stärke	Foto	Produkt	AB STÜCKPREIS Netto/Stk.
4.0mm ²		Solarkabel pro lfm 100m/roll, 4.0mm ² , 55A AC0.6/1KV,DC1.0/1.8KV IP67	€ 0,69
6.0mm ²		Solarkabel pro lfm 100/roll, 6.0mm ² , 70A AC0.6/1KV,DC1.0/1.8KV IP67	€ 0,95
MC4 connector		Stecker pro Set (Buchse und Stecker)	€ 0,39
Aluminium draht	(Rolle 145m) 	Runddraht 8mm weich, Zugfestigkeit 85-105 N/mm² je Meter	€ 1,10
Erdkabel		Solarkabel 16 sw TÜV <u>je Meter</u>	€ 4,75
Erdungsclip		YS-GL-Y	€ 0,95
Tellerkopfschraube 60 mm		Edelstahl A4 mit ETA Zulassung, 8 x 60 mm, TX40, pro Stück	€ 0,65
Tellerkopfschraube 120 mm		Edelstahl A4 mit ETA Zulassung, 8 x 120 mm, TX40, pro Stück	€ 1,10

Montagesystem (ohne Montage)

Systeme exklusive Solarmodule	AB STÜCKPREIS Netto/Stk.
Modulhalterung Kunststoffkiste Flachdach 18 Grad, 43 Nm Preis pro Stk.	€ 49,00
Pflastersteine als Beschwerung: 20x30x6cm, ca. 8 KG Preis pro Kunststoffkiste	€ 12,00
System RP-1 <i>gerade Südseite</i> 0 Grad Dachziegel ca. Preis pro Modul	€ 45,00
System RP2 <i>gerade Südseite</i> 0 Grad Welleternit mit Hacken YS-22-Z FDA-147 Rail, ca. Preis pro Modul	€ 45,00
System TP-7 <u>Ost-West oder Süd Ausrichtung</u> 5, 10 oder 15 Grad ca. Preis pro Modul	€ 55,00
Pflastersteine als Beschwerung: 20x30x6cm, ca. 8 KG Preis pro Panel	€ 9,00
System RP-5 Systeme für Blechdach 0 Grad ca. Preis pro Modul	€ 39,00
System RP-5 (1) Systeme für Blechdach 30 Grad ca. Preis pro Modul	€ 50,00
System GL-2S Freiland Erdschrauben, 0-60 Grad vorbereitet für 440W Modul/Black ca. Preis pro Modul	€ 155,00
System GL-2S Freiland Fester Untergrund 0-60 Grad ca. Preis pro Modul	€ 145,00
System CL-3 Carport 0 - 20 Grad, verzinkter Stahl nur kominierbar mit 700W Modul ca. Preis pro Modul	€ 377,80
System BR-1 Balkonbefestigung Geländer verstellvare Grade, Edelstahl 304 ca. Preis pro Modul	€ 37,50

Giebeldachmontage *(ohne Montage)*

Artikel	Artikelnummer	Spec. Material	AB STÜCKPREIS Netto/Stk.
Rail	FDA-97-Z 	600mm / 390mm / 360mm Preis pro Meter AL6005-T5	€ 7,30
Rail Splice Kit	FDA-98-Z 	200mm AL6005-T5 +SUS410	€ 2,50
Hook (3x Adjustable)	FDA-AH-49 	Plate: 140x50mm SUS304	€ 6,00
Mid Clamp Kit	FDA-MC1-30J 	L=40mm H=30mm AL6005-T5+SUS304	€ 0,74
End Clamp Kit	FDA-EC1-30J 	L=40mm H=30mm AL6005-T5+SUS304	€ 0,68
T-bolt	FDA-T10-F25 	M10x25mm SUS304	€ 0,44
YS-WG-36	Clip Lock Kit 	50mm AL6005-T5 +SUS410 +EPDM	€ 3,85
YS-CL-23 	Adjustable Roof Clamp (with screws & EPDM)	60mm screw 6.3*25mm AL6005-T5 +SUS410+EPDM	€ 4,65
YS-22-Z	Distanzschraube mit Halter 		€ 3,75
YS-CL-21	Mini Rail inkl. 6 Schrauben L=280mm B=70mm, H=20mm 		€ 9,50
FDA-W	Winkel 30 Grad für Aufständigung Höhe 54,5 cm Höhe 89,5 cm 		€ 75,00

Montage, Elektroinstallation und sonstige Kosten

Artikel	Artikelnummer	Spec. Material	AB STÜCKPREIS Netto/Stk.
FDA - M Giebel	Montage der DC Seite	komplett UK & Panele	€ 69,00
FDA - M Giebel AUSPREIS	Montage der DC Seite 3 Schienen bzw 560W	komplett UK & Panele	€ 95,00
FDA-M Flachdach	Montage der DC Seite	komplett UK & Panele	€ 45,00
FDA- ErdMontage	ERDMONTAGE der UK	system GL2s	€ 75,00
FDA - ErsatzZiegel	Ersatzziegel für Giebeldach Montage	in RAL Farbe angefertigter Alublech Dachziegel zur Montage	€ 16,00
FDA - E	Elektriker	Anschluss und Montage inkl. Inbetriebnahme	€ 1.500,00
FDA - E M	Elektromaterial	Pauschal	€ 100,00
FDA - D	Dokumentation	Prüfprotokoll und Fertigstellungsmeldung	€ 290,00
FDA-T	Transport mit Kranwagen	Preis pro Stunde (Zeit inkl. An- & Abfahrt)	€ 100,00
FDA -FK 1	Fahrtkostenaufpreis	ab 50km bis 100km Fahrtstrecke von Graz	€ 200,00
FDA -FK 2	Fahrtkostenaufpreis	ab 100km bis 200km Fahrtstrecke von Graz	€ 350,00

Irrtümer, Druckfehler und Preisänderungen vorbehalten

Netzzugangsvertrag

Technische Abklärung mit zuständigem Stromnetzbetreiber (Anfragen der möglichen PV-Leistung, Einholen des Zählpunkts) und Netzzugangsvertrag abschließen.
Leitungsauskunft z.B. www.stromnetz-graz.at

Bauanzeige bzw. Genehmigung

Mitteilung an die Gemeinde in der die Anlage errichtet wird (Bauanzeige bzw. Genehmigung), ggf. ist eine Elektrizitätsrechtliche Genehmigung notwendig, bzw. bei Freifläche ist oftmals eine Umwidmung der Fläche notwendig - Der Leitfaden zur Anlagenerrichtung in den Bundesländern fasst die Anforderungen je nach Bundesland übersichtlich zusammen – www.pvaustria.at.

Förderungen

Abklärung möglicher Förderungen - wir haben für Sie eine Übersicht der verfügbaren Förderungen auf Bundes- bzw. Landesebene zusammengestellt. www.oem-ag.at

Anlage errichten

Bestellung der Anlage und anschließende Errichtung der Anlage - Beachten Sie hier die Errichtungsfrist der Förderung!

Netzbetreiber

Wenn die PV-Anlage errichtet ist, ist der Netzbetreiber zu kontaktieren für die Netzparallelschaltung und die Installation eines eigenen Stromzählers. Eine Meldung an das Finanzamt ist innerhalb von vier Wochen ab Inbetriebnahme erforderlich bei Anlagen mit mehr als 25.000 kWh Eigenstromverbrauch.

Energieversorgers

Auswahl eines Energieversorgers, der Ihren überschüssigen PV-Strom abnimmt - ein Blick in unsere Plattform für Überschusseinspeiser unterstützt bei der Auswahl.

Elektriker

Abnahme und Inbetriebnahme durch den Elektriker

Steuerliche Beurteilung

Wer eine PV-Anlage betreibt und den Strom selbst nutzt (Eigenstromverbrauch) oder diesen weiterverkauft, muss sich auch mit dem österr. Steuerrecht befassen.
Versicherung: Prüfen Sie in der Haushaltsversicherung, ob die PV-Anlagen mitversichert werden kann.

VERSICHERUNG DER PV-ANLAGE

Eine PV-Anlage muss entweder in eine bestehende Versicherung integriert werden oder es braucht eine eigene Haftpflichtversicherung.

Technische Informationen für ein ANBOT:

1. Adresse – zur Bestimmung der Ausrichtung
2. Dachart und Foto der Oberfläche (Definition der Ziegel)
3. Dachgröße (u.U. Einreichplanung wenn vorhanden)
4. Stromanschluss Dimensionierung
5. Foto des Zählerkasten
6. Verkabelungsmöglichkeit vom Dach (Montageort der PV) zum Zählerschrank
7. Blitzschutz vorhanden?
8. Wünsche und Ideen

Wie oft muss eine PV-Anlage gewartet werden?

Hast du eine Photovoltaikanlage gekauft, lautet unsere Empfehlung, diese einmal jährlich von einem Profi durchchecken zu lassen. So kann vermieden werden, dass der Ertrag durch unentdeckte Beschädigungen verringert wird, und die Lebenszeit der Anlage wird verlängert. Manche Versicherer von PV-Anlagen bestehen außerdem auf einen Wartungsvertrag, um im Fall des Falles für Schäden aufzukommen. Dies musst du als Besitzer:in individuell mit deiner Versicherung vereinbaren. Zu einer professionellen Wartung gehört die Sichtkontrolle von:

- Solarmodulen (Überprüfung auf starke Verschmutzungen, Beschädigungen und korrekte Befestigung)
- Montagesystem (Überprüfung auf Beschädigungen und thermische oder mechanische Verspannungen)
- Leitungen und Kabeln (Überprüfung auf Beschädigungen, eindringende Feuchtigkeit oder Schmorstellen)
- Anschlusskasten (Überprüfung auf elektrische Sicherheit und eindringende Feuchtigkeit)
- *falls vorhanden*: PV-Speicher (Überprüfung auf korrekte Funktion)
- FI-Schutzschalter (Überprüfung auf korrekte Funktion)
- (Mikro-)Wechselrichter (Überprüfung auf korrekte Funktion)
- Bei **Flachdächern** mit Begrünung sollte 1x jährlich gemäht werden um Beschattung und eventuelle Brände (vertrocknete Pflanzen) zu vermeiden

Wenn im Zuge dessen kleine Schäden oder Abnutzungen festgestellt werden, sollten sie sofort repariert werden. Der beste Zeitpunkt für die jährliche Begutachtung ist im Frühling – so stellst du sicher, dass deine PV-Anlage in der sonnenintensiven Sommerzeit einwandfrei funktioniert.

Muss eine PV-Anlage gereinigt werden?

Jein – Regen erledigt den Löwenanteil bereits von selbst. Doch ab und an ist dennoch eine Reinigung vonnöten, denn Regen kann ausbleiben, die Dachneigung zu gering sein oder hartnäckiger Vogelkot zu gefürchteten Hot-Spots führen. Blitzblanke Solarmodule bringen höhere Stromerträge mit sich und auch der Wartung ist ein sauberer Zustand zuträglich. Mögliche Verunreinigungen, die zu einer Ertragsminderung führen, können sein:

- Vogelkot
- Insekten
- Blätter
- Federn
- Feinstaub
- Ruß
- Sand
- Pollen

Zudem können an schmutzigen Stellen Pilze, Flechten und Moose entstehen. Verschmutzungen wirken wie Verschattungen und feste Ablagerungen wie etwa Vogelkot können den sogenannten Hot-Spot-Effekt verursachen: Der ungleiche Lichteinfall führt zu starker Erhitzung der Module, die im Extremfall sogar zum Brand führen kann. Bei einer regelmäßigen Reinigung kannst du außerdem gleich nach dem Rechten sehen und entdeckst mögliche Beschädigungen frühzeitig.

Wann ist der beste Zeitpunkt für die Reinigung einer PV-Anlage?

Der ideale Zeitpunkt für eine Reinigung ist ein bewölkter oder regnerischer Tag im Frühling. An heißen Sommertagen wäre der Temperaturunterschied zwischen Wischwasser und der Oberfläche der Module zu groß,

was zu Beschädigungen führen kann. Außerdem würde an einem Sonnentag die Stromgewinnung für den Zeitraum der Reinigung ausfallen – das muss nicht sein.

Womit reinigt man eine PV-Anlage?

Die Reinigung von Profis durchführen zu lassen, lohnt sich in den meisten Fällen. Mit der richtigen Ausrüstung kannst du deine Solarmodule aber auch selbst reinigen. Du benötigst dafür Folgendes:

- Reinigungsmittel, die die Beschichtung der Solarmodule nicht beschädigen
- lange Teleskopleitern und -stangen oder ein Gerüst
- Arbeitshandschuhe, damit du dich nicht verletzt
- einen nassen Schwamm oder ein weiches, feuchtes Tuch für locker sitzenden Schmutz wie Staub und Pollen
- im Winter: einen weichen Besen, um Schnee zu entfernen

Behandle angetrockneten Schmutz, Pilze oder Pflanzen keinesfalls mit harten Bürsten oder einem Hochdruckreiniger! Dies könnte zu Schäden an Oberflächen, Rahmen und Montagegestell der Anlage führen. Rücke Verkrustungen mit fließendem Wasser aus dem Gartenschlauch und einem milden Reiniger zu Leibe. Nur Geduld, eine sanfte Reinigung ist ebenso effektiv und die Lebensdauer der Solarmodule wird so verlängert. Wichtig: Betrete niemals die Solarmodule und überprüfe noch vor der Reinigung die Elektroanschlüsse. Achte auch unbedingt auf deine eigene Sicherheit und überlass die Aufgabe im Zweifelsfall doch Profis mit Absturzsicherung!

Muss eine PV-Anlage von Schnee befreit werden?

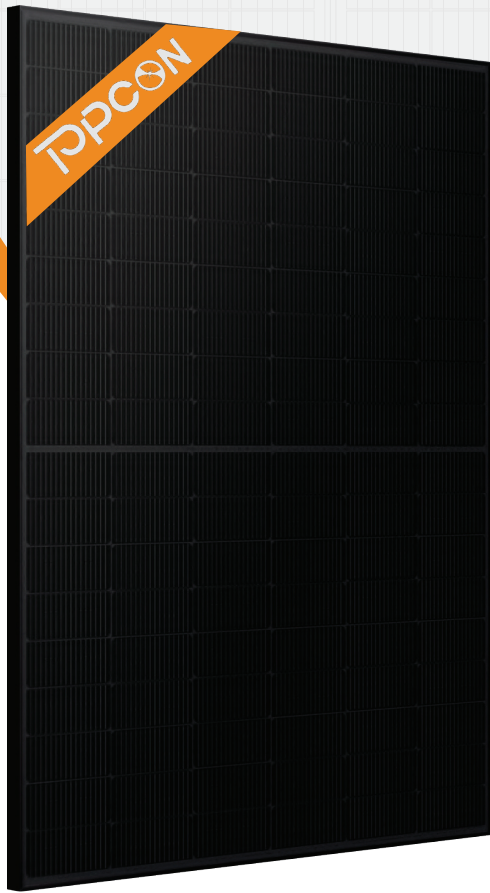
Da Solarmodule sich auch im Winter auf bis zu 25 Grad aufheizen, schmelzen auftreffende Schneeflocken in den meisten Fällen schnell weg. Dazu kommt, dass die Module meist in einem Winkel aufgestellt sind. Dieser sorgt dafür, dass Schnee gut abrutscht. Sollte sich doch einmal auf den Paneelen eine Schneedecke bilden, weil es viel und heftig schneit, gilt: Je weniger, desto mehr Stromproduktion. Im Falle von sehr starkem Schneefall, der das Liegenbleiben einer Schneedecke bedingt, kann nämlich kein Strom mehr produziert werden. Dann ist es also nötig, die Module von Schnee zu befreien. Dafür eignet sich zum Beispiel ein weicher Teleskopbesen – benutze keinesfalls eine Schneeschaufel oder einen harten Haushaltsbesen, diese können die Module beschädigen. Und achte vor allem, genau wie bei der Reinigung der Anlage, besonders auf deine Sicherheit! Schnee und Eis erhöhen die Gefahr, bei der Arbeit auszurutschen, um ein Vielfaches. Auch hier gilt: Im Zweifelsfall ein entsprechend ausgerüstetes Unternehmen engagieren - oder einfach ein wenig Geduld haben, bis der Schnee von selbst abgetaut ist.

Steigt die Gefahr von Dachlawinen durch PV-Module?

In schneereichen Gebieten ist das durchaus möglich. Hier kann aber mit Schneebremsen oder Schneefangvorrichtungen Abhilfe geschaffen werden. Lass dich bei der Installation deiner PV-Anlage beraten, welche Vorkehrungen du bei deinem Haus treffen kannst.



Solar Module



108
HEX7

BSM450M10-54HNH 425-450W

**HALF CELL TOPCON
BIFACIAL**

BLUESUN SOLAR CO.,LTD

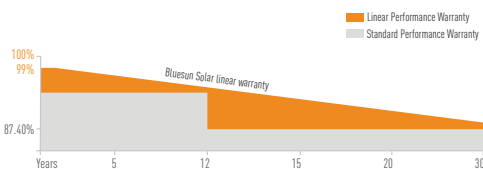
Bluesun, founded in 2004, as a superior photovoltaic manufacturer, is devoted to the R&D and the production of crystalline silicon solar cells and modules for 17 years. The company has its sales areas spread all over more than 100 countries and regions in the world, and the cumulative historical shipments exceeded 12 GW.

PERFORMANCE WARRANTY

12 Enhanced Product Warranty on Materials and Workmanship.

30 Linear Power Performance Warranty*

0.4 Annual Degradation Over 30 years no more than 0.4%



*According to the applicable Bluesun Solar Limited Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES

ISO 9001:2015 / Quality management system

ISO 14001:2015 / Standards for environmental

ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES

IEC 61215 / IEC 61730 / CE



THE IDEAL SOLUTION FOR:

 Rooftop arrays on residential buildings

 Ground-mounted solar power plants



High module conversion efficiency

MBB Half Cell Technology, Module efficiency up to 23.04%



Withstanding harsh environment

Reliable quality leads to a better sustainability even in harsh environment like desert, farm and coastline



PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control



Excellent weak light performance

More power output in weak light condition, such as cloudy, morning and sunset



Extended wind and snow load tests

Module certified to withstand extreme wind (2400 Pa) and snow loads (5400 Pa)

SPECIFICATIONS

Module Type	BSM425M10-54HNH		BSM430M10-54HNH		BSM435M10-54HNH		BSM440M10-54HNH		BSM445M10-54HNH		BSM450M10-54HNH	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (P _{max} /W)	425	320	430	324	435	328	440	332	445	336	450	340
Operating Voltage (V _{mp} /V)	31.69	29.5	31.87	29.66	32.06	29.82	32.25	29.98	32.44	30.14	32.63	30.30
Operating Current (I _{mp} /A)	13.42	10.85	13.50	10.92	13.58	11.00	13.66	11.08	13.74	11.16	13.82	11.24
Open-Circuit Voltage (V _{oc} /V)	38.29	36.40	38.48	36.56	38.67	36.72	38.86	36.88	39.05	37.04	39.24	37.20
Short-Circuit Current (I _{sc} /A)	14.16	11.43	14.24	11.49	14.32	11.55	14.40	11.61	14.48	11.67	14.56	11.73
Module Efficiency η _m (%)	21.76		22.02		22.28		22.53		22.79		23.04	

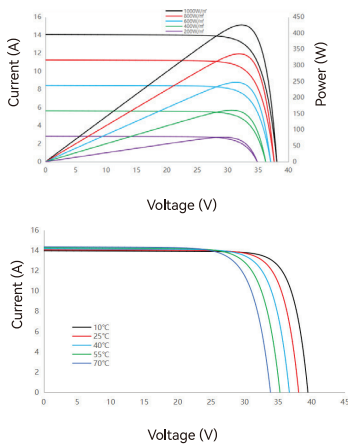
STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5

NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

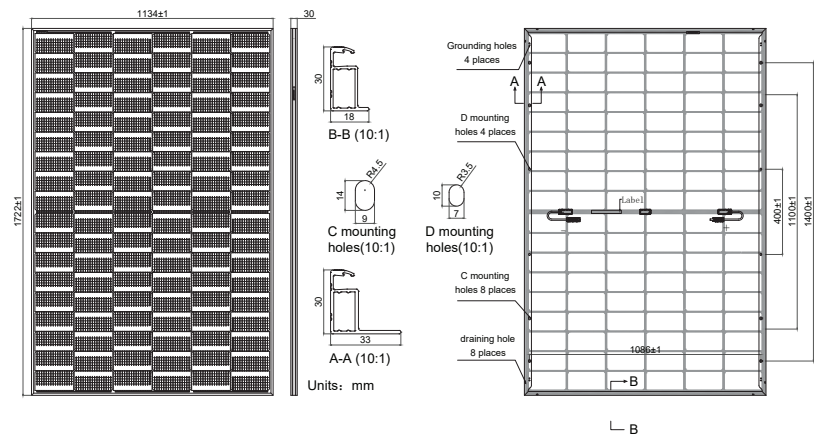
Electrical characteristics with different rear side power gain (refer to 425W front)

Power Gain	5%	10%	15%	20%	25%
Maximum Power (P _{max} /W)	446	468	489	510	531
Open-Circuit Voltage (V _{oc} /V)	38.29	38.29	38.29	38.39	38.39
Operating Voltage (V _{mp} /V)	32.12	32.12	32.12	32.13	32.13
Short-Circuit Current (I _{sc} /A)	14.59	15.15	15.69	16.25	16.81
Operating Current (I _{mp} /A)	13.89	14.58	15.23	15.88	16.53

I-V CURVE



ENGINEERING DRAWINGS



MECHANICAL SPECIFICATION

Cell Type	N-type Topcon
Cell Arrangement	108 (6*18)
Weight	22.0kg
Module Dimensions	1722*1134*30mm
Cable Length	+400mm, -200mm or ± 1200mm, length can be customized
Cable Cross Section Size	TUV: 4mm ² (0.006inches ²)/UL: 12AWG
Front Glass	2.0mm high transmittance, AR coated tempered Glass
Rear Glass	2.0mm high transmittance, coated tempered Glass
No. of Bypass Diodes	3
Packing Configuration	36pcs/carton, 936pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

OPERATING CONDITIONS

Maximum System Voltage	1500V DC(IEC)
Operating Temperature	-40°C~ +85°C
Maximum Series Fuse	30A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	T01/LJQ-3-CSY/MC4/MC4-EVO2
Backside Output Ratio*	80%±5%
*Under STC: Backside Output Ratio = P _{max} (rear) / P _{max} (front)	

TEMPERATURE COEFFICIENT

Temperature Coefficient P _{max}	-0.30%/°C
Temperature Coefficient V _{oc}	-0.25%/°C
Temperature Coefficient I _{sc}	+0.046%/°C
NMOT	45±2°C

*Data contained in these specifications is subject to change without notice. Bluesun Solar reserves the right to final interpretation of content.



182
HEX5
MONOFACIAL MODULE

BSM425G12-54HPH

405~425W

HALF CELL PERC

BLUESUN SOLAR CO.,LTD

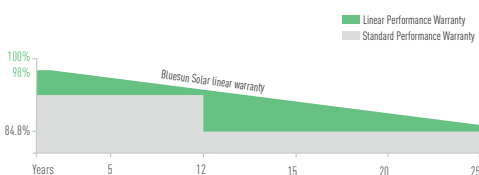
Bluesun, founded in 2004, as a superior photovoltaic manufacturer, is devoted to the R&D and the production of crystalline silicon solar cells and modules for 17 years. The company has its sales areas spread all over more than 100 countries and regions in the world, and the cumulative historical shipments exceeded 12 GW.

PERFORMANCE WARRANTY

12 Enhanced Product Warranty on Materials and Workmanship.

25 Linear Power Performance Warranty*

0.55% Annual Degradation Over 25 years no more than 0.55%



*According to the applicable Bluesun Solar Limited Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES

ISO 9001:2015 / Quality management system

ISO 14001:2015 / Standards for environmental

ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES

IEC 61215 / IEC 61730 / CE / UL1703



THE IDEAL SOLUTION FOR:



Rooftop arrays on residential buildings



High module conversion efficiency

MBB Half Cell Technology, new circuit design, lower internal current, lower Rs loss



Withstanding harsh environment

Reliable quality leads to a better sustainability even in harsh environment like desert, farm and coastline



PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control



Excellent weak light performance

More power output in weak light condition, such as cloudy, morning and sunset



Extended wind and snow load tests

Module certified to withstand extreme wind (2400 Pa) and snow loads (5400 Pa)

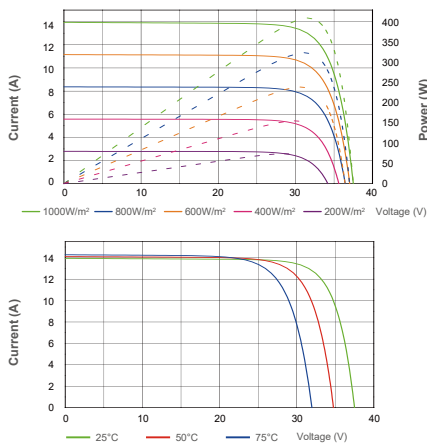
SPECIFICATIONS

Module Type	BSM405G12-54HPH		BSM410G12-54HPH		BSM415G12-54HPH		BSM420G12-54HPH		BSM425G12-54HPH	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	405	302	410	306	415	310	420	314	425	318
Operating Voltage (Vmp/V)	31.24	29.2	31.43	29.3	31.64	29.6	31.83	29.8	32.03	30.0
Operating Current (Imp/A)	12.97	10.36	13.05	10.42	13.13	10.48	13.21	10.54	13.29	10.60
Open-Circuit Voltage (Voc/V)	37.25	35.10	37.50	35.30	37.75	35.50	38.00	35.70	38.25	35.90
Short-Circuit Current (Isc/A)	13.86	11.17	13.94	11.24	14.02	11.30	14.10	11.36	14.18	11.42
Module Efficiency η (%)	20.7		21.0		21.3		21.5		21.7	

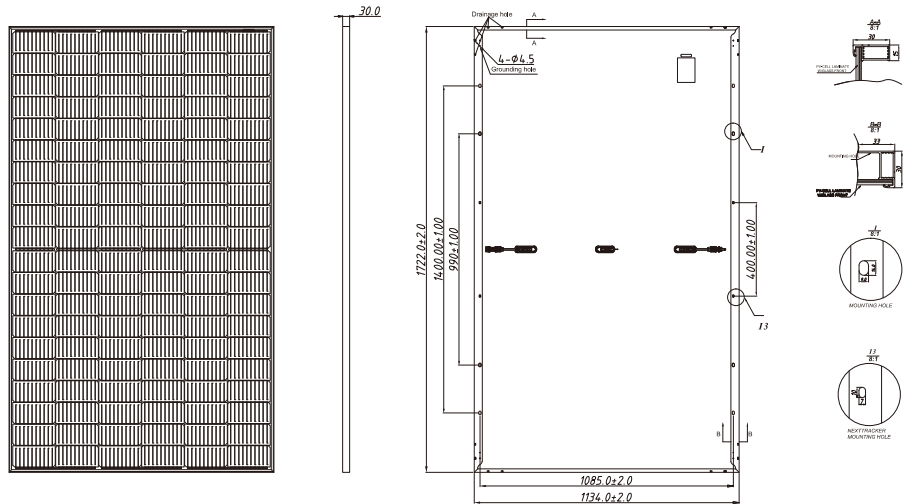
STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

I-V CURVE

BSM410G12-54HPH



ENGINEERING DRAWINGS



MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	182*182mm
Cell Arrangement	108 (6*18)
Weight	21.5kg
Module Dimensions	1722*1134*30mm
Cable Length	300mm or 1200mm
Cable Cross Section Size	TUV: 4mm ² (0.006inches ²)/UL: 12AWG
Front Glass	3.2mm (0.13inches) AR Coating Tempered Glass
No. of Bypass Diodes	3
Packing Configuration	36pcs/carton, 936pcs/40hq(EU),828pcs/40hq(USA)
Frame	Anodized Aluminium Alloy
Junction Box	IP68

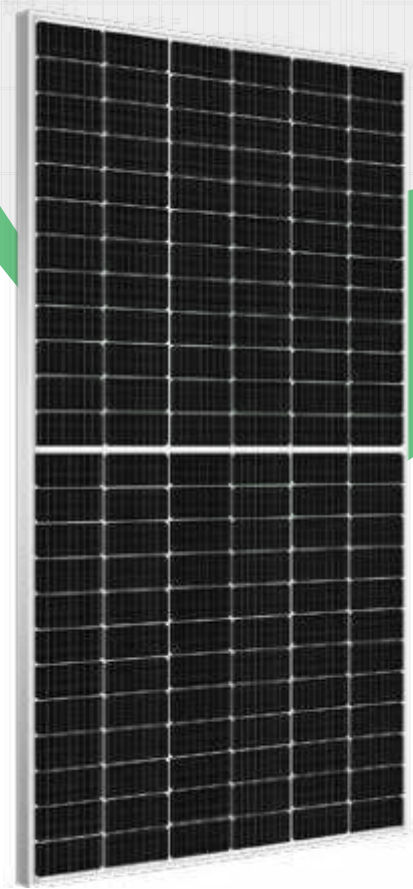
OPERATING CONDITIONS

Maximum System Voltage	1000V/1500V/DC(IEC)
Operating Temperature	-40°C~ +85°C
Maximum Series Fuse	25A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	T01/LJQ-3-CSY/MC4/MC4-EVO2

TEMPERATURE COEFFICIENT

Temperature Coefficient Pmax	-0.35%/°C
Temperature Coefficient Voc	-0.26%/°C
Temperature Coefficient Isc	+0.048%/°C
NMOT	43±2°C

*Data contained in these specifications is subject to change without notice. Bluesun Solar reserves the right to final interpretation of content.



182
HEX5
MONOFACIAL

BSM560M10-72HPH

540~560W

HALF CELL PERC

BLUESUN SOLAR CO.,LTD

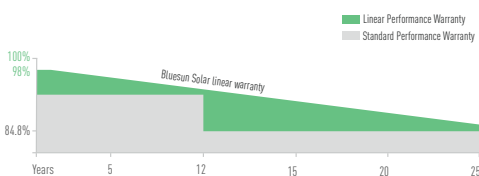
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PERFORMANCE WARRANTY

12 Enhanced Product Warranty on Materials and Workmanship.

25 Linear Power Performance Warranty*

0.55% Annual Degradation Over 25 years no more than 0.55%



*According to the applicable Bluesun Solar Limited Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES

ISO 9001:2015 / Quality management system

ISO 14001:2015 / Standards for environmental

ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES

IEC 61215 / IEC 61730 / TÜV



THE IDEAL SOLUTION FOR:

 Rooftop arrays on residential buildings

 Ground-mounted solar power plants



High module conversion efficiency

MBB Half Cell Technology, Module efficiency up to 21.68%



Withstanding harsh environment

Reliable quality leads to a better sustainability even in harsh environment like desert, farm and coastline



PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control



Excellent weak light performance

More power output in weak light condition, such as cloudy, morning and sunset



Extended wind and snow load tests

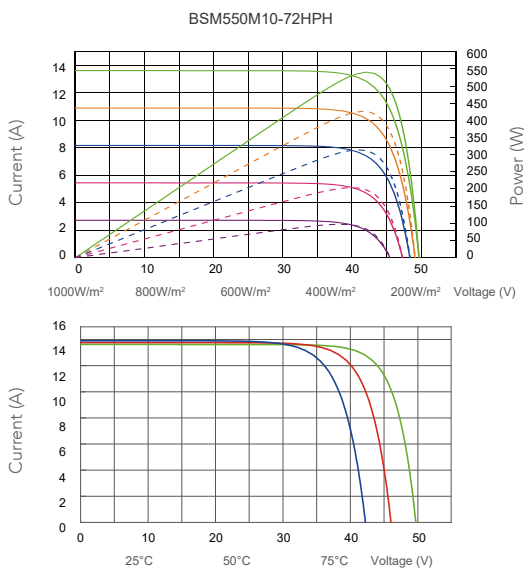
Module certified to withstand extreme wind (2400 Pa) and snow loads (5400 Pa)

SPECIFICATIONS

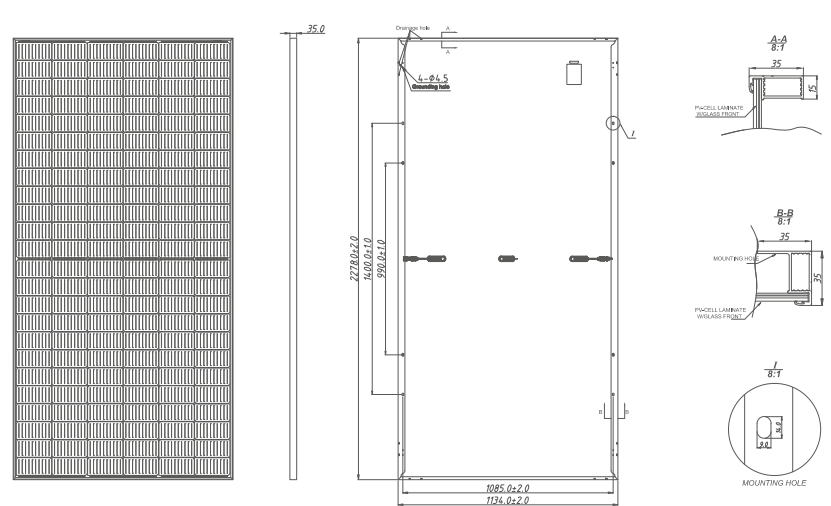
Module Type	BSM540M10-72HPH		BSM545M10-72HPH		BSM550M10-72HPH		BSM555M10-72HPH		BSM560M10-72HPH	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	540	402	545	406	550	410	555	413	560	416
Operating Voltage (Vmp/V)	41.96	38.29	42.06	38.35	42.16	38.43	42.24	38.52	42.33	38.59
Operating Current (Imp/A)	12.87	10.50	12.96	10.58	13.05	10.66	13.14	10.73	13.23	10.80
Open-Circuit Voltage (Voc/V)	49.60	46.12	49.70	46.21	49.80	46.31	49.90	46.40	50.00	46.49
Short-Circuit Current (Isc/A)	13.74	11.10	13.84	11.18	13.94	11.27	14.04	11.34	14.14	11.42
Module Efficiency $\eta_m(\%)$	20.90		21.10		21.30		21.49		21.68	

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

I-V CURVE



ENGINEERING DRAWINGS



MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	182*91mm
Cell Arrangement	144 (6*24)
Weight	28.6kg
Module Dimensions	2278*1134*35mm
Cable Length	Portrait 300mm/Landscape 1200mm/Customized
Cable Cross Section Size	TUV: 4mm ² (0.006inches ²)/UL: 12AWG
Front Glass	3.2mm (0.13inches) AR Coating Tempered Glass
No. of Bypass Diodes	3
Packing Configuration	31pcs/carton, 620pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

OPERATING CONDITIONS

Maximum System Voltage	1000/1500V/DC(IEC)
Operating Temperature	-40°C~ +85°C
Maximum Series Fuse	25A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	T01/LJQ-3-CSY/MC4/MC4-EVO2

TEMPERATURE COEFFICIENT

Temperature Coefficient Pmax	-0.36%/°C
Temperature Coefficient Voc	-0.29%/°C
Temperature Coefficient Isc	+0.048%/°C
NMOT	45±2°C

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BSM440PMB7-46SC

420~440W

SHINGLED PERC

BLUESUN SOLAR CO.,LTD

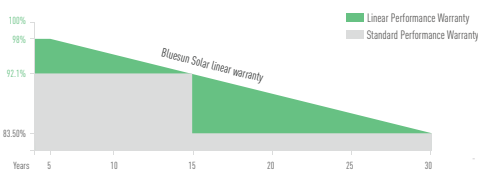
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PERFORMANCE WARRANTY

15 Enhanced Product Warranty on Materials and Workmanship.

30 Linear Power Performance Warranty*

0.55% Annual Degradation Over 30 years no more than 0.55%



*According to the applicable Bluesun Solar Limited Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES

ISO 9001:2015 / Quality management system

ISO 14001:2015 / Standards for environmental

ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES

IEC 61215 / IEC 61730 / CE



THE IDEAL SOLUTION FOR:



Rooftop arrays on residential buildings



Shingled Technology

Innovative structure, low -temperature adhesive bonding, high-density layout



Beautiful Appearance

Deep black, uniform layout, better aesthetic



Compact Design

Upto 440Wp output within 2m², perfect for residential rooftop



Low System Cost

High module efficiency, reducing system cost



Low Shading Loss

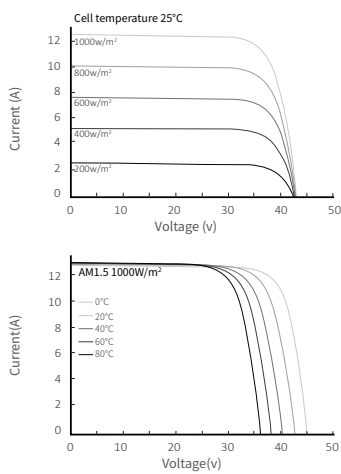
Full parallel arrangement brings high effective power generation hours

SPECIFICATIONS

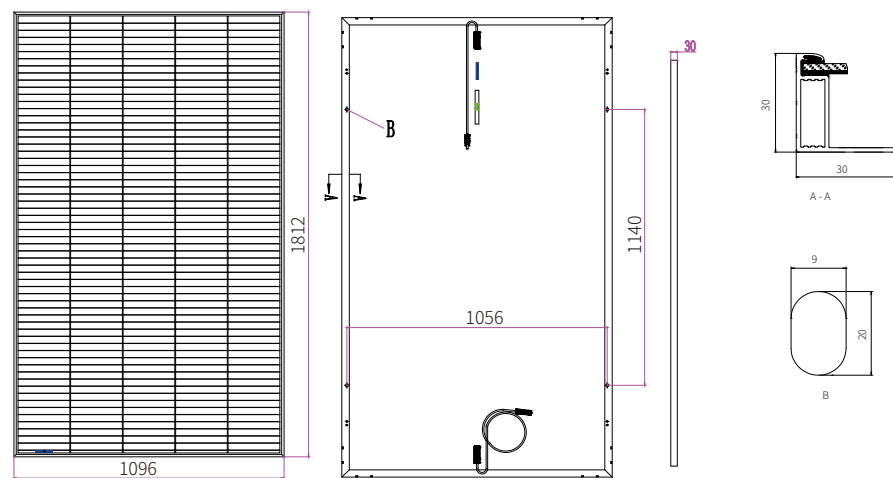
Module Type	BSM420PMB7-46SC		BSM425PMB7-46SC		BSM430PMB7-46SC		BSM435PMB7-46SC		BSM440PMB7-46SC	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	420	316	425	320	430	324	435	328	440	332
Operating Voltage (Vmp/V)	34.5	32.9	34.6	33.0	34.7	33.1	34.8	33.2	34.9	33.3
Operating Current (Imp/A)	12.19	9.62	12.30	9.70	12.39	9.79	12.50	9.88	12.60	9.97
Open-Circuit Voltage (Voc/V)	41.6	39.7	41.7	39.8	41.8	39.9	41.9	40.0	42.0	40.1
Short-Circuit Current (Isc/A)	12.92	10.41	13.03	10.50	13.14	10.60	13.26	10.71	13.37	10.82
Module Efficiency η (%)	21.1		21.4		21.7		21.9		22.2	

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

I-V CURVE



ENGINEERING DRAWINGS



MECHANICAL SPECIFICATION

Cell Type	Mono-crystalline solar cell
Weight	21.2kg
Module Dimensions	1812*1096*30mm
Cable Length	+300mm/-1000(Vertical) +220mm/-180mm(Horizontal)
Cable Cross Section Size	TUV: 4mm ² (0.006inches ²)/UL: 12AWG
Front Glass	3.2mm (0.13inches) AR Coating Tempered Glass
No. of Bypass Diodes	2
Packing Configuration	36pcs/carton, 924pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

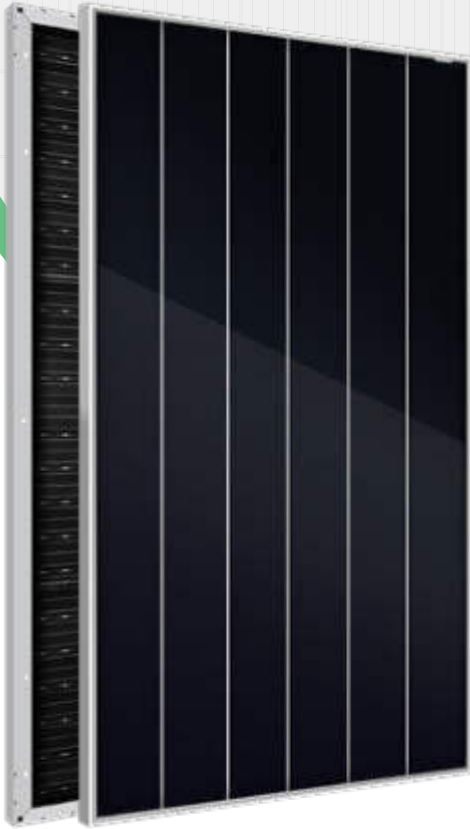
OPERATING CONDITIONS

Maximun System Voltage	1500/1000V DC(IEC)
Operating Temperature	-40°C~ +85°C
Maximun Series Fuse	25A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	T01/LJQ-3-CSY/MC4/MC4-EVO2

TEMPERATURE COEFFICIENT

Temperature Coefficient Pmax	-0.34%/°C
Temperature Coefficient Voc	-0.27%/°C
Temperature Coefficient Isc	+0.04%/°C
NMOT	42.3±2°C

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QUA ULTRA
BIFACIAL MODULE

BSM700PMB6-70SDC

675~700W

SHINGLED PERC

BIFACIAL

210 cell

N-Type

HJT

BLUESUN SOLAR CO.,LTD

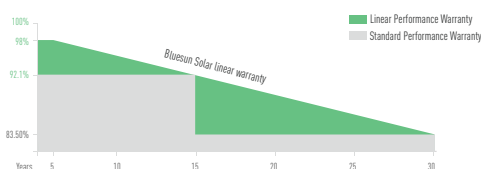
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PERFORMANCE WARRANTY

15 Enhanced Product Warranty on Materials and Workmanship.

30 Linear Power Performance Warranty*

0.45% Annual Degradation Over 30 years no more than 0.45%



*According to the applicable Bluesun Solar Limited Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES

ISO 9001:2015 / Quality management system

ISO 14001:2015 / Standards for environmental

ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES

IEC 61215 / IEC 61730 / CE



THE IDEAL SOLUTION FOR:



Ground-mounted solar power plants



Shingled Technology

Innovative structure, low -temperature adhesive bonding, high-density layout



Beautiful Appearance

Uniform layout, better aesthetic



Superior safety and Reliability

No hidden welding crack, low operating temperature, high pressure resistance



Low System Cost

High module efficiency, reducing system cost



Low Shading Loss

Full parallel arrangement brings high effective power generation hours

SPECIFICATIONS

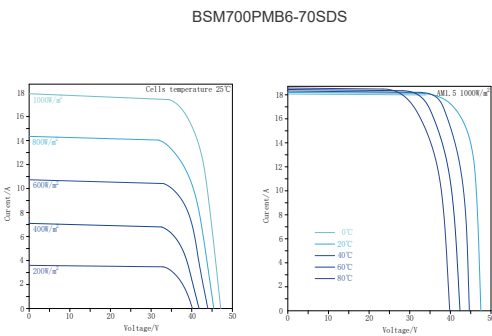
Module Type	BSM675PMB6-70SDC		BSM680PMB6-70SDC		BSM685PMB6-70SDC		BSM690PMB6-70SDC		BSM695PMB6-70SDC		BSM700PMB6-70SDC	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (P _{max} /W)	675	508	680	512	685	516	690	520	695	524	700	527
Operating Voltage (V _{mp} /V)	39.20	37.40	39.30	37.50	39.40	37.60	39.50	37.70	39.60	37.80	39.60	37.80
Operating Current (I _{mp} /A)	17.23	13.62	17.32	13.70	17.41	13.78	17.49	13.86	17.57	13.94	17.68	14.22
Open-Circuit Voltage (V _{oc} /V)	47.20	45.00	47.30	45.10	47.40	45.20	47.50	45.30	47.60	45.40	47.70	45.50
Short-Circuit Current (I _{sc} /A)	18.32	14.77	18.41	14.85	18.50	14.93	18.59	15.01	18.68	15.09	18.80	14.69
Module Efficiency η _m (%)	21.90		22.10		22.30		22.50		22.60		22.81	

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

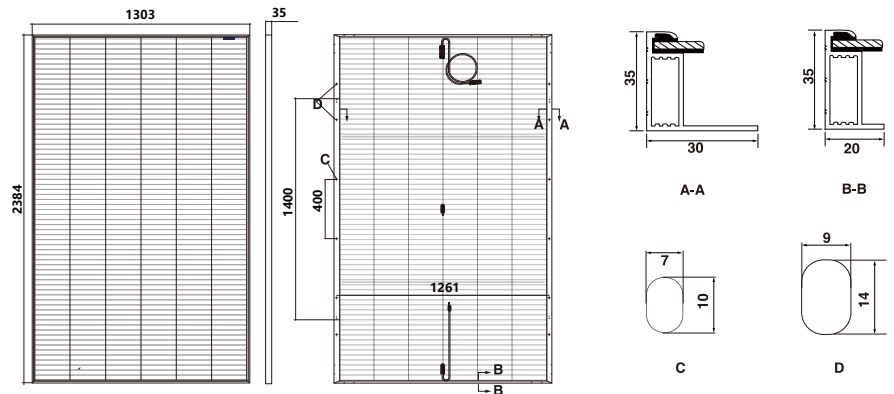
Electrical characteristics with different rear side power gain (refer to 700W front)

P _{max} gain	P _{max} /W	V _{mp} /V	I _{mp} /A	V _{oc} /V	I _{sc} /A
5%	735	39.6	18.56	47.7	19.74
10%	770	39.6	19.45	47.7	20.68
15%	805	39.6	20.33	47.7	21.62
20%	840	39.6	21.22	47.8	22.56
25%	875	39.6	22.10	47.8	23.50

I-V CURVE



ENGINEERING DRAWINGS



MECHANICAL SPECIFICATION

Cell Type	N-Type Monocrystalline
Cell Dimensions	210*210mm
Weight	39.0kg
Module Dimensions	2384*1303*35mm
Cable Length	Portrait 300mm/Landscape 1200mm/Customized
Cable Cross Section Size	TUV: 4mm ² (0.006inches ²)/UL: 12AWG
Front Glass	2.0 mm (0.08 inches) AR Coating Tempered Glass
Back Glass	2.0mm (0.08 inches) Glazed Semi-tempered Glass
No. of Bypass Diodes	3
Packing Configuration	31pcs/carton, 558pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

OPERATING CONDITIONS

Maximum System Voltage	1500V/DC(IEC)
Operating Temperature	-40°C~ +85°C
Maximum Series Fuse	30A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	T01/LJQ-3-CSY/MC4/MC4-EVO2
Backside Output Ratio*	70%±5%

*Under STC: Backside Output Ratio= P_{max(rear)} / P_{max(front)}

TEMPERATURE COEFFICIENT

Temperature Coefficient P _{max}	-0.35%/°C
Temperature Coefficient V _{oc}	-0.26%/°C
Temperature Coefficient I _{sc}	+0.048%/°C
NMOT	43±2°C

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Montagesysteme

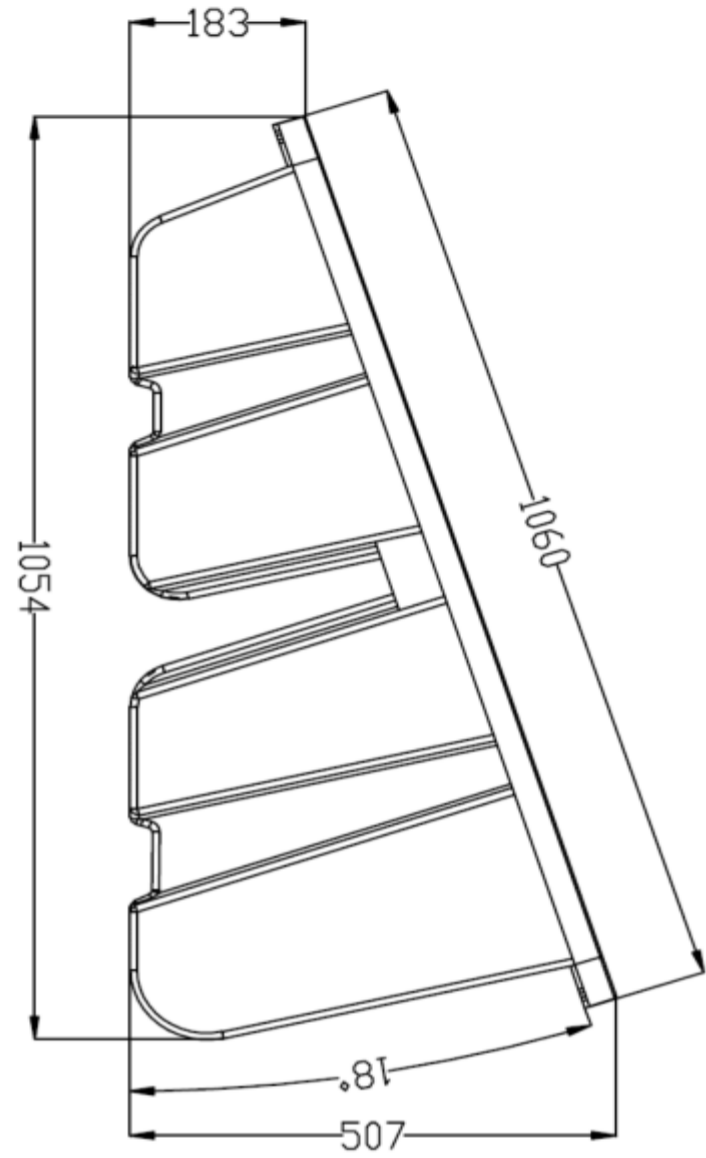
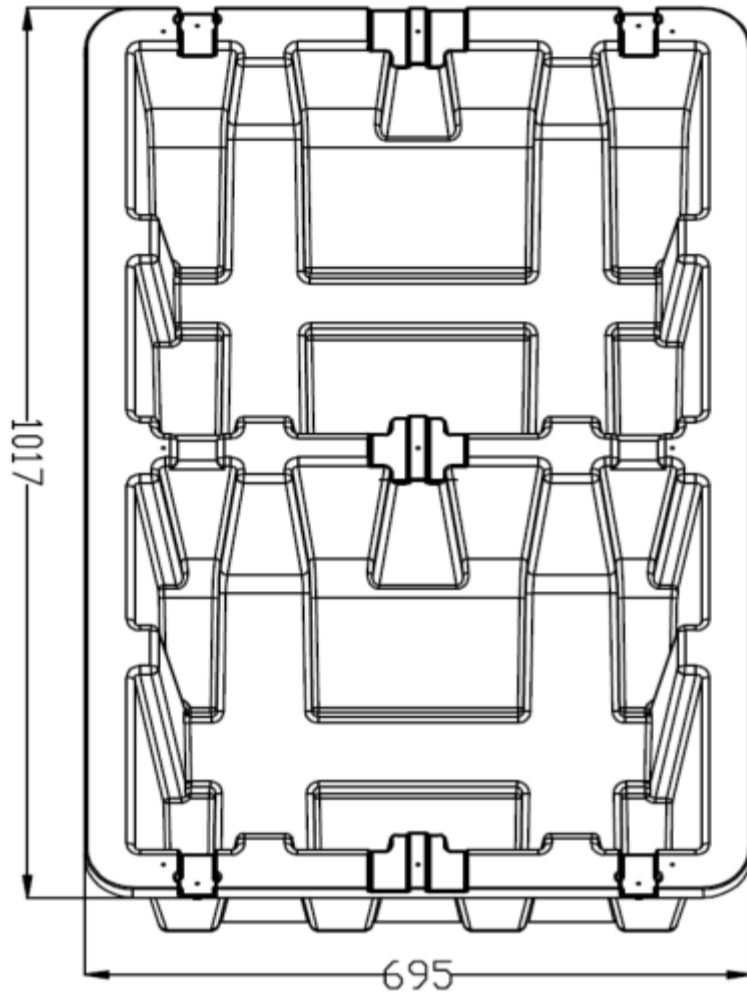
exklusive Module

Panelhalterung

Flachdach

Material Kunststoff

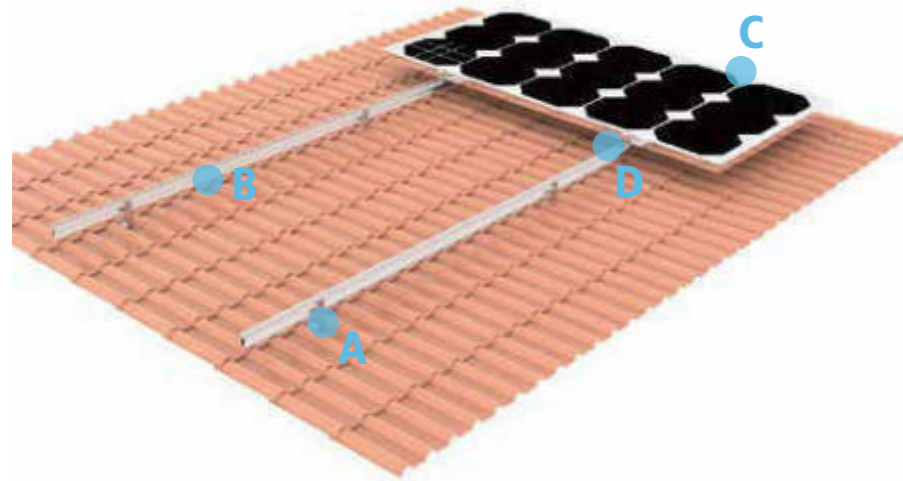
CE Zertifiziert



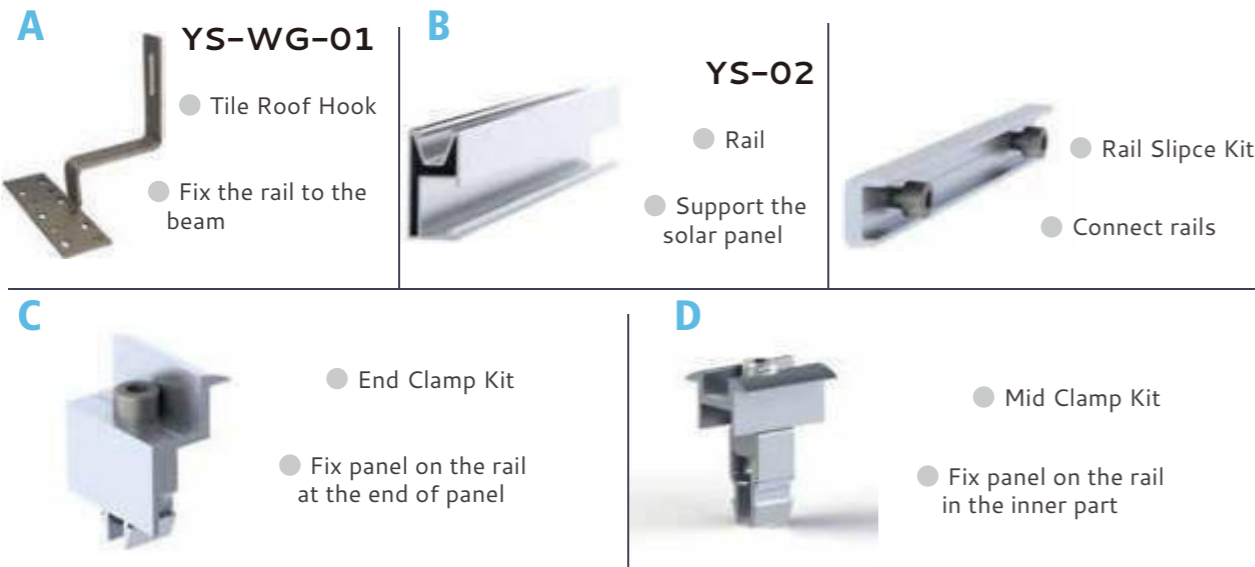


RP-1 Pitched Tile Roof Mounting

RP-1 Pitched Tile Roof Mounting is suitable for installing framed and frameless modules on the pitched roof with high strength and excellent stability. Different hooks are compatible with various tile roofs.



COMPONENTS PARTS



BRIEF INTRODUCTION

- Install Site: Pitched Tile Roof
- Material: AL 6005-T5 & Stainless Steel 304
- Max. Wind Speed: 60m/s
- Warranty: 12 years warranty; 25 years service life
- Snow Load: 1,4KN/m²

Tile Hook Types



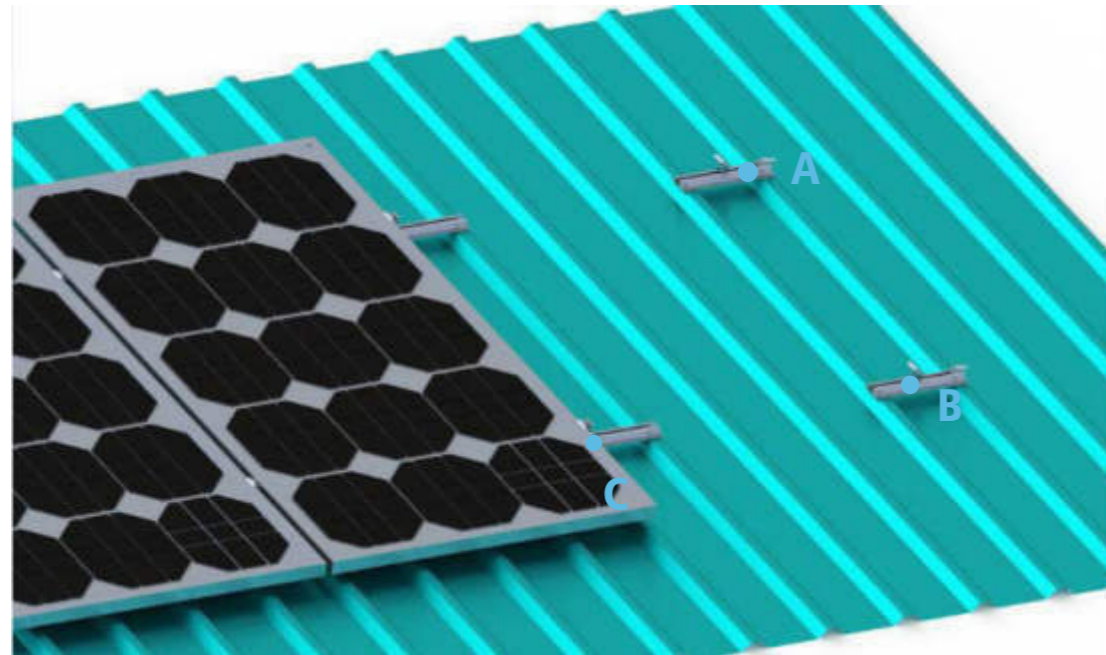
PROJECT SOLUTION

BOM List for a project with 500W:

ITEMS	DESC.	QTY.
Solar Panel	1640*992*40mm	2pcs.
Rail	L=2104mm	2pcs.
Hook		6pcs.
MidClamp	L=40mm	2pcs.
End Clamp	L=40mm	4pcs.
Grounding Washer	L=40mm	2pcs.
Grounding Lug	L=16mm	2pcs.
Cable		acc. to demand

RP-5 Trapezoidal Roof Mounting

RP-5 The panels are fixed on trapezoidal roof sheet with short rail and clamps directly. The clever design ensures minimal installation time. The higher rail improves the heat dissipation and makes it be suitable for tropical zone.



BRIEF INTRODUCTION

- Install Site: Trapezoidal Roof (Both available for Landscape & Potrait)
- Snow Load: **1,4**KN/m²
- Max. Wind Speed: **60**m/s
- The length of "a" should be more than 20mm
- Material: AL 6005-T5 & Stainless Steel 304
- Warranty: **12** years warranty; **25** years service life
- The short rails will be installed on the trapezoidal part "a" of the roof
- Fixing: The short rails will be fixed on roof with 4 pcs self-tapping screws

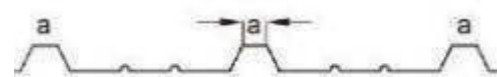
PROJECT SOLUTION

BOM List for a project with 1500W:

ITEMS	DESC.	QTY.
Solar Panel	1640*992*40mm	6pcs.
Short Rail	L=280mm	16pcs.
MidClamp	L=40mm	8pcs.
End Clamp	L=40mm	8pcs.
Cable		acc. to demand

Application Roof

a > 20mm



OPTIONAL SHORT RAIL KIT



YS-116-JJ



YS-103

COMPONENTS PARTS

A YS-150



- Short Rail Kit
- Support panels

B



- End Clamp Kit
- Fix panel on the rail at the end of panel

C



- Mid Clamp Kit
- Fix panel on the rail in the inner part

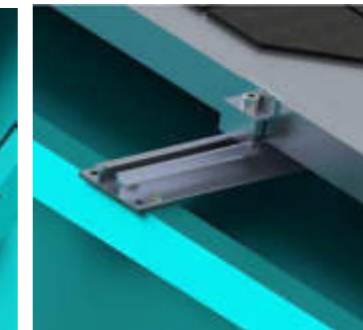
BRIEF INSTALLATION GUIDE



1. Fix rail to the roof sheet with self-tapping screws



2. Put the panels onto the rails



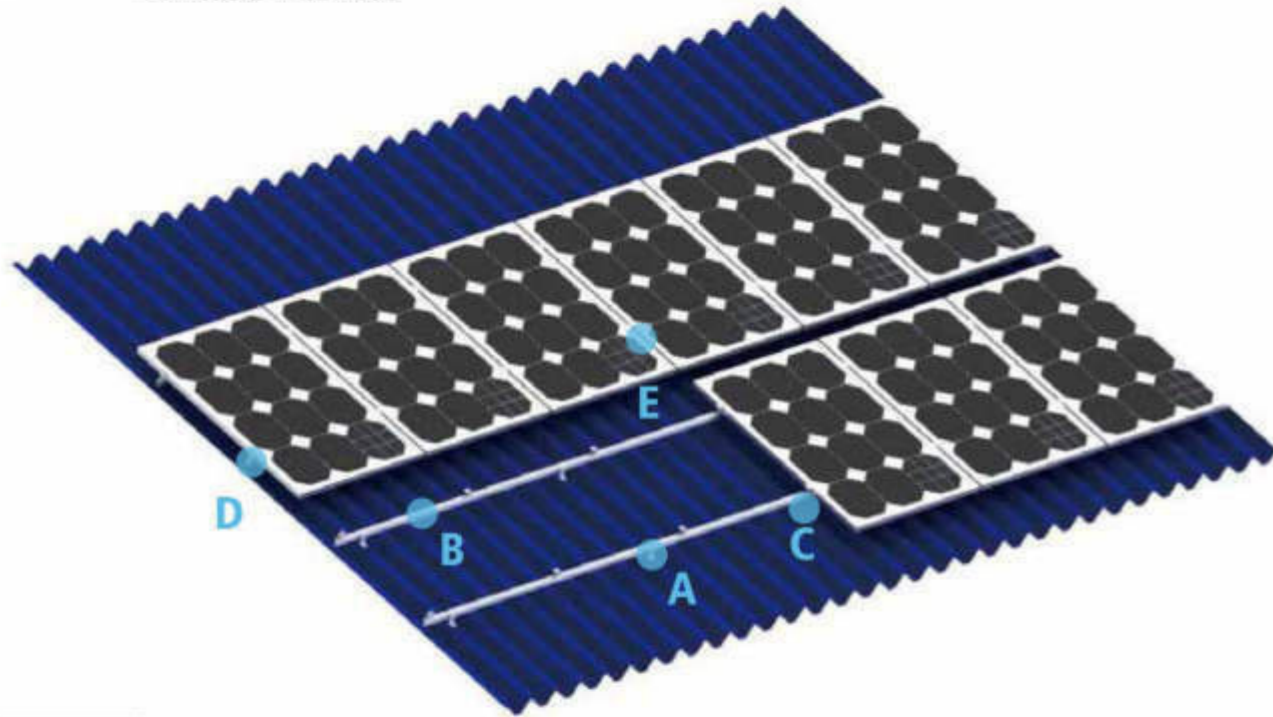
3. Fix the panels with clamps



4. Fix all the panels and clamps and then installation will be finished

RP-2 METAL /Asbestos Roof Mounting

RP-2 Metal /Asbestos Roof Mounting is designed with patented and innovative rail, standard components and highly pre-assembled clamps, which make the installation to be simple with great flexibility.



BRIEF INTRODUCTION

- Install Site: Pitched Tin Roof
- Material: AL 6005-T5 & Stainless Steel 304
- Max. Wind Speed: 60m/s
- Warranty: 12 years warranty; 25 years service life
- Snow Load: 1,4KN/m²

RELATED HOOKS



YS-WG-36



YS-145



YS-22-Z



YS-WG-13

COMPONENTS PARTS



Application Roof



Project Solution

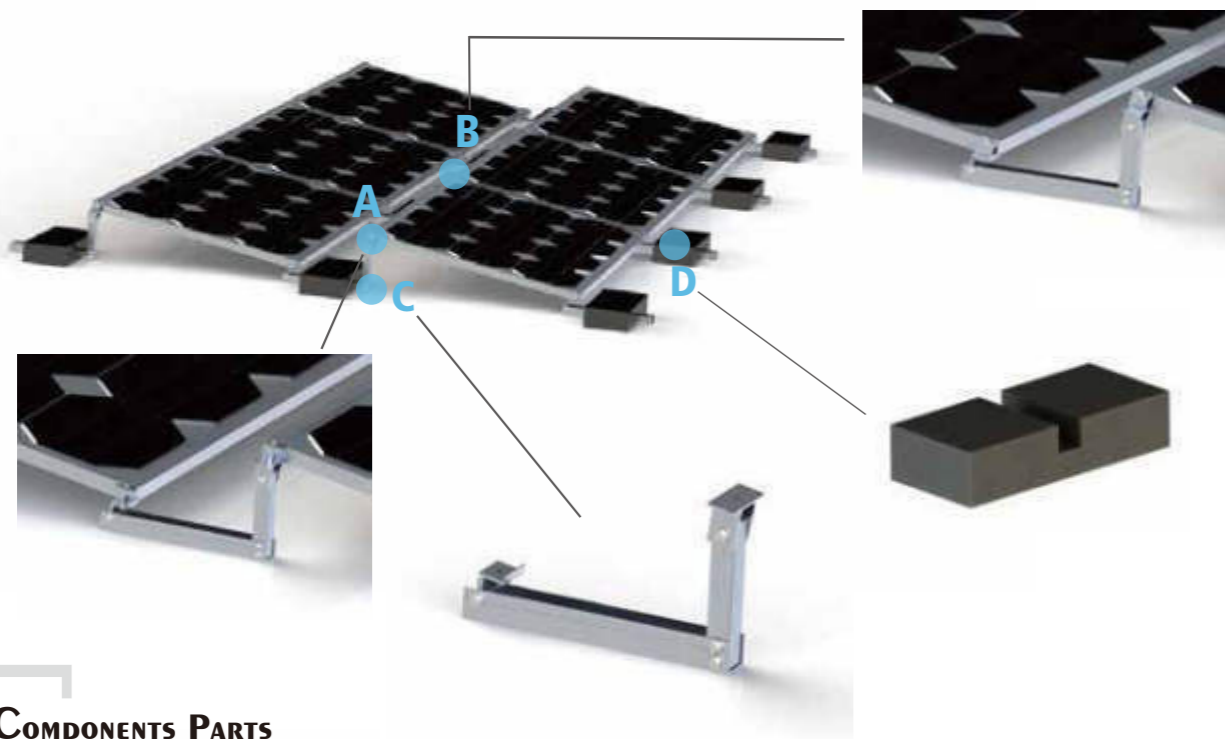
BOM List for a project with 3000W:

ITEMS	DESC.	QTY.
Solar Panel	1640*992*40mm	12pcs.
Rail	L=3076mm	8pcs.
Rail Splice	L=200mm	4pcs.
MidClamp	L=40mm	20pcs.
End Clamp	L=40mm	8pcs.
L Feet	L=40mm	16pcs.
Grounding Washer	L=40mm	20pcs.
Grounding Lug	L=16mm	v4pcs.
Cable		acc. to demand

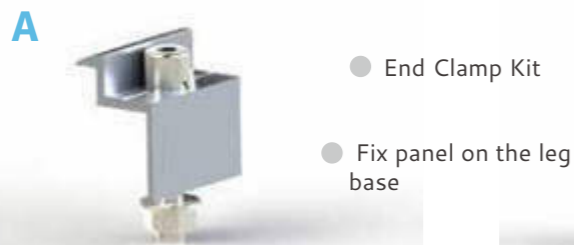


TP-7 FLAT ROOF BALLAST SYSTEM

TP-7 is the south-oriented racking solution for mounting framed modules on flat roofs with 5°, 10° and 15° mounting tilts. The simply design saves time and reduces labor cost.



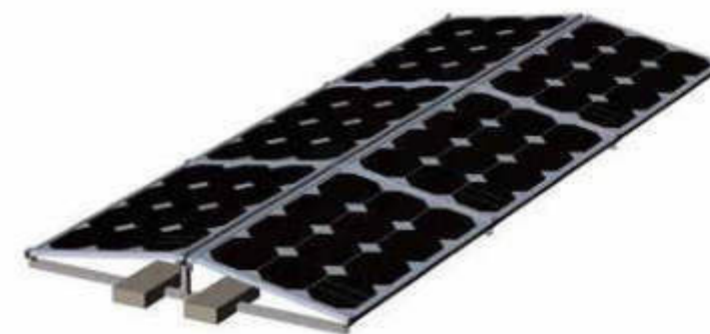
COMPONENTS PARTS



BRIEF INTRODUCTION

- Install Site: Flat Roof
- Tilt Degree: 5°, 10°, 15°
- Snow Load: **1,4**KN/m²
- Max. Wind Speed: **60**m/s
- Material: AL 6005-T5 & Stainless Steel 304
- Warranty: **12** years warranty; **25** years service life

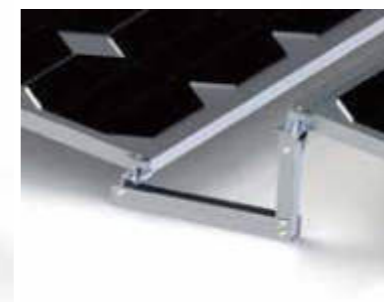
EAST/WEST-ORIENTED SOLUTION



BRIEF INSTALLATION GUIDE



1. Stretch the preassembled base rail kit.



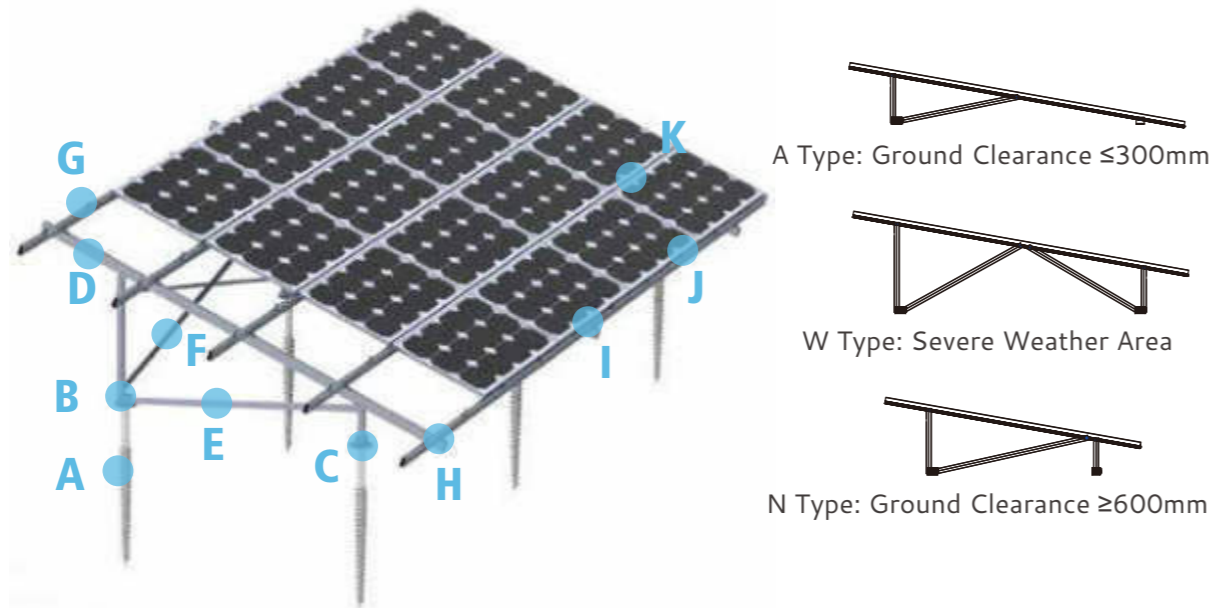
2. Fix the panel by mid clamp and end clamp.



3. Put the concrete ballast on base rail, then installation finished.

GL-2S Ground Screw Mounting

GL-2S Ground Screw Mounting system designed to provide an economical and practical mounting solution for large-scale open areas. Available for both framed and frameless modules. Compatible with screwing machine on the open area easily.

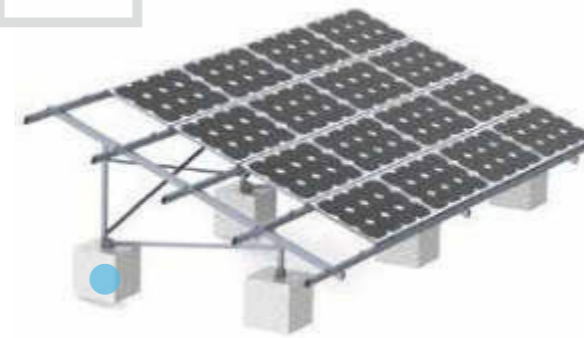


PROJECT SOLUTION

BOM List for a project with 5000W:

ITEMS	DESC.	QTY.
Solar Panel	1640*992*40mm	20pcs.
Support Rack		3pcs.
Ground Screw		6pcs.
Rail	L=4170mm	10pcs.
Rail Splice	L=200mm	5pcs.
MidClamp	L=40mm	30pcs.
End Clamp	L=40mm	20pcs.
Fixing Clamp	L=40mm	30pcs.
Front Base		3pcs.
Rear Base		3pcs.
Fixing Component		4pcs.
Diagonal Brace		3pcs.
Grounding Washer	L=30mm	30pcs.
Grounding Lug	L=16mm	5pcs.

FOUNDATION Type



The Ground Screws can be replaced by Concrete Block with Anchor Bolt.

BRIEF INTRODUCTION

- Install Site: Open Field/Ground
- Max. Wind Speed: 60m/s
- Material: AL 6005-T5
- Module Angle: 0-60°
- Snow Load: 1,4KN/m2
- Color: Natural
- Warranty: 12 years warranty; 25 years service life

COMPONENTS PARTS

<p>A</p> <ul style="list-style-type: none"> ● Ground Screw ● Fix the base on the ground 	<p>B</p> <p>YS-11</p> <ul style="list-style-type: none"> ● Leg Base ● Fix rear leg on ground screw 	<p>C</p> <p>YS-11</p> <ul style="list-style-type: none"> ● Leg Base ● Fix front leg on ground screw
<p>D</p> <ul style="list-style-type: none"> ● Support Rack ● Support the rail and solar panel 	<p>E</p> <p>YS-08</p> <ul style="list-style-type: none"> ● Diagonal Brace ● Connect the front and rear leg 	<p>F</p> <p>YS-17</p> <ul style="list-style-type: none"> ● Triangle fixing component ● Connect rear legs
<p>G</p> <p>YS-15</p> <ul style="list-style-type: none"> ● Rail ● Support the solar panel 	<p>H</p> <ul style="list-style-type: none"> ● Fixing Clamp Kit ● Fix the rail to the support rack 	<p>I</p> <ul style="list-style-type: none"> ● Rail Splice Kit ● Connect rails
<p>J</p> <ul style="list-style-type: none"> ● End Clamp Kit ● Fix panel on the rail at the end of panel 	<p>K</p> <ul style="list-style-type: none"> ● Mid Clamp Kit ● Fix panel on the rail in the inner part 	

GP-3C HDG STEEL GROUND MOUNT

HDG Steel Ground Mount creates an economical solution and is also very solid, reliable for a large array PV system in open terrain. It uses galvanized steel as legs, beams and rails. It is also compatible with ground screws, optimizing it for different terrains.



BRIEF INTRODUCTION

- Install Site: Open Field/Ground
- Max. Wind Speed: 60m/s
- Module Angle: 0° -60°
- Warranty: 12 years warranty
- Material: Q235 Hot Galvanizing
- Snow Load: 1,4KN/m²
- Color: Natural or Customized

BRIEF INSTALLATION GUIDE



1. Connect and fix front/rear leg to the concrete base



2. Stretch the preassembled support racks, fix it to the leg bases



3. Make sure the height of all the support rack kits reach a complete unity



4. Put the rail on the rack and fix the panel by end clamp and mid clamp

COMPONENTS PARTS

A

YS-TG-04



- HDG Connector
- Connect the support rack and leg

B

YS-TG-06



- HDG Leg Base
- Fix the leg on the concrete base

C

- Support Rack
- Support the rail and solar panel

D

YS-TG-01



- HDG Rail
- Support the solar panel

E

YS-CS-Z01



- Fixing Clamp Kit
- Fix the rail to the support rack

F

YS-04-Z03



- End Clamp Kit
- Fix panel on the rail at the end of panel

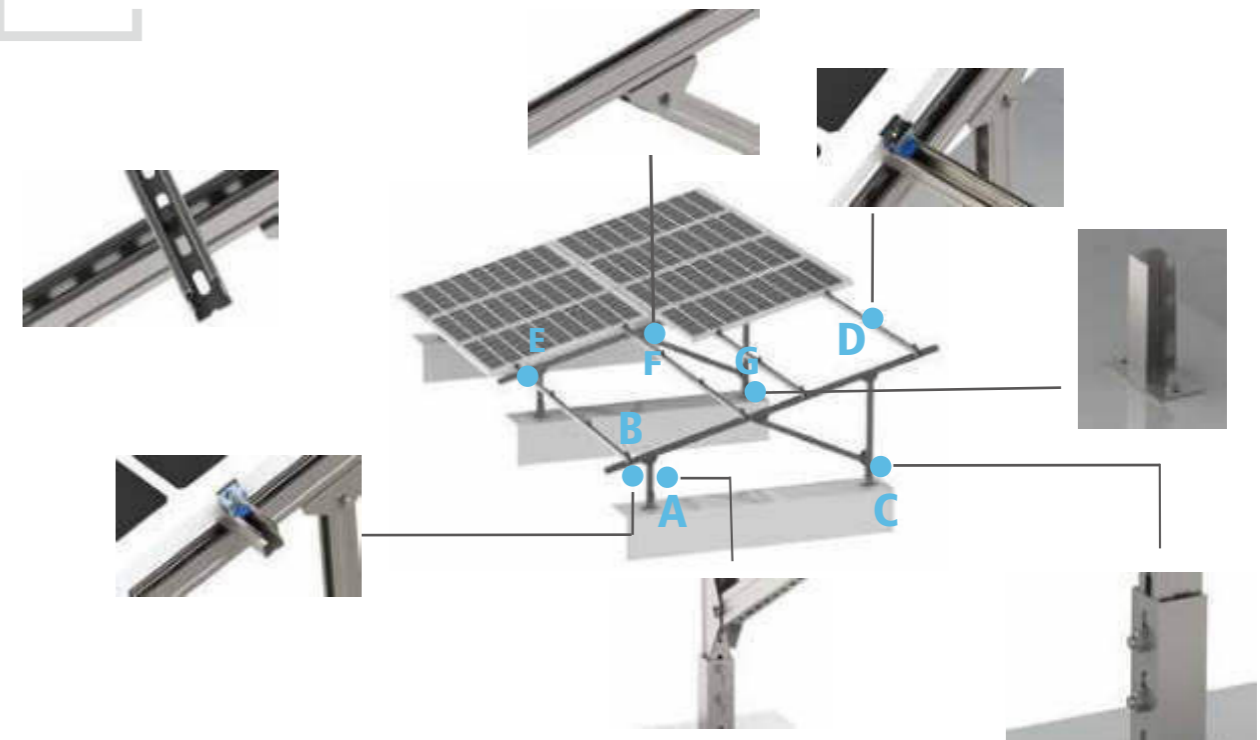
H

YS-21-C02



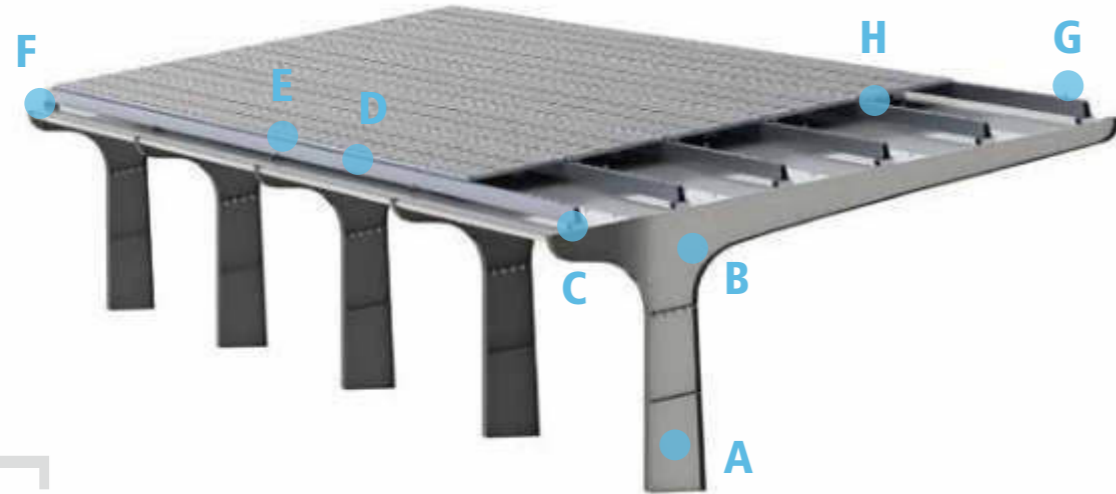
- Mid Clamp Kit
- Fix panel on the rail in the inner part

INSTALLATION DETAILS



CL-3 Single T-FRAME SOLAR CARPORT

CL-3 Single T-Frame Solar Carport Mounting, standard installations maintain 4000mm maximum clearance. No field welding, drilling or other on-site fabrication needed.



COMPONENTS PARTS

<p>A</p>  <ul style="list-style-type: none"> ● Support Post/Leg ● Support the support rack 	<p>B</p>  <ul style="list-style-type: none"> ● Support Rack ● Support the roof
<p>C</p>  <ul style="list-style-type: none"> ● Square Tube ● Fix the rails on support racks 	<p>D</p>  <ul style="list-style-type: none"> ● Rail ● Support the solar panels
<p>E</p>  <ul style="list-style-type: none"> ● Rail Splice ● Connect the rails 	<p>F</p>  <ul style="list-style-type: none"> ● Fixing Clamp Kit ● Fix the rails on square tubes
<p>G</p>  <ul style="list-style-type: none"> ● End Clamp Kit ● Fix panel on the rail at the end of panel 	<p>H</p>  <ul style="list-style-type: none"> ● Mid Clamp Kit ● Fix panel on the rail in the inner part

BRIEF INTRODUCTION

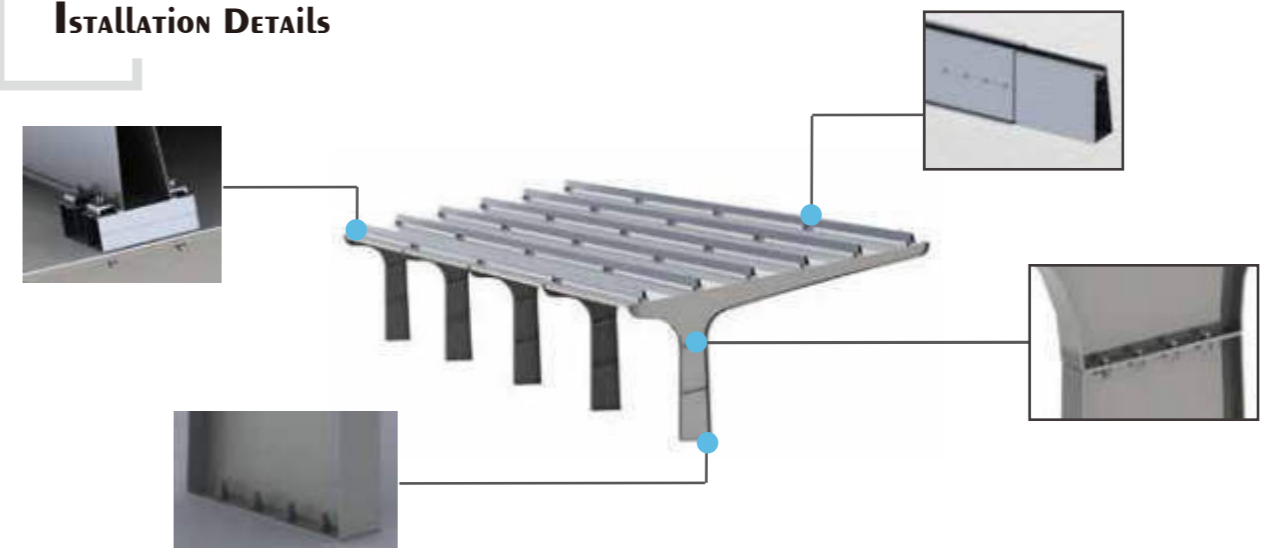
- Install Site: Open Field/Ground
- Max. Ground Clearance: ≤ 4000 mm
- Material: AL 6005-T5 & Carbon Steel
- Warranty: 12 years warranty
- Max. Wind Speed: 60m/s
- Module Angle: 0-20°
- Color: Natural or customized
- Snow Load: 1,4KN/m²

PROJECT SOLUTION

BOM List for a project with 15KW:

ITEMS	DESC.	QTY.
Solar Panel	1640*992*40mm	60pcs.
Support Rack		5pcs.
Support Post/Leg		5pcs.
Rail	L=5073mm	24pcs.
Rail Splice	L=400mm	18pcs.
MidClamp	L=40mm	96pcs.
End Clamp	L=40mm	48pcs.
Fixing Clamp	L=40mm	60pcs.
Square Tube		30pcs.

INSTALLATION DETAILS





GROUND SCREW

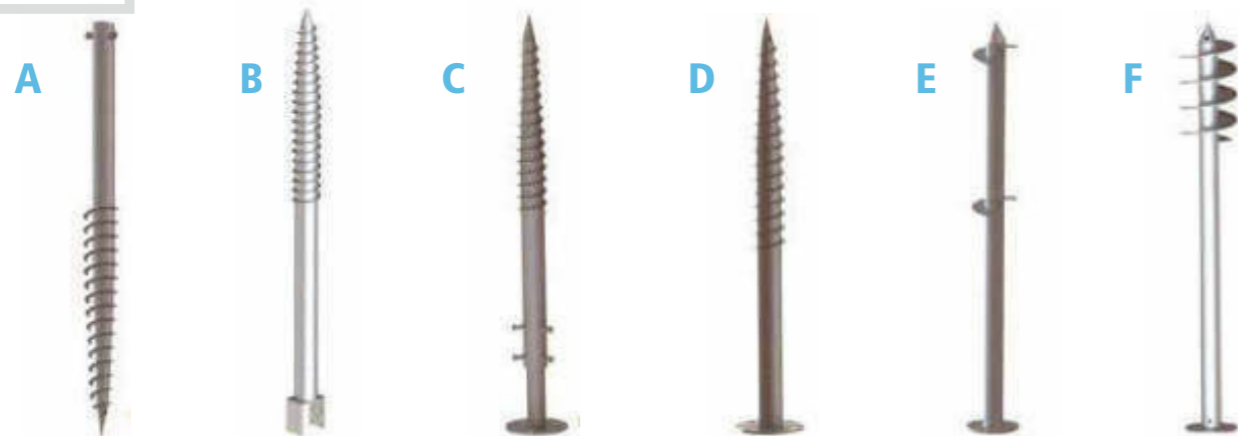
Our Ground Screw is made of Q235 material. It is anti-corrosion with hot dip galvanization and compatible with screwing machine on the open area easy. The length and size can be customized.



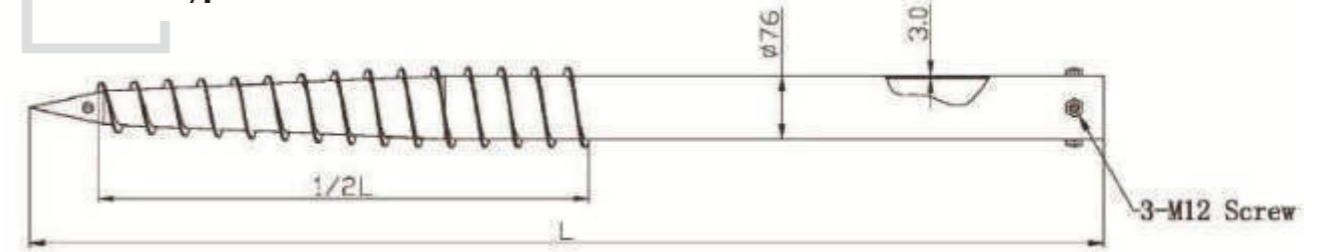
BRIEF INTRODUCTION

- Install Site: All types of Soil
- Pipe Diameters: **50-140mm**
- Pipe Length: **1000-3500mm**
- Warranty: **5** years limited Finish warranty; **25** years service life
- Pipe Material: Q235
- Pipe Thickness: **2-4mm**
- Surface: Hot dip galvanization

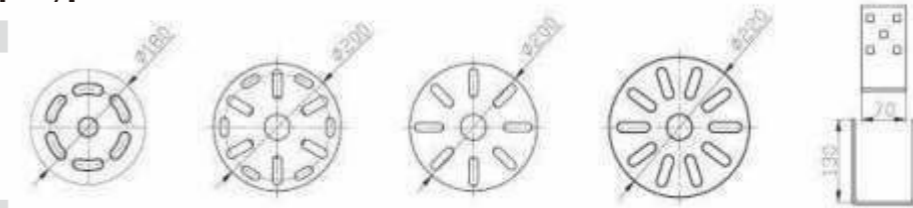
GROUND SCREW



Tube Type



FLANGE Type



SPECIFICATION

NO.	Item NO.	Material	Surface	Galvanized surface	D(mm)	T(mm)	H(mm)
A	N76*L	Q235	Hot Galvanized	≥ 80μm	76	2-4mm	Customized
B	F76*L-U			≥ 80μm	76		
C	F76*L-A			≥ 80μm	76		
D	F76*L			≥ 80μm	76		
E	F76*L-2			≥ 80μm	76		
F	F76*L-4			≥ 80μm	76		

ADVANTAGES

- **Easy Installation, Removal and Relocation:**
It is effective and cost-savings as available for installation machines. It can be installed, removed and relocated than other foundation solutions easier and faster.
- **Steady and Safety:**
Many kinds of types can be selected comply with the static load analysis and test to make sure the foundation is safe.
- **Widely Application:**
Different heads of screw piles will be adapted to meet the various needs of different customers.
- **Environmentally Friendly:**
The surrounding areas will not be spoiled because no need of concrete base and without performing land preparation works during the insertion.

Rails

YS-02



ITEM NO.	YS-02	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	0.767kg/m
SPEC.	1000~6500mm		

YS-97



ITEM NO.	YS-97	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	0.764kg/m
SPEC.	1000~6500mm		

YS-147



ITEM NO.	YS-147	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	0.686kg/m
SPEC.	1000~6500mm		

YS-26



ITEM NO.	YS-26	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	2.448kg/m
SPEC.	1000~6500mm		

YS-15



ITEM NO.	YS-15	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	1.428kg/m
SPEC.	1000~6500mm		

YS-19



ITEM NO.	YS-19	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	1.434kg/m
SPEC.	1000~6500mm		

FRAMED panel clamps

YS-04



ITEM NO.	YS-04 End Clamp	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	
SPEC.	L=40mm, H=35~50mm		

YS-21



ITEM NO.	YS-21 Mid Clamp	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	0.594kg/m
SPEC.	L=40mm, H=40mm		

YS-01



ITEM NO.	YS-01 Rail Block	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	0.446kg/m
SPEC.	16mm		

Thin film solar clamps

YS-39



ITEM NO.	YS-39	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	0.0795kg/pc.
SPEC.	L=80mm		

YS-40



ITEM NO.	YS-40	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	0.055kg/pc.
SPEC.	L=80mm		

Tile hooks

YS-WG-01



ITEM NO.	YS-WG-01	MATERIAL	SUS 304
SURFACE	Sandblasted	WEIGHT	0.505kg/pc.
DESC.			

YS-WG-02



ITEM NO.	YS-WG-02	MATERIAL	SUS 304
SURFACE	Sandblasted	WEIGHT	0.430kg/pc.
SPEC.			

YS-WG-03



ITEM NO.	YS-WG-03	MATERIAL	SUS 304
SURFACE	Sandblasted	WEIGHT	0.593kg/pc.
DESC.			

YS-WG-04



ITEM NO.	YS-WG-04	MATERIAL	SUS 304
SURFACE	Sandblasted	WEIGHT	0.533kg/pc.
DESC.			

YS-WG-05



ITEM NO.	YS-WG-05	MATERIAL	SUS 304
SURFACE	Sandblasted	WEIGHT	0.329kg/pc.
DESC.			

YS-WG-06



ITEM NO.	YS-WG-06	MATERIAL	SUS 304
SURFACE	Sandblasted	WEIGHT	0.495kg/pc.
DESC.			

Mini Rails

YS-I03



ITEM NO.	YS-I03	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	
SPEC.			

YS-I16



ITEM NO.	YS-I16	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	
DESC.			

YS-I17



ITEM NO.	YS-I17	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	
DESC.			

YS-CL-12



ITEM NO.	YS-CL-12	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	
DESC.			

YS-CL-21



ITEM NO.	YS-CL-21	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	
DESC.			

YS-WG-33



ITEM NO.	YS-WG-33	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	
DESC.			

Clip Lock

YS-WG-23



ITEM NO.	YS-WG-23	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	
DESC.			

YS-WG-27



ITEM NO.	YS-WG-27	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	
DESC.			

YS-WG-34



ITEM NO.	YS-WG-34	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	
DESC.			

YS-WG-35



ITEM NO.	YS-WG-35	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	
DESC.			

YS-WG-36



ITEM NO.	YS-WG-36	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	
DESC.			

YS-WG-37



ITEM NO.	YS-WG-37	MATERIAL	AL 6005-T5
SURFACE	Anodized	WEIGHT	
SPEC.			

Cable Clips

YS-XJ-01



ITEM NO.	YS-XJ-01	MATERIAL	SUS 304
SURFACE	Clean	WEIGHT	0.0025kg/pc.
DESC.	1~2 cables		

YS-XJ-02



ITEM NO.	YS-XJ-02	MATERIAL	SUS 304
SURFACE	Clean	WEIGHT	0.0057kg/pc.
DESC.	3~4 cables		

Grounding Components

YS-44



ITEM NO.	YS-44	MATERIAL	SUS 304
SURFACE	Clean	WEIGHT	
DESC.	Grounding Washer		

YS-45



ITEM NO.	YS-45	MATERIAL	SUS304
SURFACE	Clean	WEIGHT	
DESC.	Grounding Washer		

YS-54



ITEM NO.	YS-54	MATERIAL	Copper&Steel
SURFACE	Clean	WEIGHT	0.0758kg/pc.
DESC.	Bonding Jumper		

CUSTOMIZED Tile hooks

YS-RH-01



YS-RH-02



YS-RH-03



YS-RH-04



YS-RH-05



YS-RH-06



YS-RH-07



YS-RH-09



YS-RH-11



YS-RH-08



YS-RH-10

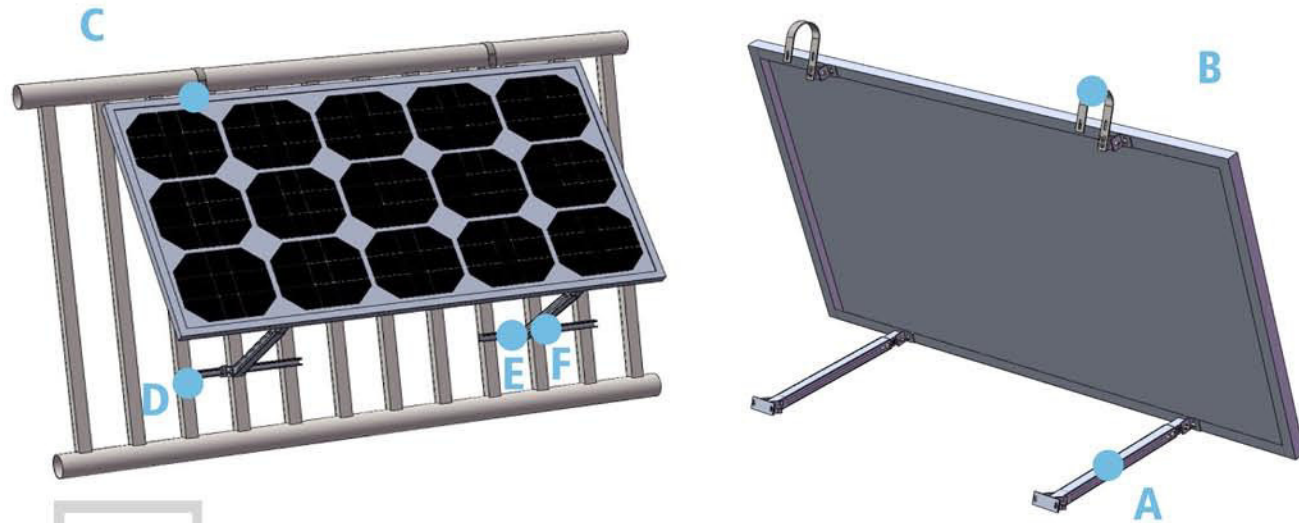


YS-RH-CT1



BR-1 Balcony Adjustable Triangle Rack

BR-1 Balcony Adjustable Triangle Rack is a smart and clever design for your balcony. It requires only a few components to fix the solar panel stably on your guardrail. The post kit is adjustable and can meet the needs of different tilt degree.



BRIEF INTRODUCTION

- Install Site: Balcony
- Max. Wind Speed: 50m/s
- Material: AL 6005-T5 & Stainless Steel 304
- Warranty: 12 years warranty; 25 years service life

COMPONENTS PARTS

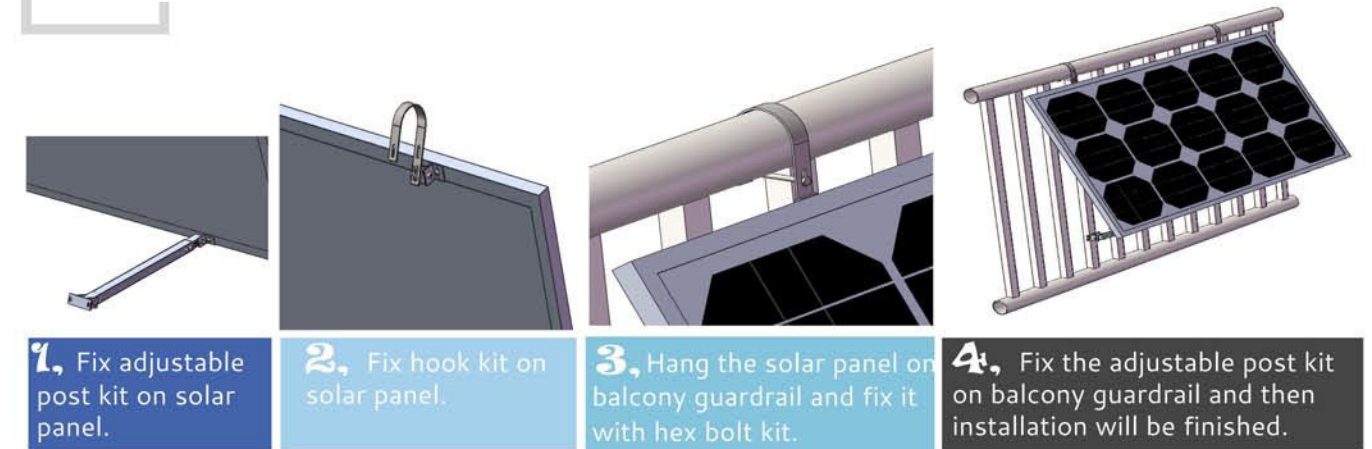


PROJECT SOLUTION

BOM List for a project with 1 pc. of solar panel:

ITEMS	DESC.	QTY.
Solar Panel		1 pc.
Adjustable Post Kit	L=500mm	2 pcs.
Hook Kit	185*100*T3	2 pcs.
Hex Bolt Kit	M8*120mm	2 pcs.
Fixing Bar	L=500mm	2 pcs.
Z-Nut Kit	M8*20mm	2 pcs.
U-Bolt Kit	M8*52*80mm	2 pcs.

BRIEF INSTALLATION GUIDE



ADJUSTMENT OF TILT DEGREE

