

Zamawiający: Powiat Turecki – Powiatowy Urząd Pracy. Ul. Komunalna 6, 62-700 TUREK	Nazwa Zlecenia: „Montaż instalacji fotowoltaicznej o sumarycznej mocy 30,16kWp.”
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KZM - KARTA ZATWIERDZENIA MATERIAŁÓW

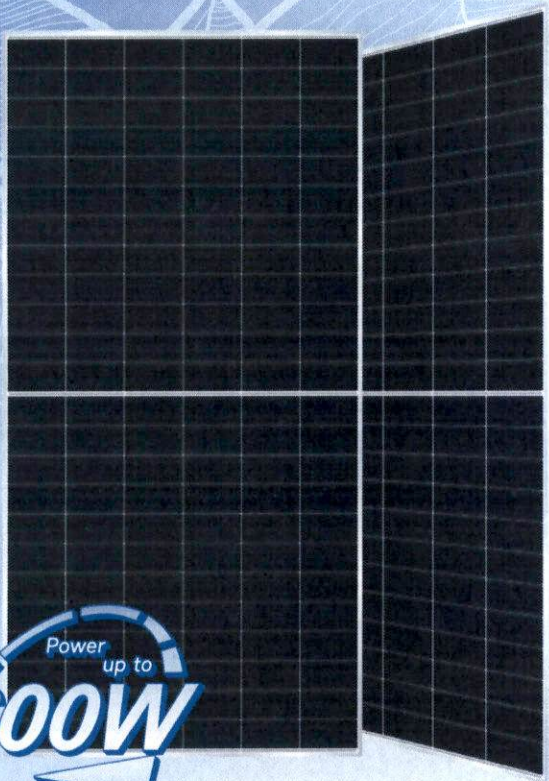
NR KARTY ZATWIERDZEŃ:	KZM nr 1PV/2023		
REWIZJA:	0	DATA:	29.11.2023
MIEJSCE WBUDOWANIA:	1. Powiatowy Urząd Pracy w Turku Ul. Komunalna 6, 62-700 Turek.		
MATERIAŁ WG. DOKUMENTACJI PRZETARGOWEJ:	Panel Fotowoltaiczny Producent LONGI typ: LR5-72HTH-580M – 580Wp – szt. 52		
MATERIAŁ PROPONOWANY:	Panel Fotowoltaiczny: Producent: HUASUN typ: DS580 – 580Wp – szt. 52		
ZAŁĄCZNIKI:	<ul style="list-style-type: none"> Karta katalogowa Deklaracja Zgodności , Certyfikaty 		
KOMENTARZ SKŁADAJĄCEGO ZATWIERDZENIE:	W/w materiały są równoważne z dokumentacją projektową i przetargową.		
WYKONAWCA:	SunEco Janusz Wachowski, ul. Milczańska 50A/2, 61-248 Poznań		
AKCEPTACJA KIER. ROBÓT:	A <small>STATUS</small>	mgr inż. Janusz Wachowski ® Uprawnienia budowlane do kierowania robotami budowlanymi bez ograniczeń w specjalności instalacyjnej w zakresie sieci, instalacji i urządzeń elektrycznych i elektroenergetycznych nr ewid. WKP/0237/OWOE/15	
AKCEPTACJA INSPEKTORA:	<small>STATUS</small>		
AKCEPTACJA INWESTORA:	<small>STATUS</small>		

STATUS ZATWIERDZENIA: A – ZATWIERDZONE BEZ UWAG; B - ZATWIERDZONE Z UWAGAMI; C – MATERIAŁ ODRZUCONY



Himalaya G10 Series 580-600W

144-cell Bifacial HJT Half Cell
Double-glass Solar Module



HJT 3.0

Combining gettering process and double-sided $\mu\text{-Si}$ to maximize cell efficiency and module power.



-0.26%/C Pmax temperature coefficient

More stable power generation performance and even better in hot climate.



Small Chamfer Design

Bigger power generation area on the solar cell, increasing 1% cell power of single piece.



SMBB design with Half-Cut Technology

Shorter current transmission distance, less resistive loss and higher cell efficiency.



Up to 90% Bifaciality

Natural symmetrical bifacial structure bringing more energy yield from the backside.



Sealing with PIB based sealant

Stronger water resistance, greater air impermeability to extend module lifespan.



Higher reliability

Industrial leading product and performance warranty, ensuring modules' consistent outstanding performance.



Suitable for Utility Solar projects

WARRANTY

Product
Warranty **15**
years

Linear
Power
Warranty **30**
years



The specification and key features described in this datasheet may deviate slightly and are not guaranteed. Anhui Huasun reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the latest version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.

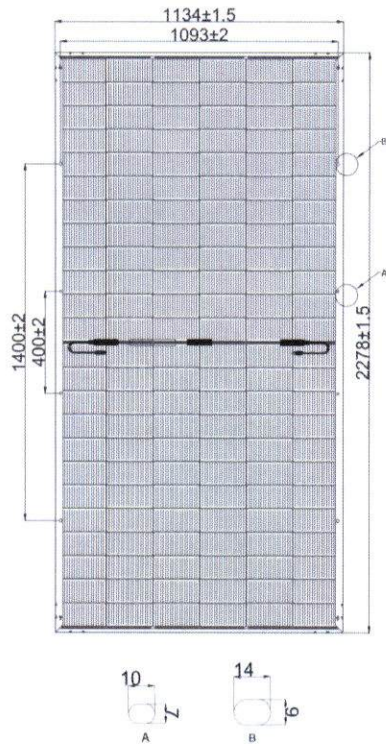


Himalaya G10 Series 580-600W

144-cell Bifacial HJT Half Cell Solar Module

- BloombergNEF Tier 1 PV module manufacturer
- Reinsurance underwritten by Ariel Re

Engineering Drawings Unit: mm



Electrical Characteristics (STC*)

HS-182-B144	DS580	DS585	DS590	DS595	DS600
Maximum Power (P _{max})	580W	585W	590W	595W	600W
Module Efficiency (%)	22.45%	22.65%	22.84%	23.03%	23.23%
Optimum Operating Voltage (V _{mp})	45.00V	45.21V	45.42V	45.63V	45.84V
Optimum Operating Current (I _{mp})	12.89A	12.94A	12.99A	13.04A	13.09A
Open Circuit Voltage (V _{oc})	53.92V	54.12V	54.31V	54.50V	54.70V
Short Circuit Current (I _{sc})	13.35A	13.40A	13.45A	13.50A	13.55A
Operating Module Temperature	-40 to +85 C				
Maximum System Voltage	DC1500V (IEC)				
Maximum Series Fuse	25A				
Power Tolerance	0~+5W				
Bifaciality	85% ± 5%				

*STC: Irradiance 1000 W/m², cell temperature 25 C, AM=1.5. Tolerance of P_{max} is within +/- 3%.

BSTC**

Maximum Power (P _{max})	640W	645W	650W	655W	660W
Optimum Operating Voltage (V _{mp})	45.00V	45.21V	45.42V	45.63V	45.84V
Optimum Operating Current (I _{mp})	14.23A	14.27A	14.32A	14.36A	14.40A
Open Circuit Voltage (V _{oc})	53.92V	54.12V	54.31V	54.50V	54.70V
Short Circuit Current (I _{sc})	14.73A	14.77A	14.82A	14.86A	14.91A

**BSTC: Front side irradiation 1000W/m², back side reflection irradiation 135W/m², AM=1.5, ambient temperature 25 C.

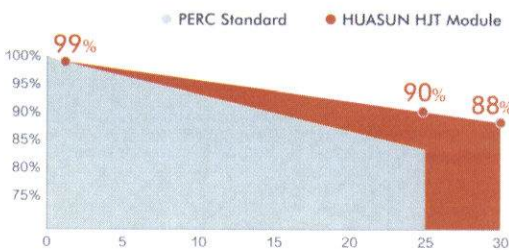
Temperature Characteristics

Nominal Operating Cell Temp. (NOCT)	44 C ± 2 C
Temperature Coefficient of P _{max}	-0.26%/ C
Temperature Coefficient of V _{oc}	-0.24%/ C
Temperature Coefficient of I _{sc}	0.04%/ C

Safety & Warranty

Safety Class	Class II
Product Warranty	15 yrs Workmanship
Performance Warranty	30 yrs Linear Warranty*

* Less than 1% attenuation in the 1st year, the annual attenuation from the 2nd year is no more than 0.375%, and the power is no less than 88% until the 30th year.



* Refer to HUASUN standard warranty for details

Mechanical Characteristics

Cell Type	HJT Mono 182 × 91.75mm
Cell Connection	144 (6 × 24)
Module Dimension	2278 × 1134 × 30 mm
Weight	32 kg
Junction Box	IP68
Output Cable	4mm ² , 300mm in length, length can be customized / UV resistant
Connectors Type	MC4 original / MC4 compatible
Frame	Anodised aluminum alloy
Front Load	5400 Pa
Rear Load	2400 Pa
Glass Thickness	Double glass, 2.0mm

Shipping Configurations

	HC
Container Size	40'
Pallets Per Container	20
Modules Per Pallet (pcs)	36
Modules Per Container (pcs)	720

ANHUI HUASUN ENERGY CO., LTD.

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Product Service

Attestation of Conformity

No. N8A 110450 0002 Rev. 05

Holder of Attestation: **Anhui Huasun Energy Co., Ltd.**

No. 99, Qingliu Road
Xuancheng Economic and Technological Development Zone
Xuanzhou District
242000 Xuancheng City, Anhui Province
PEOPLE'S REPUBLIC OF CHINA

Product:

Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
Mono-crystalline Silicon Hetero-junction Photovoltaic (PV) Modules

This Attestation of Conformity is issued on a voluntary basis according to the Low Voltage Directive 2014/35/EU relating to electrical equipment designed for use within certain voltage limits. It confirms that the listed equipment complies with the principal protection requirements of the directive and is based on the technical specifications applicable at the time of issuance. It refers only to the particular sample submitted for conformity assessment. For details see: www.tuvsud.com/ps-cert

Test report no.: 704062035002-06

Date, 2023-01-03

(Zhulin Zhang)

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This Attestation does not replace the regulatory EU Declaration of Conformity (DoC) and does not allow for CE marking. After preparation of the necessary documentation and establishing compliance to requirements of all applicable directives, the manufacturer may sign a DoC and apply the CE marking. The DoC is issued under the sole responsibility of the manufacturer.



TUV®



Product Service

Attestation of Conformity

No. N8A 110450 0002 Rev. 05

Model(s):

Framed:

166 cell modules:

HS-B144DSxxx (xxx=440 to 500 in step of 5)
 HS-B132DSxxx (xxx=405 to 455 in step of 5)
 HS-B120DSxxx (xxx=365 to 415 in step of 5)
 HS-B144DSNxxx (xxx=440 to 480 in step of 5)
 HS-B132DSNxxx (xxx=405 to 440 in step of 5)
 HS-B120DSNxxx (xxx=365 to 400 in step of 5)
 HS-B156DSBxxx (xxx=490 to 520 in step of 5)
 HS-B144DSBxxx (xxx=450 to 480 in step of 5)
 HS-B132DSBxxx (xxx=410 to 440 in step of 5)
 HS-B120DSBxxx (xxx=375 to 400 in step of 5)
 HS-B156DSNxxx (xxx=490 to 520 in step of 5)
 HS-B156DSxxx (xxx=490 to 520 in step of 5)
 HS-S120DSBxxx (xxx=370 to 400 in step of 5)
 HS-B96DSxxx (xxx=295 to 320 in step of 5)
 HS-S144DSxxx (xxx=450 to 480 in step of 5)
 HS-S132DSxxx (xxx=410 to 440 in step of 5)
 HS-S120DSxxx (xxx=375 to 400 in step of 5)

210 cell modules:

HS-210-B132DSxxx (xxx=670 to 700 in step of 5)
 HS-210-B120DSxxx (xxx=605 to 635 in step of 5)
 HS-210-B110DSxxx (xxx=555 to 580 in step of 5)

Frameless:

HS-B144DNxxx (xxx=440 to 500 in step of 5)
 HS-B132DNxxx (xxx=405 to 455 in step of 5)
 HS-B120DNxxx (xxx=365 to 415 in step of 5)
 HS-B144DNNxxx (xxx=440 to 480 in step of 5)
 HS-B132DNNxxx (xxx=405 to 440 in step of 5)
 HS-B120DNNxxx (xxx=365 to 400 in step of 5)
 HS-B96DNNxxx (xxx=295 to 320 in step of 5)
 xxx stands for rated output power at STC

The corresponding BSTS power range as follows:

All electrical data is shown as relative to this test conditions:

front side irradiance 1000 W/m², backside irradiance

135 W/m², 25 °C, AM 1.5

Framed:

166 cell modules:

HS-B144DSxxx (BSTC Power range: 490W to 550W in step of 5)
 HS-B132DSxxx (BSTC Power range: 450W to 500W in step of 5)
 HS-B120DSxxx (BSTC Power range: 405W to 455W in step of 5)
 HS-B144DSNxxx (BSTC Power range: 495W to 535W in step of 5)
 HS-B132DSNxxx (BSTC Power range: 455W to 490W in step of 5)
 HS-B120DSNxxx (BSTC Power range: 410W to 445W in step of 5)
 HS-B156DSBxxx (BSTC Power range: 540W to 570W in step of 5)
 HS-B144DSBxxx (BSTC Power range: 495W to 525W in step of 5)
 HS-B132DSBxxx (BSTC Power range: 450W to 480W in step of 5)
 HS-B120DSBxxx (BSTC Power range: 410W to 435W in step of 5)
 HS-B156DSNxxx (BSTC Power range: 545W to 575W in step of 5)
 HS-B156DSxxx (BSTC Power range: 540W to 570W in step of 5)
 HS-B96DSxxx (BSTC Power range: 325W to 350W in step of 5)

210 cell modules:

HS-210-B132DSxxx (BSTC Power range: 740W to 770W in step of 5)
 HS-210-B120DSxxx (BSTC Power range: 670W to 700W in step of 5)
 HS-210-B110DSxxx (BSTC Power range: 615W to 640W in step of 5)

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Frameless:



TUV®



Product Service

Attestation of Conformity

No. N8A 110450 0002 Rev. 05

HS-B144DNxxx (BSTC Power range: 490W to 550W in step of 5)
 HS-B132DNxxx (BSTC Power range: 450W to 500W in step of 5)
 HS-B120DNxxx (BSTC Power range: 405W to 455W in step of 5)
 HS-B144DNNxxx (BSTC Power range: 495W to 535W in step of 5)
 HS-B132DNNxxx (BSTC Power range: 455W to 490W in step of 5)
 HS-B120DNNxxx (BSTC Power range: 410W to 445W in step of 5)
 HS-B96DNNxxx (BSTC Power range: 325W to 350W in step of 5)

Parameters:

Construction:	Framed or Frameless with Junction box, Cable and Connectors.
Safety Class:	Class II
Maximum System Voltage:	1500 V DC
Fire Safety Class:	Class C according to UL790 Yangzhou Opto-Electrical Products Testing Institute.
Test Laboratory:	No. 10 West Kaifa Road, Yangzhou, 225009 Jiangsu, P. R. China.

Tested according to:

EN IEC 61730-1:2018
 EN IEC 61730-1:2018/AC:2018-06
 EN IEC 61730-2:2018
 EN IEC 61730-2:2018/AC:2018-06

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