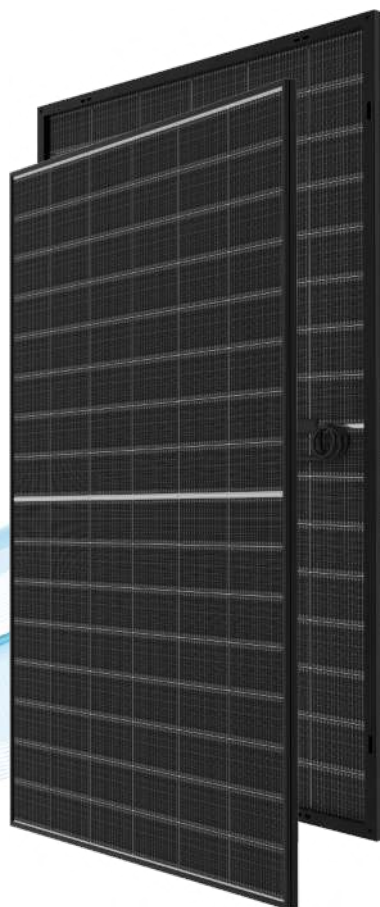


HD HYUNDAI SOLAR MODULE

HeteroMax™ (CE-BF Series)

Premium N-Type HJT module

HiT-H440CE-BF | HiT-H445CE-BF | HiT-H450CE-BF | HiT-H455CE-BF | HiT-H460CE-BF



23.0%
High Efficiency



High-End
Heterojunction
Technology



Enhanced Power
Generation with low
Temp. Coefficient



More Power
Generation
In Low Light



For Residential
(Full Black Design)

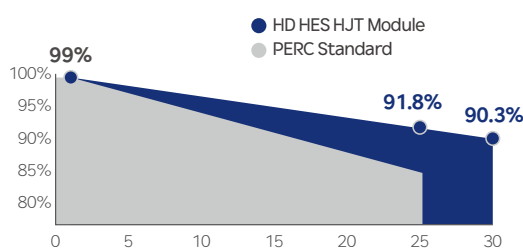
HD Hyundai's Warranty Provisions

30
YEARS

- 30-Year Product Warranty
- Materials and workmanship

30
YEARS

- 30-Year Performance Warranty
- First year degradation: 1%
- Linear warranty after initial year: with 0.3%p annual degradation, 90.3% is guaranteed up to 30years



*Refer to HD HES standard warranty for details.

Certification



- ISO 9001:2015:ISO Quality Management System
- ISO 14001:2015:ISO Environment Management System
- ISO 45001:Occupational Health and Safety
- IEC 61215, IEC 61730



Electrical Characteristics (STC*)

HiT-HxxxCE-BF						
Item	Unit	440	445	450	455	460
Nominal Output (Pmax)	W	440	445	450	455	460
Open Circuit Voltage (Voc)	V	36.52	36.62	36.72	36.82	36.92
Short Circuit Current (Isc)	A	15.31	15.42	15.53	15.64	15.75
Voltage at Pmax (Vmpp)	V	30.61	30.72	30.83	30.94	31.05
Current at Pmax (Impp)	A	14.38	14.49	14.60	14.71	14.82
Module Efficiency	%	22.0	22.3	22.5	22.8	23.0
Power Selection	W	0 ~ +5				
Temperature Coefficient of Pmax	%/K	-0.24				
Temperature Coefficient of Voc	%/K	-0.22				
Temperature Coefficient of Isc	%/K	0.04				
Bifaciality	%	90 ± 5				

*STC : Irradiance 1,000 W/m², cell temperature 25°C, AM=1.5 / Tolerance of Pmax 0~+3%; Voc ±3%; Isc ±5%

BNPI** (Bifacial Nameplate Irradiance)

Item	Unit	440	445	450	455	460
Nominal Output (Pmax)	W	493	499	504	510	515
Open Circuit Voltage (Voc)	V	36.65	36.75	36.85	36.95	37.05
Short Circuit Current (Isc)	A	17.17	17.29	17.42	17.54	17.66
Voltage at Pmax (Vmpp)	V	30.72	30.83	30.94	31.05	31.16
Current at Pmax (Impp)	A	16.07	16.19	16.31	16.44	16.56

**The electrical properties of BNPI are measured under the irradiance corresponding to 1000 W/m² on the module front and 135 W/m² on the module rear.

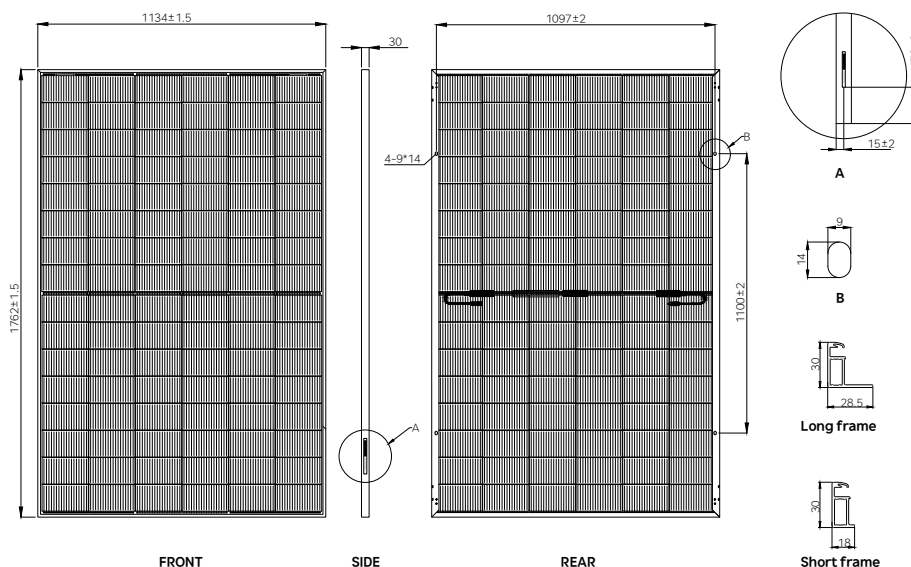
Mechanical Characteristics

Dimensions	1,762 mm (L) x 1,134 mm (W) x 30 mm (H)
Weight	21.8 kg
Solar Cells	N-Type HJT, 96 (6x16) monocrystalline half-cut bifacial cells
Output Cables	Cable : 4mm ² / 12AWG / (+)1,250 mm, (-)1,250 mm / Customized length Connector : MC4(Stäubli Electrical connectors AG) / MC4-Evo2A(Stäubli Electrical connectors AG) / PV-H4(Ningbo huayu Photovoltaic Technology Co.,Ltd.) / Z4S-abcd(Zerun Co., LTD.) / ST4(Zhejiang Sinwo Solar Technology Co.,Ltd.)
Junction Box	3-part, 3 bypass diodes, IP68 rated
Construction	Front : 1.6mm semi-tempered solar glass with high cut-off and anti-reflective coating Rear : 1.6mm semi-tempered solar glass
Frame	Anodized aluminum alloy

Shipping Configurations

Container Size (HC)	40'	Modules Per Pallet (pcs)	36
Pallets Per Container	26	Modules Per Container (pcs)	936

Module Diagram (unit : mm)



Manufactured in China

Installation Safety Guide

- Only qualified personnel should install or perform maintenance.
- Be aware of dangerous high DC voltage.
- Do not damage or scratch the rear surface of the module.
- Do not handle or install modules when they are wet.

Nominal Module Operation Temperature	44°C ± 2°C
Operating Temperature	-40°C ~ +85°C
Maximum System Voltage	DC 1,500 V
Maximum Reverse Current	30A
Maximum Test Load	Front 5,400Pa Rear 2,400Pa

I-V Curves (HiT-H450CE-BF)

