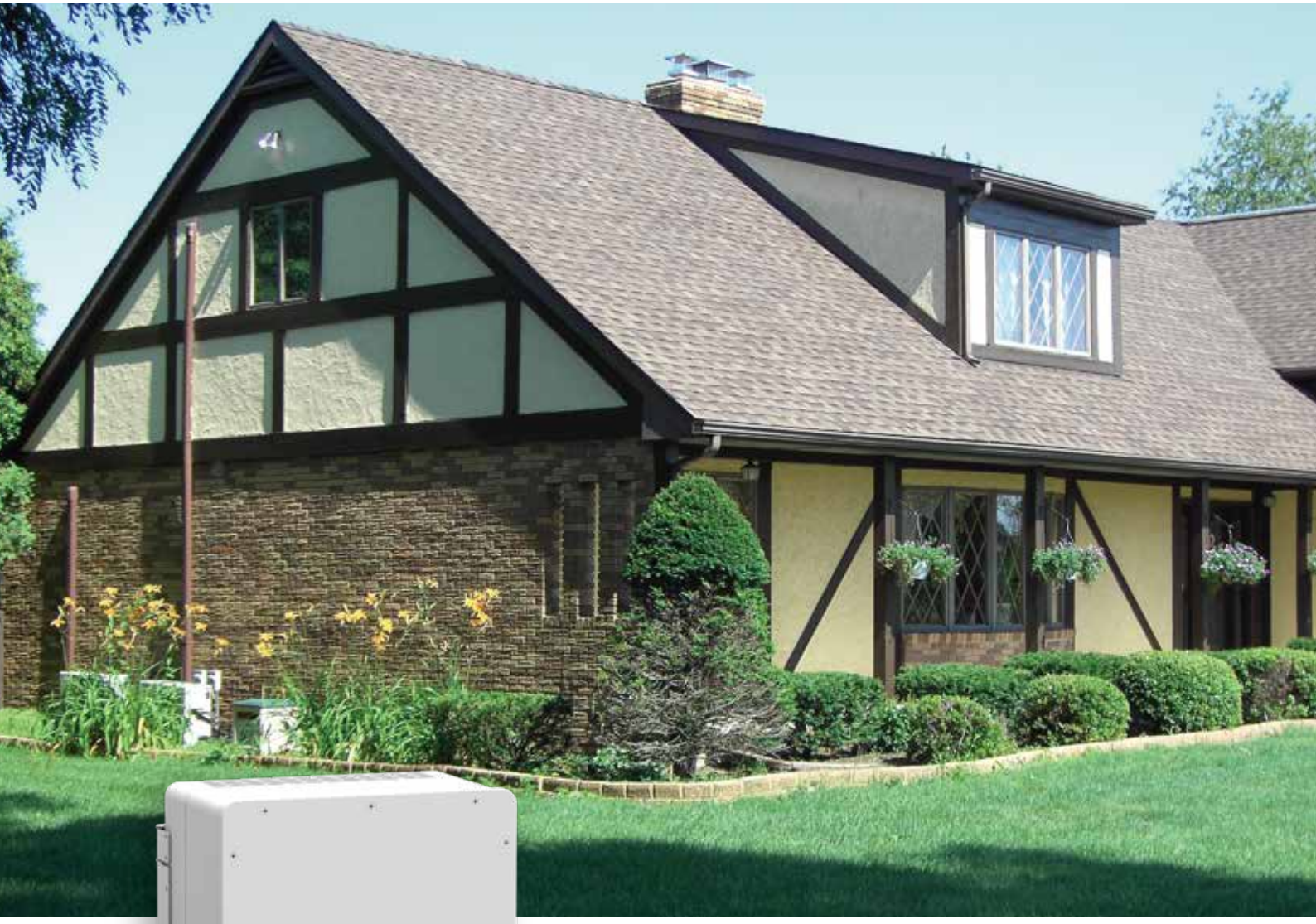
Three Phase Hybrid Inverter

SUN-5/6/8/10/12K-SG04LP3-EU



Deye

Stock Code: 605117.SH

- 100 — 100% unbalanced output, each phase; Max. output up to 50% rated power
- AC couple to retrofit existing solar system
- 10 — Max. 10 pcs parallel for on-grid and off-grid operation; Support multiple batteries parallel
- 240 — Max. charging/discharging current of 240A
- 48 — 48V low voltage battery, transformer isolation design
- 6 — 6 time periods for battery charging/discharging
- Support storing energy from diesel generator

Technical Data

Model	SUN-5K -SG04LP3-EU	SUN-6K -SG04LP3-EU	SUN-8K -SG04LP3-EU	SUN-10K -SG04LP3-EU	SUN-12K -SG04LP3-EU
Battery Input Data					
Battery Type	Lead-acid or Lithium-ion				
Battery Voltage Range (V)	40-60				
Max. Charging Current (A)	120	150	190	210	240
Max. Discharging Current (A)	120	150	190	210	240
Charging Strategy for Li-ion Battery	Self-adaption to BMS				
Number of Battery Input	1				
PV String Input Data					
Max. DC Input Power (W)	6500	7800	10400	13000	15600
Max. DC Input Voltage (V)	800				
Start-up Voltage (V)	160				
MPPT Voltage Range (V)	200-650				
Rated DC Input Voltage (V)	550				
Max. Operating PV Input Current (A)	13+13			26+13	
Max. Input Short-Circuit Current (A)	17+17			34+17	
No. of MPP Trackers/ No. of Strings per MPP Tracker	2/1+1			2/2+1	
AC Input/Output Data					
Rated AC Input/Output Active Power (W)	5000	6000	8000	10000	12000
Max. AC Input/Output Apparent Power (VA)	5500	6600	8800	11000	13200
Rated AC Input/Output Current (A)	7.6/7.2	9.1/8.7	12.1/11.6	15.2/14.5	18.2/17.4
Max. AC Input/Output Current (A)	8.4/8	10/9.6	13.4/12.8	16.7/15.9	20/19.1
Max. Three-phase Unbalanced Output Current (A)	11.4/10.9	13.6/13	18.2/17.4	22.7/21.7	27.3/26.1
Max. Continuous AC Passthrough (grid to load) (A)	45				
Peak Power (off-grid) (W)	2 times of rated power, 10s				
Power Factor Adjustment Range	0.8 leading to 0.8 lagging				
Rated Input/Output Voltage/Range (V)	220/380V, 230/400V 0.85Un-1.1Un				
Rated Input/Output Grid Frequency/Range(Hz)	50/45-55, 60/55-65				
Grid Connection Form	3L+N+PE				
Total Current Harmonic Distortion THDi	<3% (of nominal power)				
DC Injection Current	<0.5% In				
Efficiency					
Max. Efficiency	97.6%				
Euro Efficiency	97.0%				
MPPT Efficiency	>99%				
Equipment Protection					
Integrated	DC Polarity Reverse Connection Protection, AC Output Overcurrent Protection AC Output Overvoltage Protection, AC Output Short Circuit Protection, Thermal Protection DC Terminal Insulation Impedance Monitoring, DC Component Monitoring, Ground Fault Current Monitoring Power Network Monitoring, Island Protection Monitoring, Earth Fault Detection, DC Input Switch Overvoltage Load Drop Protection, Residual Current (RCD) Detection, Surge protection level				
Surge Protection Level	TYPE II(DC), TYPE II(AC)				
Interface					
Communication Interface	WIFI, RS485, CAN				
General Data					
Operating Temperature Range (℃)	-40 to +60°C, >45°C Derating				
Permissible Ambient Humidity	0-100%				
Permissible Altitude	2000m				
Noise (dB)	≤55				
Ingress Protection(IP) Rating	IP 65				
Inverter Topology	Non-Isolated				
Over Voltage Category	OVC II(DC), OVC III(AC)				
Cabinet Size (WxHxD mm)	422×658×254 (Excluding Connectors and Brackets)				
Weight (kg)	38				
Type of Cooling	Intelligent Air Cooling				
Warranty	5 Years/10 Years the Warranty Period Depends the Final Installation Site of Inverter, More Info Please Refer to Warranty Policy				
Grid Regulation	IEC 61727, IEC 62116, CEI 0-21, EN 50549, NRS 097, RD 140, UNE 217002, OVE-Richtlinie R25, G99, VDE-AR-N 4105				
Safety / EMC Standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2				

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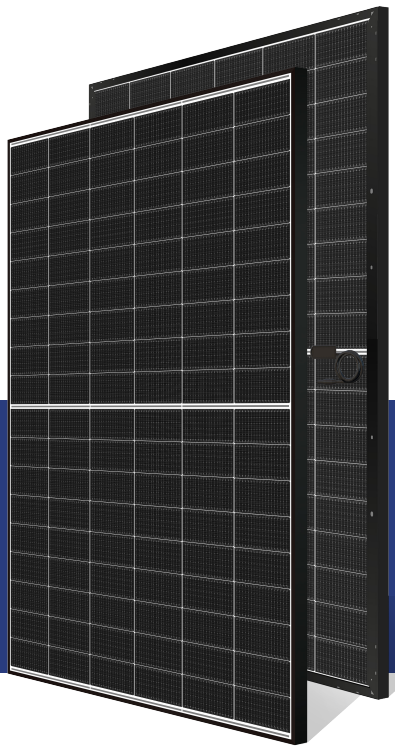
HD HYUNDAI SOLAR MODULE

OF SERIES

HeteroMax™
Premium N-Type HJT module

HiT-H430~450OF-BF



High-End Heterojunction Technology

For Both Residential & Commercial Applications

More Power Generation In Low Light

KOREA
Designed in Korea

30 YEAR
Product & Performance Warranty

23% High Efficiency with HJT Technology

HJT (Heterojunction Technolgy) cells with excellent light absorption and passivation effects can increase module efficiency compared to TOPCon and PERC modules.

Enhanced Power Generation with low Temp. Coefficient

Low temperature coefficient (-0.26%/℃) enables modules to generate more electricity than PERC & TOPCon modules in high temperature environments which allows the perfect suitability for rooftop installation with large temperature fluctuations.

Long-Term Reliability

HeteroMaxTM is a durable and high-yield product with an N-type wafer that eliminates LID. It uses a TCO film and features a double-glass design to prevent internal material corrosion.

Higher Bifaciality

HJT's natural bifacial symmetrical structure brings higher bifaciality up to 90% and generates approximately 2%-4% higher power than bifacial PERC Cells.

Certified Test Labs

HD Hyundai's R&D center is an accredited test laboratory of UL, international certification institutions, and guarantees the best quality in the world through rigorous product testing.

Reliable Warranty

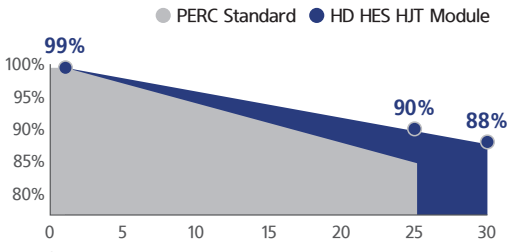
HD HYUNDAI

HD Hyundai Energy Solutions, Global brand with powerful financial strength, offers a 30-year warranty and comprehensive customer after-sales service.

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 second year: with 0.375%p annual degradation, 88% is guaranteed up to 30 years



*Refer to HD HES standard warranty for details.

Certification

TÜV SÜD · CE · PV CYCLE · MCS CERTIFIED

About HD Hyundai Energy Solutions

Established in 1972, HD Hyundai Group is one of the most trusted names in the heavy industries sector and is a Fortune 500 company. As a global leader and innovator, HD Hyundai is committed to building a future growth engine by developing and investing heavily in the field of renewable energy.

As a core energy business entity of HD Hyundai, HD Hyundai Energy Solutions has strong pride in providing high-quality PV products to more than 3,000 customers worldwide.

Electrical Characteristics (STC*)

		HiT-HxxxOF-BF				
		430	435	440	445	450
Nominal Output (Pmpp)	W	430	435	440	445	450
Open Circuit Voltage (Voc)	V	40.30	40.56	40.83	41.09	41.34
Short Circuit Current (Isc)	A	13.30	13.35	13.40	13.45	13.50
Voltage at Pmax (Vmpp)	V	33.49	33.75	34.01	34.26	34.51
Current at Pmax (Impp)	A	12.84	12.89	12.94	12.99	13.04
Module Efficiency	%	22.02	22.28	22.53	22.79	23.04
Maximum System Voltage	V	DC 1,500V (IEC)				
Temperature Coefficient of Pmax	%/°C	-0.26				
Temperature Coefficient of Voc	%/°C	-0.24				
Temperature Coefficient of Isc	%/°C	0.04				
Bificiality	-	85% ± 5%				

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

BSTC**

		430	435	440	445	450
Nominal Output (Pmpp)	W	475	480	485	490	495
Voltage at Pmax (Vmpp)	V	33.49	33.75	34.01	34.26	34.51
Current at Pmax (Impp)	A	14.18	14.23	14.27	14.31	14.35
Open Circuit Voltage (Voc)	V	40.30	40.56	40.83	41.09	41.34
Short Circuit Current (Isc)	A	14.69	14.73	14.77	14.81	14.85

**BSTC : Front side Irradiance 1,000 W/m², back side reflection irradiation 135 W/m², AM=1.5, Ambient temperature 25°C.

Mechanical Characteristics

Dimensions	1,722 mm (L) x 1,134 mm (W) x 30 mm (H)
Weight	22 kg
Solar Cells	N-Type HJT, 182mm x 91.75mm, 108 cells
Output Cables	Cable : (+)1,200 mm, (-)1,200mm / 4mm² / UV resistant Connector : Stäubli MC4-Evo2
Junction Box	IP68
Construction	Front Glass : anti-reflective solar glass, 1.6mm Rear Glass : solar glass, 1.6mm
Frame	Anodized aluminum alloy (Black)

Shipping Configurations

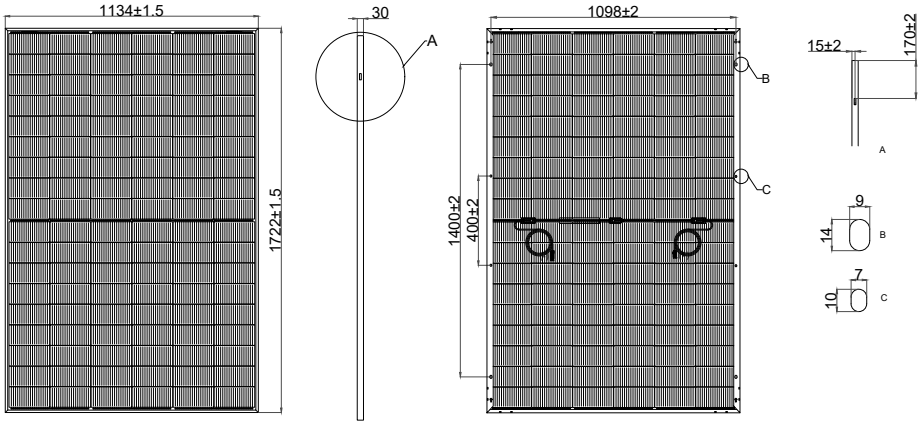
Container Size	40	**Modules Per Pallet** (pcs)	36
Pallets Per Container	26	**Modules Per Container** (pcs)	936

Installation Safety Guide

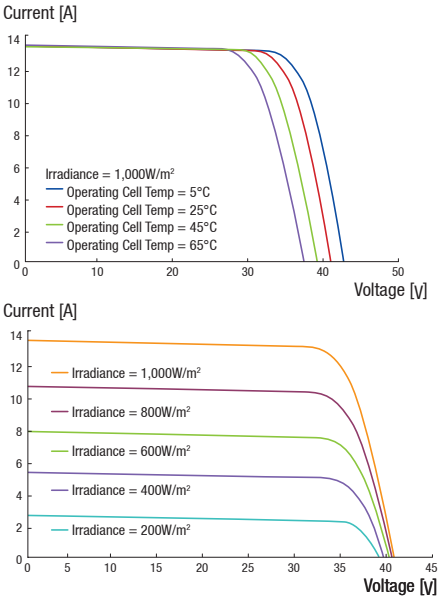
- Only qualified personnel should install or perform maintenance.
- Be aware of dangerous high DC voltage.
- Do not damage or scratch the rear surface of the module.
- Do not handle or install modules when they are wet.

Nominal Operating Cell Temp. (NOCT)	44°C ± 2°C
Operating Temperature	-40°C ~ +85°C
Maximum System Voltage	DC 1,500V (IEC)
Maximum Reverse Current	25A
Maximum Test Load	Front 5,400 Pa Rear 2,400 Pa
Fire Rating Class	C

Module Diagram (unit : mm)



I-V Curves (HiT-H440OF-BF)



Manufactured in China

Printed Date : 2023. 06. 14

HD HYUNDAI ENERGY SOLUTIONS

V-TAC

Meaningful Innovation.

10.24kWh

Wall Mounting Battery

05 YEAR WARRANTY

SMART HESS

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TÜV NORD CE RoHS

Wall Mounting Lithium Battery

LISTING DETAILS

Model No:	**VT-12040**
SKU Code:	**11447**
EAN Code:	**3800157692335**

MASTER BOX PACKAGING

Qty Per Pallet:	**69 pcs per pallet**
Net Weight :	**89.91kg**
Product Size :	**660*855*360mm**

GENERAL DATA

Storage Capacity：	**10240Wh 51.2V**
Standard Capacity：	**200Ah/51.2V**
Continuous Input Current ：	**100A**
Continuous Output Current：	**120A**
Standard Charging Voltage:	**57.6V-60V**
Cut Off:	**36V-48V**
Self-discharge (25°C) :	**<3%/month**
Depth Of Discharge:	**>80%**
Operating Temperature Range:	**-20°C-70°C, Recommended Temperature range :10°C-45°C**
Cycle Life:	**>5000 times (<0.5C)**
C-rate Discharge	**<0.8C**