445~465 Watt

HORAY | TIER1 BloombergNEF

HS 210R-96 TC-D *Cosmos* *N-type Bifacial Modules*

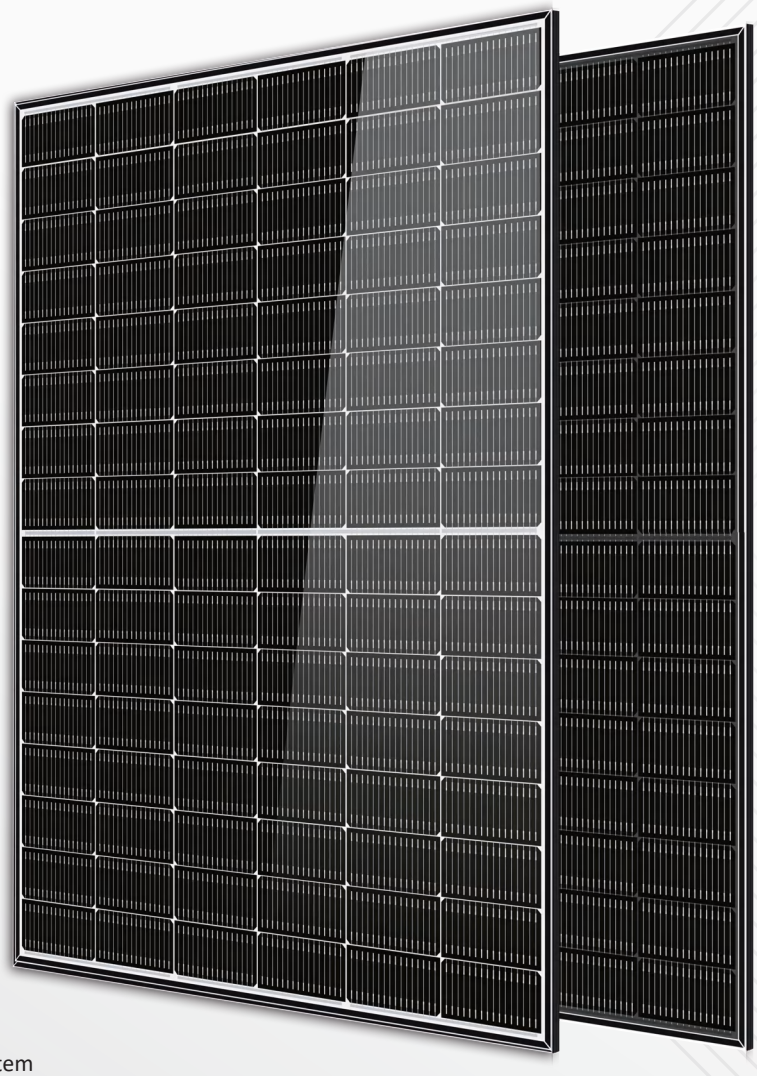
SMBB Half-Cell Technology
More uniform current distribution, reducing heat loss in internal cells.

Higher Output Power
The output power of 96 half-cell monocrystalline modules is up to 465W.

Low Light Features
Higher performance under low light environment.

Harsh Environmental Adaptability
Strict salt spray and ammonia corrosion tests by a third party.

Lower Power Attenuation
Anti-PID and negligible LID/LeTID, which reduces power loss.



IEC 61215:2021

IEC 61730:2023

ISO 9001:2015 Quality Management System

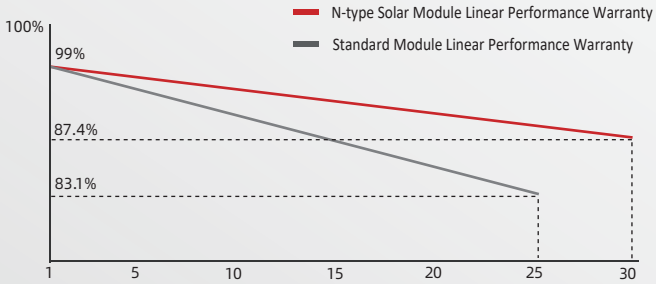
ISO 14001:2015 Environmental Management System

ISO 45001:2018 Occupational Health and Safety Management System

CE Marking: European Conformity

CQC: China Quality Certification Centre

Solar Product Certification



15 15-year product warranty

30 30-year linear power output warranty

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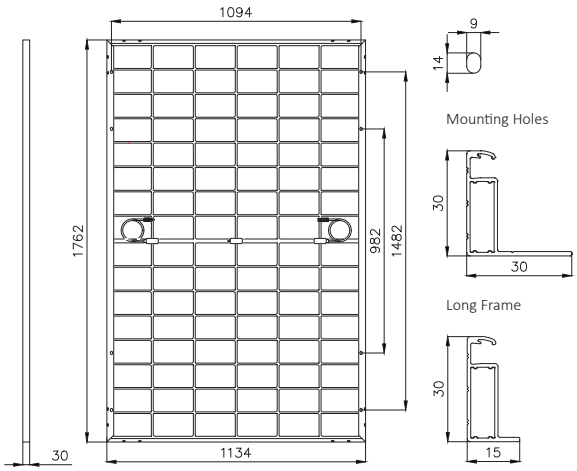
HS 210R-96 TC-D

MECHANICAL DIAGRAMS



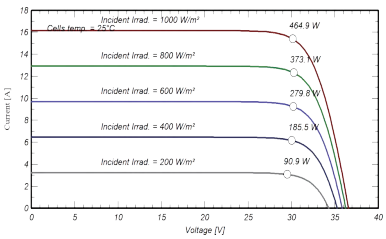
Unit:mm Tolerance:±2mm

MECHANICAL PARAMETERS

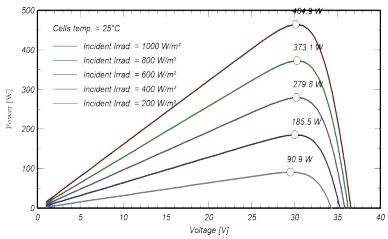
Weight	24.5kg
Dimension	1762×1134×30mm
Cell Orientation	96 (6×16)
Junction Box	IP68, three diodes
Output Cable	4mm², ±1100mm (length can be customized)
Connector	MC4 compatible
Glass	2.0+2.0mm AR coated heat strengthened glass
Frame	Anodized aluminum alloy frame
Packaging	37pcs per pallet/962pcs per 40'HC

CURVES OF PV MODULE

HS465TC-MHC-D



HS465TC-MHC-D



ELECTRICAL CHARACTERISTICS AT STC

Module Type	HS445TC-MHC-D	HS450TC-MHC-D	HS455TC-MHC-D	HS460TC-MHC-D	HS465TC-MHC-D
Testing Condition	STC	STC	STC	STC	STC
Maximum Power(Pmax/W)	445	450	455	460	465
Open Circuit Voltage(Voc/V)	35.87	36.04	36.21	36.39	36.56
Short Circuit Current(Isc/A)	15.77	15.87	15.97	16.07	16.16
Maximum Power Voltage(Vmp/V)	29.81	29.95	30.10	30.24	30.38
Maximum Power Current(Imp/A)	14.93	15.02	15.12	15.21	15.30
Module Efficiency(%)	22.3	22.5	22.8	23.0	23.3

* Standard Test Conditions (STC): Irradiance 1000W/m², AM 1.5, Cell temperature 25°C. Power measurement tolerance: ±3%.

ELECTRICAL CHARACTERISTICS AT BNPI

Module Type	HS445TC-MHC-D	HS450TC-MHC-D	HS455TC-MHC-D	HS460TC-MHC-D	HS465TC-MHC-D
Testing Condition	BNPI	BNPI	BNPI	BNPI	BNPI
Maximum Power(Pmax/W)	490	495	501	506	512
Open Circuit Voltage(Voc/V)	35.87	36.04	36.21	36.39	36.56
Short Circuit Current(Isc/A)	17.50	17.61	17.72	17.83	17.94
Maximum Power Voltage(Vmp/V)	29.81	29.95	30.10	30.24	30.38
Maximum Power Current(Imp/A)	16.42	16.53	16.63	16.73	16.83

* Bifacial Nameplate Irradiance(BNPI): Irradiance front 1000W/m², rear 135W/m². Power measurement tolerance: ±3%.

OPERATING PARAMETERS

Operating Temperature Range	-40°C~+85°C
Power Output Tolerance	0~3%
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	30A
Nominal Module Operating Temperature	45±2°C
[T98]max	≤70°C
Protection Class	Class II
Bifaciality coefficient of Pmax	80±5%
Fire Rating	IEC Class A

MECHANICAL LOADING

Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Hailstone Test	25mm Hailstone at the speed of 23m/s

TEMPERATURE RATINGS (STC)

Temperature Coefficient of Isc	+0.04%/°C
Temperature Coefficient of Voc	-0.23%/°C
Temperature Coefficient of Pmax	-0.28%/°C

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.
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Specifications included in this datasheet are subject to change without notice.
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