

450W

N-TYPE HALF CELL MONO

BIFACIAL DOUBLE GLASS

GERMAN BRAND SOLAR PANEL

430W-450W

POWER OUTPUT RANGE

108 CELL

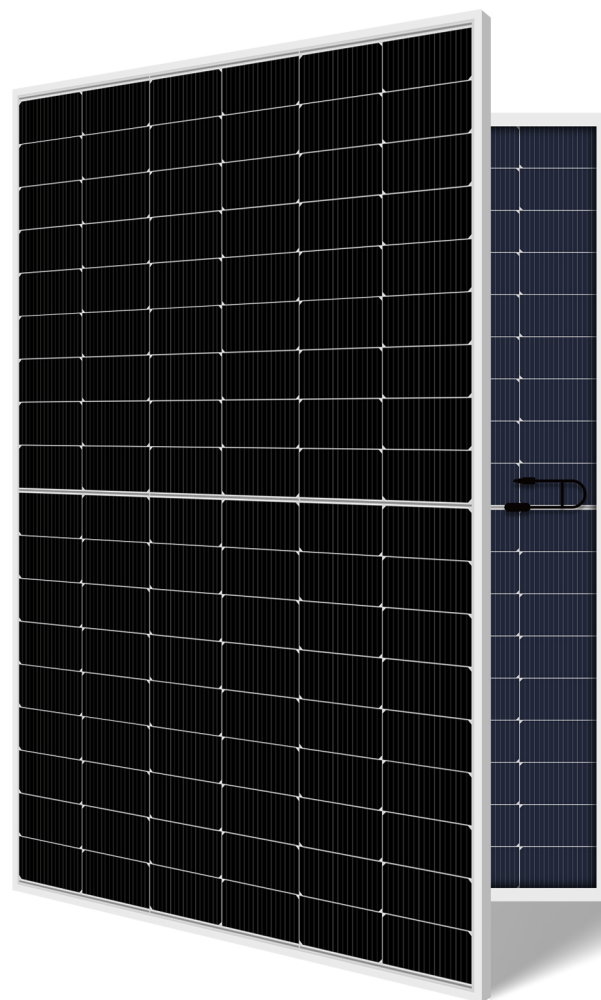
MBB MONO N-TYPE

22.5%

MAXIMUM EFFICIENCY

0 to +5W

POSITIVE POWER TOLERANCE



Product
Warranty



Output
Warranty



Higher Efficiency



Lower LID



German Technology



Sand Resistant



Environmentally Friendly



Stable Performance



Higher Output of Power

Effectively reduce the unit cost of PV solar system by watt



Optimize the temperature coefficient

Improve the performance under the condition of shadow and low temperature coefficient



Reduce the shadow loss on the power output

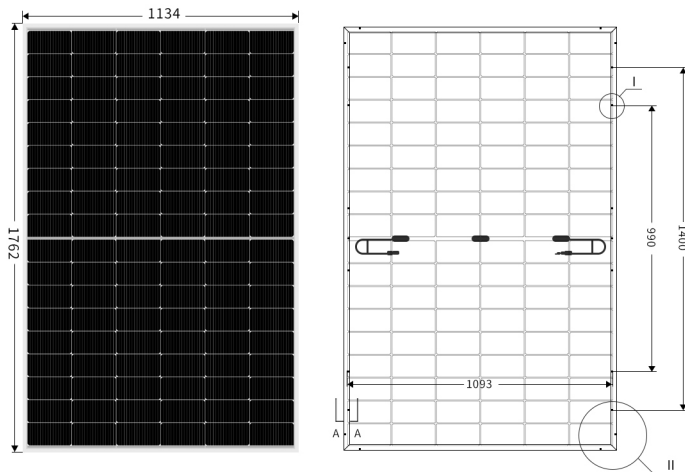
Effectively reduce the risk of heat spot on high efficiency



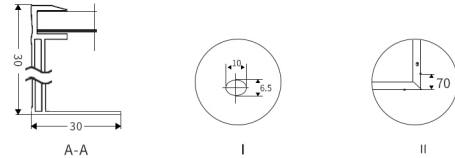
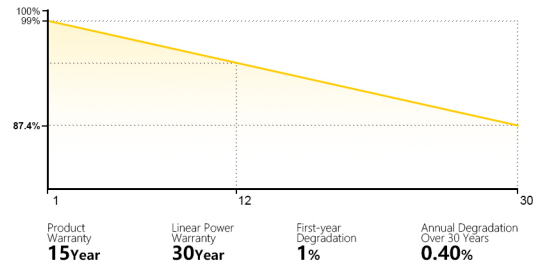
Stronger the physical property

Optimize the property of power generating and reliability of the system

DIMENSIONS OF PV MODULE



LINEAR PERFORMANCE WARRANTY



MECHANICAL DATA

Solar Cells	Mono N-TYPE
Cell Orientation	108 (6 x 18)
Module Dimensions	1762 x 1134 x 30mm
Weight	25kg
Front Glass	2.0mm
Back Glass	2.0mm
Frame	Anodized Aluminium Alloy
J-Box	IP 68 Rated
Cables	4.0mm ² , 350mm or Customized Length
Connector	MC4 Compatible

PACKAGE Modules per Pallet:36 pieces Modules per 40'HQ Container:936 pieces

TEMPERATURE RATINGS

Nominal Operating Cell Temperature(NOCT)	42±2°C
Temperature Coefficient of P _{MAX}	-0.29%/°C
Temperature Coefficient of Voc	-0.24%/°C
Temperature Coefficient of Isc	+0.04%/°C

MAXIMUM RATINGS

Operational Temperature	-45°C to +85°C
Maximum System Voltage	1500V DC
Max Series Fuse Rating	25A
Mechanical Load	5400pa
Wind Load	2400pa

MODULE TYPE

		HTS-108210RH430LDG		HTS-108210RH435LDG		HTS-108210RH440LDG		HTS-108210RH445LDG		HTS-108210RH450LDG	
		STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Test Environment											
Maximum Power	P _{MAX} (W)	430	325	435	329	440	333	445	336	450	340
Maximum Power Voltage	V _{MPP} (V)	32.85	31.04	33.14	31.31	33.58	31.74	33.81	31.95	34.06	32.19
Maximum Power Current	I _{MPP} (A)	13.09	10.47	13.13	10.50	13.10	10.48	13.16	10.53	13.21	10.57
Open Circuit Voltage	V _{OC} (V)	39.53	37.55	40.02	38.02	39.40	37.43	39.61	37.62	39.92	37.91
Short Circuit Current	I _{SC} (A)	13.57	10.86	13.58	10.86	13.79	11.03	13.86	11.09	13.94	11.15
Tolerance	(W)	0 ± 5		0 ± 5		0 ± 5		0 ± 5		0 ± 5	
Module Efficiency	(%)	21.5		21.8		22.0		22.3		22.5	

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3.
Average efficiency reduction of 4.5% at 200W/m² according to EN 60904-1
NOCT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1m/s.

BIFACIAL OUTPUT-REAR SIDE POWER GAIN 10% FOR REFERENCE

Module Type	HTS-108210RH430LDG	HTS-108210RH435LDG	HTS-108210RH440LDG	HTS-108210RH445LDG	HTS-108210RH450LDG
P _{max} (W)	473	478.5	484	489.5	495
V _{oc} (V)	39.53	40.02	39.40	39.61	39.92
I _{sc} (A)	11.90	11.98	12.06	12.14	12.22
V _{mp} (V)	32.85	33.14	33.58	33.81	34.06
I _{mp} (A)	11.26	11.34	11.42	11.49	11.57