

GERMAN BRAND SOLAR PANEL
N-TYPE M10 HALF CELL MONO

440W

108 CELL

MBB MONO N-TYPE

22.53%

MAXIMUM EFFICIENCY

420W-440W

POWER OUTPUT RANGE

0 to +5W

POSITIVE POWER TOLERANCE



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

Module Type		HTS-108M10H420L		HTS-108M10H425L		HTS-108M10H430L		HTS-108M10H435L		HTS-108M10H440L	
Test Environment		STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power	$P_{MAX}(W)$	420	316.8	425	320.6	430	324.4	435	328.2	440	331.9
Maximum Power Voltage	$V_{MPP}(V)$	31.52	29.58	31.71	29.75	31.90	29.93	32.09	30.11	32.28	30.29
Maximum Power Current	$I_{MPP}(A)$	13.33	10.75	13.41	10.81	13.48	10.87	13.56	10.93	13.64	11.00
Open Circuit Voltage	$V_{OC}(V)$	38.15	36.44	38.38	36.66	38.61	36.88	38.84	37.10	39.07	37.32
Short Circuit Current	$I_{SC}(A)$	14.08	11.37	14.16	11.43	14.24	11.49	14.32	11.56	14.41	11.63
Tolerance	(W)	0 - +5		0 - +5		0 - +5		0 - +5		0 - +5	
Module Efficiency	(%)	21.51		21.76		22.02		22.28		22.53	

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.

MECHANICAL DATA

Solar Cells	Mono N-TYPE
Cell Orientation	108 (6 x 18)
Module Dimensions	1722 x 1134 x 30mm
Weight	20kg
Glass	Anti-Reflective, AR Coated and Heat Tempered Solar Glass-3.2mm
Backsheet	Black
Frame	Black Anodized Aluminium Alloy
J-Box	IP 68 Rated
Cables	4.0mm ² , 350mm or Customized Length
Connector	MC4 Compatible

PACKAGE	Modules per box: 36 pieces	Modules per 40' container: 936 pieces
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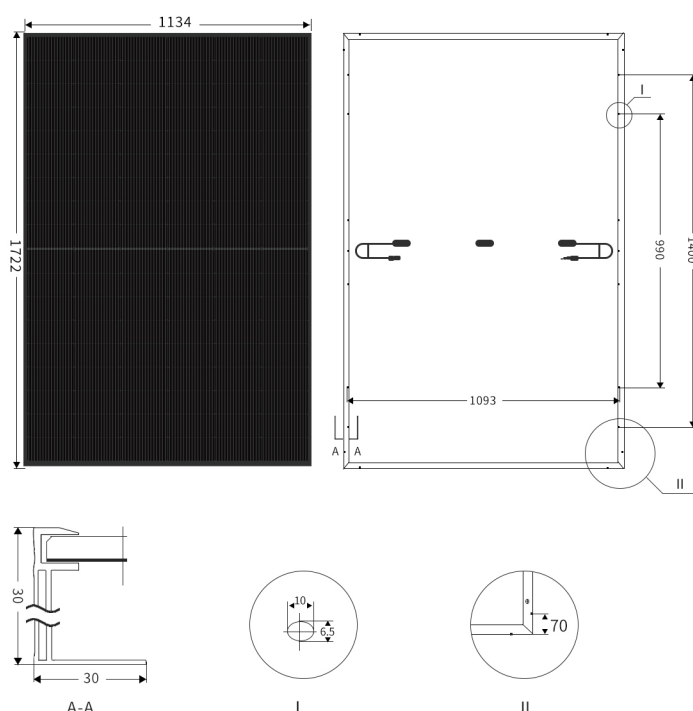
TEMPERATURE RATINGS

Nominal Operating Cell Temperature(NOCT)	45±2°C
Temperature Coefficient of P_{MAX}	-0.30%/°C
Temperature Coefficient of V_{OC}	-0.25%/°C
Temperature Coefficient of I_{SC}	+0.046%/°C

MAXIMUM RATINGS

Operational Temperature	-40 to +85°C
Maximum System Voltage	1500V DC
Max Series Fuse Rating	25A
Mechanical Load	5400pa
Wind Load	2400pa

DIMENSIONS OF PV MODULE



LINEAR PERFORMANCE WARRANTY

15 Year Product Warranty

30 Year Linear Power Warranty

