

MSDxxxP-120M

440-460 Watt

MONO MODULE

P-Type

Positive power tolerance of 0~+3%

IEC61215(2016), IEC61730(2016)

ISO9001:2015: Quality Management System

ISO14001:2015: Environment Management System



MBB HC Technology

Key Features



Multi Busbar Technology

Better light trapping and current collection to improve module power output and reliability.



Durability Against Extreme Environmental Conditions

High salt mist and ammonia resistance.



Reduced Hot Spot Loss

Optimized electrical design and lower operating current for reduced hot spot loss and better temperature coefficient.



Enhanced Mechanical Load

Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal).

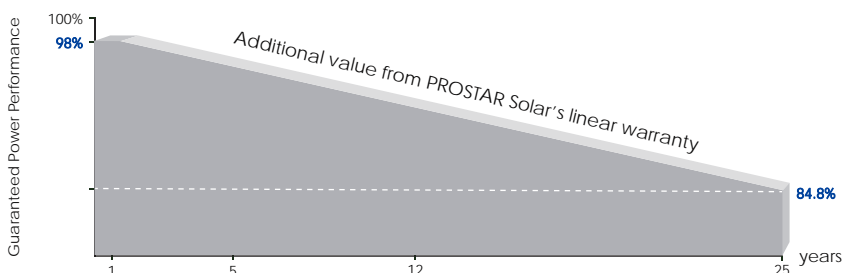


PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control.



LINEAR PERFORMANCE WARRANTY

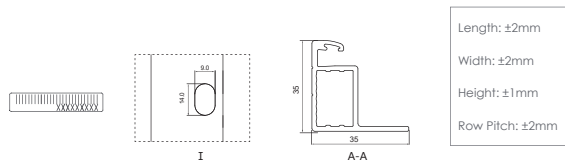
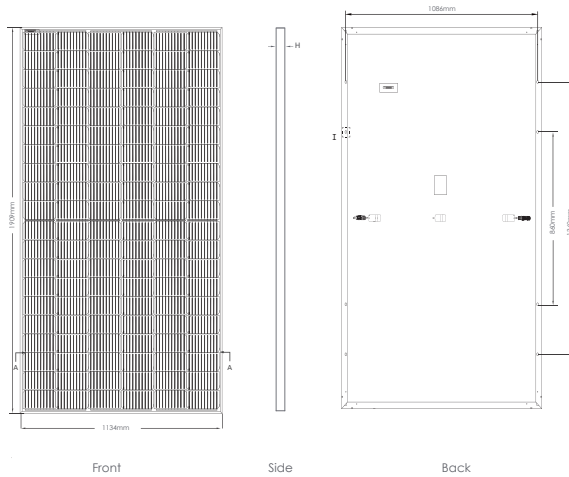


12 Year Product Warranty

25 Year Linear Power Warranty

0.55% Annual Degradation Over 25 years

Engineering Drawings

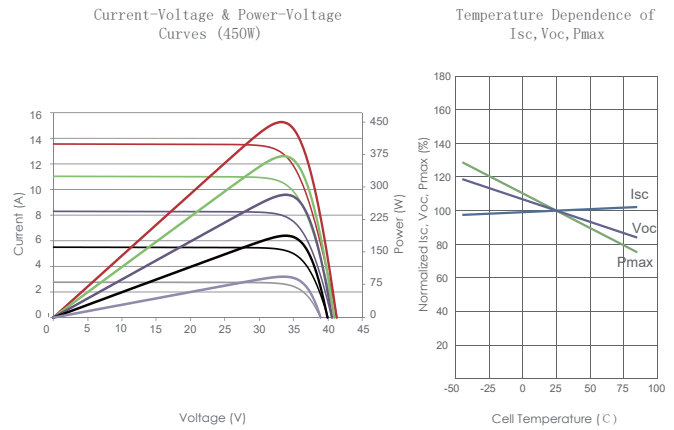


Packaging Configuration

(Two pallets = One stack)

31pcs/pallets, 62pcs/stack, 744pcs/ 40'HQ Container

Electrical Performance & Temperature Dependence



Mechanical Characteristics

Cell Type	P type Mono-crystalline
No. of cells	120 (6×20)
Dimensions	1909×1134×35mm
Weight	25.2 kgs
Front Glass	3.2mm, Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Output Cables	TUV 1×4.0mm ² (+): 290mm, (-): 145mm or Customized Length

SPECIFICATIONS

Module Type	MSD440P-120M		MSD445P-120M		MSD450P-120M		MSD455P-120M		MSD460P-120M	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	440Wp	327Wp	445Wp	331Wp	450Wp	335Wp	455Wp	339Wp	460Wp	342Wp
Maximum Power Voltage (Vmp)	33.72V	31.39V	33.82V	31.56V	33.91V	31.73V	34.06V	31.91V	34.20V	32.07V
Maximum Power Current (Imp)	13.05A	10.43A	13.16A	10.49A	13.27A	10.55A	13.36A	10.61A	13.45A	10.67A
Open-circuit Voltage (Voc)	41.02V	38.72V	41.10V	38.79V	41.18V	38.87V	41.33V	39.01V	41.48V	39.15V
Short-circuit Current (Isc)	13.73A	11.09A	13.79A	11.14A	13.85A	11.19A	13.93A	11.25A	14.01A	11.32A
Module Efficiency STC (%)	20.39%		20.62%		20.85%		21.08%		21.32%	
Operating Temperature(°C)	-40°C~+85°C									
Maximum system voltage	1000/1500VDC (IEC)									
Maximum series fuse rating	25A									
Power tolerance	0~+3%									
Temperature coefficients of Pmax	-0.35%/°C									
Temperature coefficients of Voc	-0.28%/°C									
Temperature coefficients of Isc	0.048%/°C									
Nominal operating cell temperature (NOCT)	45±2°C									

*STC: Irradiance 1000W/m² Cell Temperature 25°C AM=1.5
 NOCT: Irradiance 800W/m² Ambient Temperature 20°C AM=1.5 Wind Speed 1m/s