

MonoPower Large Half Cells

ASP MD-120 Series 450W-460W

Monocrystalline PV-module



QUALITY & RELIABILITY

Best raw materials, optimized production process and accurate testing makes the quality difference



GERMAN ENGINEERING

Best design by the art of German engineering



SAVE INVESTMENT

Product warranty of 12 years and performance warranty of 25 years



POSITIVE PERFORMANCE TOLERANCE

Up to +5 W plus-tolerance on output



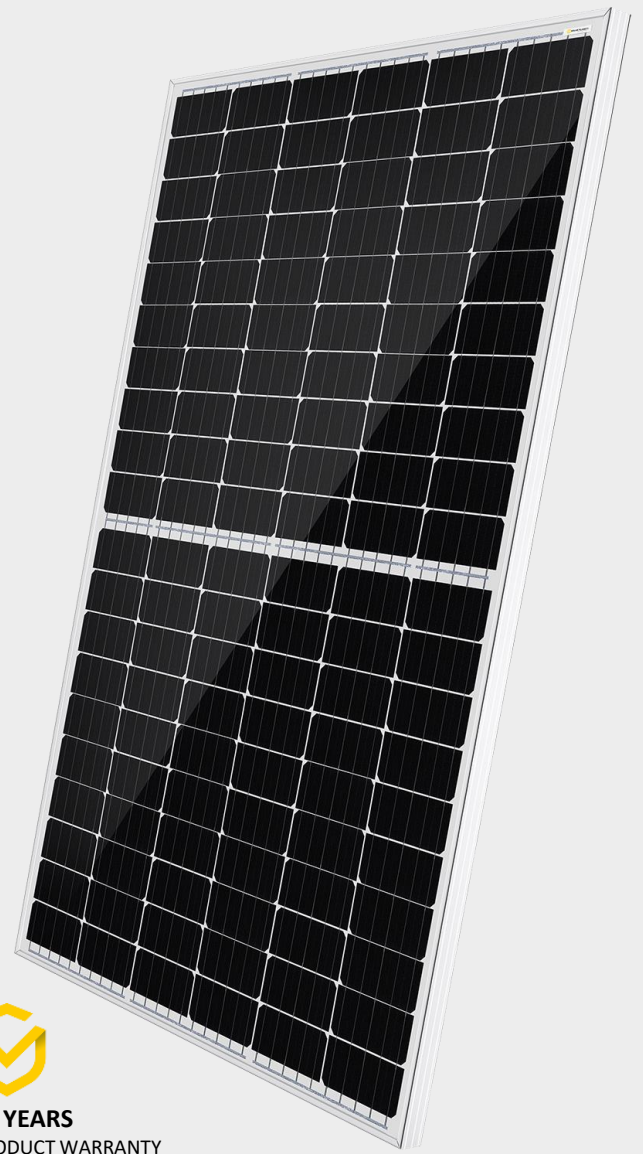
FOR ALL ENVIRONMENTAL CONDITIONS

Resistant against PID, sand, salt and ammonia



STABLE AND STRONG

Capable to bear heavy snow loads up to 5400 Pa and wind loads up to 2400 Pa

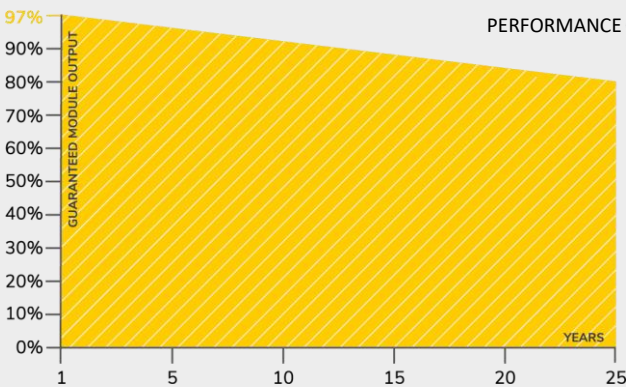


12 YEARS
PRODUCT WARRANTY

OUR PERFORMANCE GUARANTEE



25 YEARS
PERFORMANCE GUARANTEE



CERTIFICATES



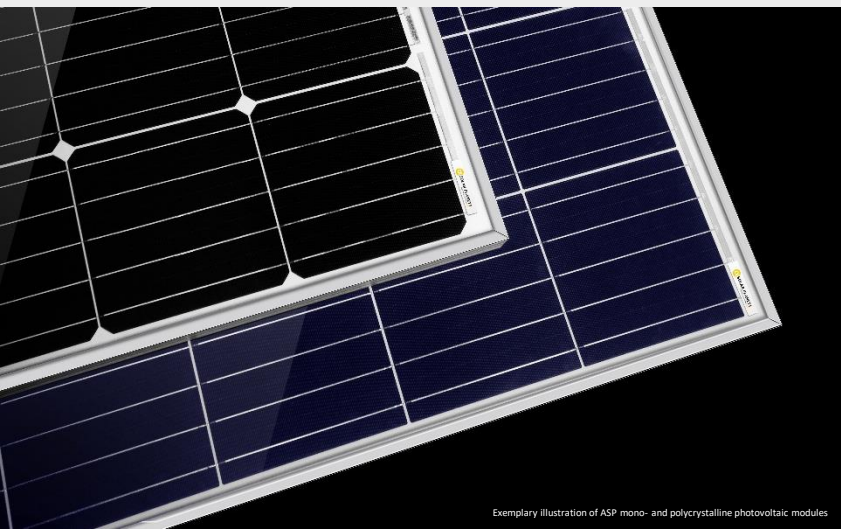
IEC 61215
IEC 61730
PERIODICAL
INCEPTION



PID RESISTANT
SALT MIST RESISTANT
SAND RESISTANT
CORROSIVE GAS (NH₃)



Quality
Diligence
Durability



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TECHNICAL DATA

ASP450MD-120

ASP455MD-120

ASP460MD-120

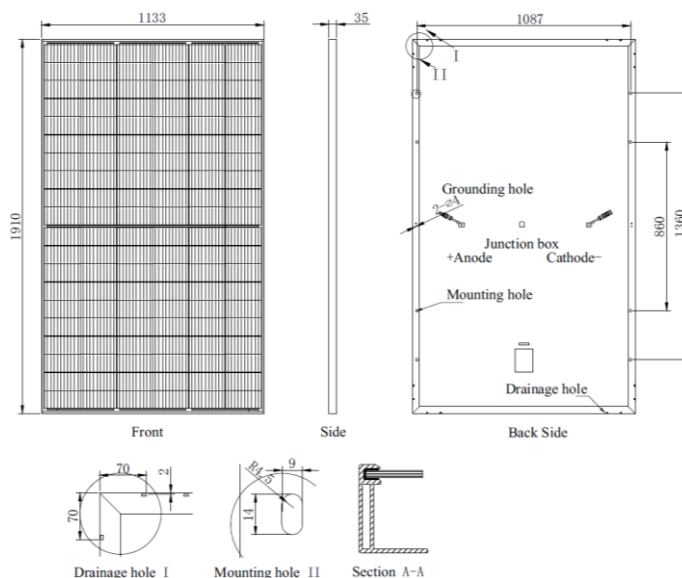
Parameter	Unit	ASP450MD-120	ASP455MD-120	ASP460MD-120
Maximum power	P _{max} (Wp)	450	455	460
Maximum power voltage	V _{mp} (V)	35.13	35.38	35.6
Maximum power current	I _{mp} (A)	12.81	12.86	12.92
Open-circuit voltage	V _{oc} (V)	41.98	42.29	42.6
Short-circuit current	I _{sc} (A)	13.57	13.62	13.67
Module efficiency	%	20.8	21.0	21.3
Power tolerance	P _{max} (W)		0/+5	
Maximum system voltage DC	V		1500	
Operating temperature	°C		-40 to +85	
Temperature coefficients of P _{max}	%/°C		-0.350	
Temperature coefficients of V _{oc}	%/°C		-0.275	
Temperature coefficients of I _{sc}	%/°C		0.045	
Nominal operating cell temp. (NOCT)	°C		45±2	

The electrical data apply to standard test conditions (STC): Irradiance of 1000 W/m² with spectrum AM 1.5 and a cell temperature of 25°C.

MATERIAL CHARACTERISTICS

Cell type	Monocrystalline 182 x 91 mm
No. of cells	120 (6 x 20)
Dimensions	1910 x 1133 x 35 mm
Weight	24.0 kg
Junction box	IP68 rated
Output cable	4.0 mm ² , 350 mm length
Connector type	MC4 / MC4 compatible
Hail resistance	Max. Ø 25 mm, at 23 m/s
Wind load	2400 Pa / 244 kg/m ²
Mechanical load	5400 Pa / 550 kg/m ²

DRAWINGS



PACKING INFORMATION

Packing configuration	60 pcs / double pallet
Loading capacity	720 pcs / 40 HQ
Size / pallet	1945 x 1135 x 2490 mm
Weight	1550 kg / double pallet



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