

ASTORIOS

per aspera ad astra



PHOTOVOLTAIC MODULE

ASTR M5-72SB Series 470-490 Wp

SHINGLED CELLS

490 W
MAXIMUM POWER OUTPUT

20.9 %
MAXIMUM MODULE EFFICIENCY



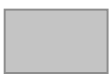
MORE YIELD

PV modules are positive tolerance current level sorted bringing to increase in energy yield and avoiding solar panel degradation due to mismatch



HOT SPOTS RISK REDUCTION

Sophisticated electrical design, cells sorting, cutting and soldering technology leads to low hot spot risk and temperature control



HIGH QUALITY GLASS

Additional yield and easy maintenance are provided by high transparent and self-cleaning glass



SHINGLING TECHNOLOGY

Adhesive bonded, innovative high-density shingled cells layout technology



MINIMIZING THE SHADING IMPACT

Better partial-shade tolerance and high effective power generation hours due to full parallel arrangement



PID RESISTANT

Selected encapsulants, precision in manufacturing quality control makes modules highly PID resistant and snail trails free



SAND, AMMONIA AND SALT MIST RESISTANCE

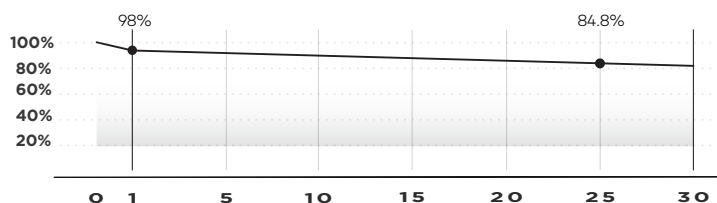
Sand blowing, ammonia and salt mist resistance tests have been passed by international standards to ensure operation in harsh conditions



SUPERIOR APPEARANCE

Uniform and solid layout, high tech look

PERFORMANCE



30 YEARS

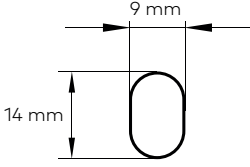
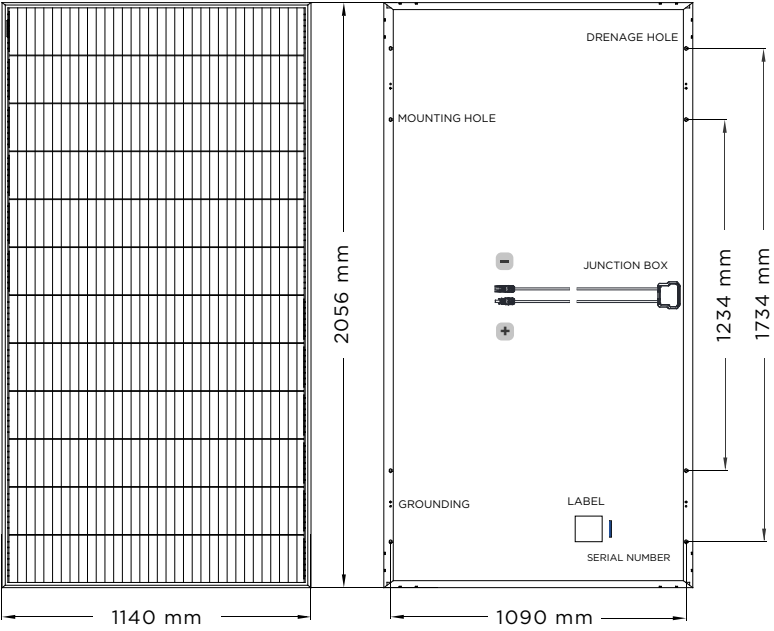
Performance Guarantee

15 YEARS

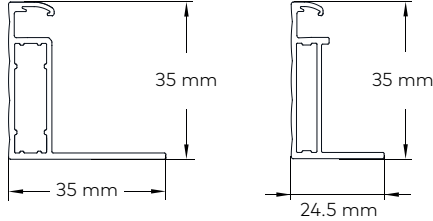
Product Warranty

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MOUNTING HOLE



FRAME PROFILE

MATERIAL CHARACTERISTICS

Dimensions	2056x1140x35 mm
Weight	25 kg
Glass	3.2 mm AR coated tempered glass, low iron
Cells	Mono-crystalline
Cell layout	408 (34*12)
Frame	Anodized aluminum alloy
Junction box	IP 68 rated, 2 bypass diodes
Output cable	4 mm ² , 1200 mm, customizable
Connector	Staubli MC4 / MC4-Evo 2 / MC4 Compatible

PACKAGING INFORMATION

One pallet quantity	31 pcs
40 ft HC/HQ container	682 pcs
Truck	992 pcs

TEMPERATURE PARAMETERS

Temperature Coefficient of Pmax	-0.34 % / °C
Temperature Coefficient of Voc	-0.27 % / °C
Temperature Coefficient of Isc	+0.04 % / °C
Operating Temperature	-40°C to +85 °C
Nominal Module Operating Temperature (NMOT)	42.3±2°C

MAXIMUM RATINGS

Max. System Voltage	1000/1500V DC (IEC)
Max. Series Fuse Rating	20A
Uplift load (wind)	2400 Pa*
Downforce load (snow)	5400 Pa*
Hail Resistance	Max. diameter 25 mm, impact speed 23 m/s

*For more information please refer to Instruction Manual

MODULE TYPE	M5-72SB		470 Wp		475 Wp		480 Wp		485 Wp		490 Wp	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
ELECTRICAL CHARACTERISTICS												
Maximum power (Pmax / Wp)	470	354	475	358	480	361	485	365	490	369		
Open circuit voltage (Voc / V)	46.4	44.2	46.5	44.3	46.6	44.4	46.6	44.4	46.7	44.5		
Short circuit current (Isc / A)	13.04	10.52	13.10	10.57	13.16	10.62	13.22	10.67	13.28	10.72		
Maximum power voltage (Vmp / V)	38.6	36.8	38.7	36.9	38.8	37.0	38.8	37.0	38.9	37.1		
Maximum power current (Imp / A)	12.18	9.62	12.27	9.69	12.37	9.77	12.50	9.87	12.60	9.95		
Module efficiency at STC (ηm / %)	20.1		20.3		20.5		20.7		20.9			
Power tolerance (Pmax)	(0,+5) Wp											

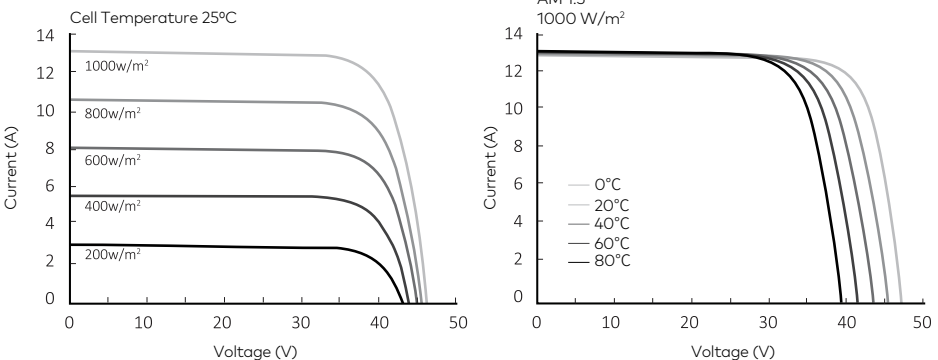
STC: Irradiance of 1000 W/m² with spectrum AM 1.5 and a module temperature of 25°C
 NMOT: Irradiance 800 W/m², ambient temperature 20°C and wind speed 1 m/s

CERTIFICATES

IEC61215/61730, IEC62804 (PID), IEC61701 (Salt)
 IEC62716 (Ammonia), IEC60068-2-68 (Sand)
 IC TS 62941 -2016
 PV industry quality management system



I-V Curve



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