

# ASTORIOS

per aspera ad astra

## HIGH EFFICIENCY BIFACIAL, DOUBLE GLASS PHOTOVOLTAIC MODULE

ASTR 144HCND/10 Series 560-580 Wp

TOPCON N-TYPE HALF CUT CELLS

**580 Wp**  
MAXIMUM POWER OUTPUT

**22.45%**  
MAXIMUM MODULE EFFICIENCY



### NEGLIGIBLE LID IMPACT

TOPCon cells exhibit an almost zero susceptibility to Light Induced Degradation, ensuring sustained high efficiency over time despite exposure to sunlight



### HOT SPOTS RISK REDUCTION

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



### HIGH EFFICIENCY

N-type cells technology provides the highest efficiency modern multi busbar configuration at affordable cost.



### MULTI BUSBAR TECHNOLOGY

Better light absorption and current collection for better power output



### MINIMIZING THE SHADING IMPACT

Better partial-shade tolerance due to separated half panel string wiring



### PID RESISTANT

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



### SAND, AMMONIA AND SALT MIST RESISTANCE

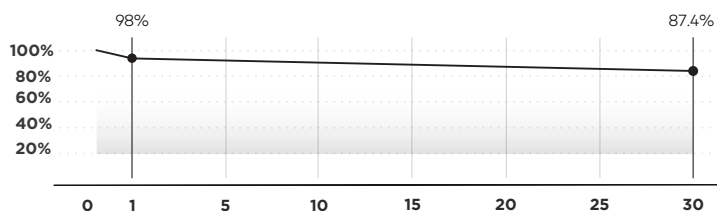
Sand blowing, ammonia and salt mist resistance tests have been passed by international standards to ensure operation in harsh conditions



### SUPERIOR SAFETY AND RELIABILITY

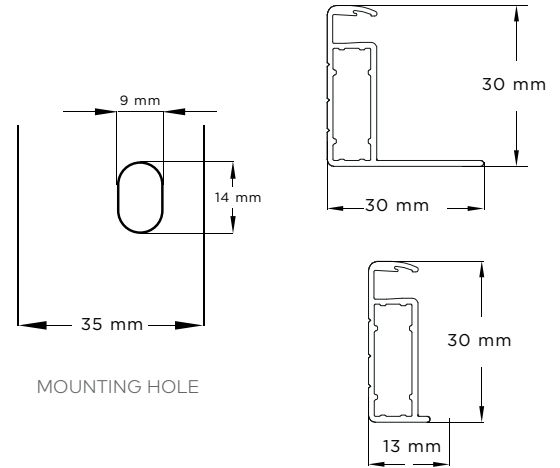
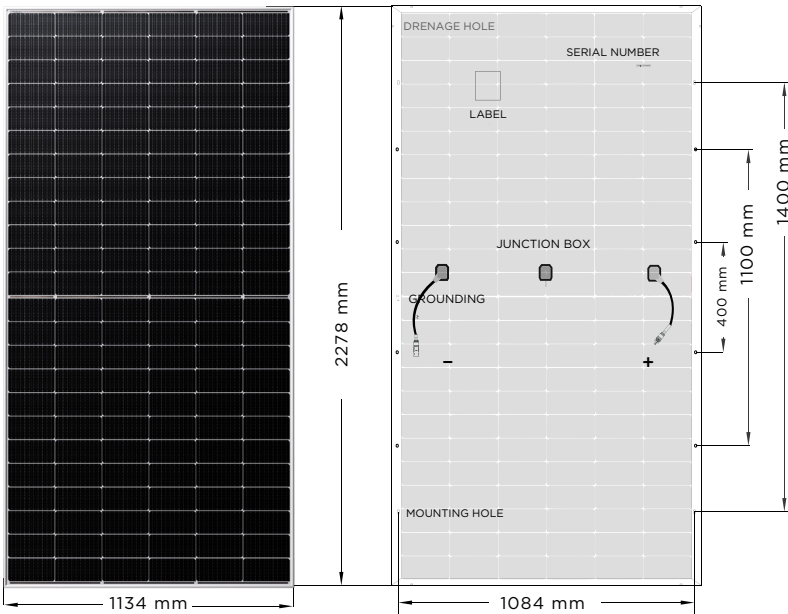
Tested to avoid microcracks and welding cracks, can withstand high pressure loads, passed multi-step quality control

## PERFORMANCE



**30 YEARS**  
Performance Guarantee

**20 YEARS**  
Product Warranty



FRAME PROFILE

## MATERIAL CHARACTERISTICS

Dimensions	2278 x 1134 x 30 mm
Weight	32.0 kg
Number of Cells	144 pcs (6x24)
Glass front/rear	2mm, High transparency, AR coated
Cells	Half Cut N-Type, Bifacial 10BB / 16BB (182mm)
Frame	Silver color, anodized aluminum alloy
Junction box	IP68 Rated, 3 bypass diodes
Connector type	Staubli MC4-Evo 2 / MC4 (Original)
Cable	4 mm <sup>2</sup> , 300 mm

## TEMPERATURE PARAMETERS

Temperature Coefficient of Pmax	-0.30 % / °C
Temperature Coefficient of Voc	-0.25 % / °C
Temperature Coefficient of Isc	+0.046 % / °C
Operating Temperature	-40°C to +85°C
Normal Operating Cell Temperature (NOCT)	44±2°C

## MAXIMUM RATINGS

Max. System Voltage	1500V DC -(H)
Max. Series Fuse Rating	30 A
Uplift load (wind)	2400 Pa*
Downforce load (snow)	5400 Pa*

## PACKAGING INFORMATION

One pallet quantity	36 pcs
40 ft HC/HQ container	720 pcs

\*For more information please refer to Instruction Manual

MODULE TYPE	144HCND/10		560 Wp		565 Wp		570Wp		575 Wp		580 Wp	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
<b>ELECTRICAL CHARACTERISTICS</b>												
Maximum power (Pmax / Wp)	560	421	565	425	570	429	575	432	580	436		
Open circuit voltage (Voc / V)	50.67	48.13	50.87	48.32	51.07	48.51	51.27	48.70	51.47	48.89		
Short circuit current (Isc / A)	14.13	11.41	14.19	11.46	14.25	11.50	14.31	11.55	14.37	11.60		
Maximum power voltage (Vmp / V)	41.95	39.39	42.14	39.52	42.29	39.65	42.44	39.78	42.59	39.87		
Maximum power current (Imp / A)	13.35	10.69	13.41	10.75	13.48	10.81	13.55	10.87	13.62	10.94		
Module efficiency at STC (ηm / %)	21.68		21.87		22.07		22.26		22.45			
Power tolerance (Pmax)	(0,+5) Wp											

STC: Irradiance of 1000 W/m<sup>2</sup> with spectrum AM 1.5 and a module temperature of 25°C  
 NMOT: Irradiance 800 W/m<sup>2</sup>, ambient temperature 20°C and wind speed 1 m/s

## CERTIFICATES

IEC62716 (Ammonia)  
 IEC60068-2-68 (Sand)  
 IEC61215 / 61730 / 61701

