

# ASTORIOS

per aspera ad astra



## HETEROJUNCTION BIFACIAL, DOUBLE GLASS PHOTOVOLTAIC MODULE

ASTR 110HCHD/12 Series 580-605 Wp

**605 Wp**

MAXIMUM POWER OUTPUT

**23.2%**

MAXIMUM MODULE EFFICIENCY



### NEGLECTIBLE LID IMPACT

HJT is subject to minimal LID due to the absence of boron-oxygen complexes and superior surface passivation, enhancing stability and efficiency under sunlight exposure



### 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



### 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

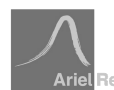
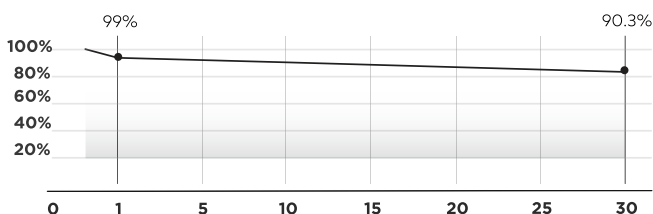
Sand blowing, ammonia and salt mist resistance tests have been passed by international standards to ensure operation in harsh conditions



### SUPERIOR SAFETY AND RELIABILITY

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

## PERFORMANCE



### REINSURANCE COVERAGE

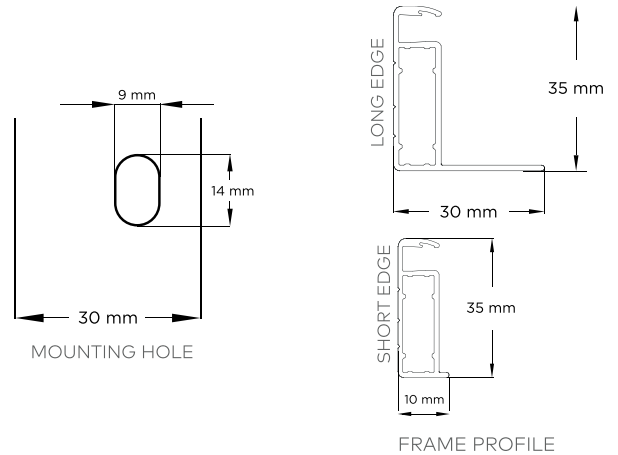
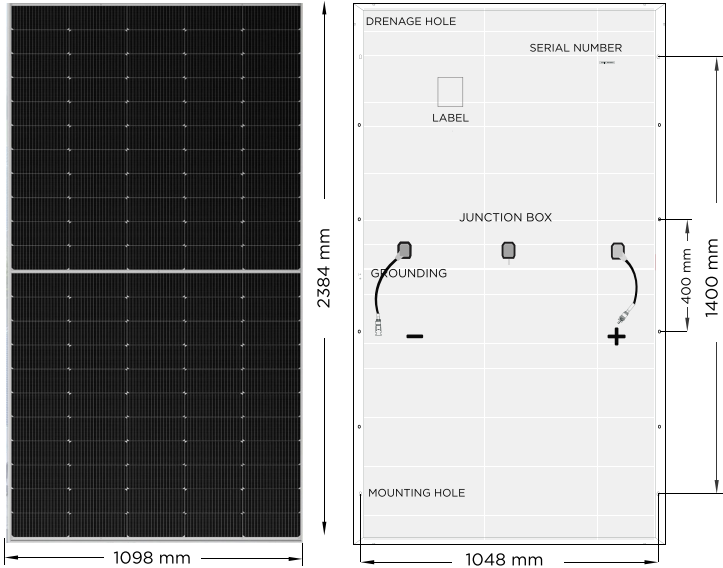
Reinsured for 30 years of performance guarantee by Ariel Re (Syndicate 1910 at Lloyd's)

**30 YEARS**

Performance Guarantee

**20 YEARS**

Product Warranty



## MATERIAL CHARACTERISTICS

Dimensions	2384 x 1098 x 35 mm
Weight	32.1kg
Number of cells	110 pcs (5x22)
Glass front/rear	2mm, High transparency, AR coated
Cell layout	HJT Mono 18BB/20BB
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	-0.243 % / °C
Temperature Coefficient of Voc	-0.223 % / °C
Temperature Coefficient of Isc	+0.026 % / °C
Operating Temperature	- 40°C to + 85°C
Normal Operating Cell Temperature (NOCT)	43±2°C

## MAXIMUM RATINGS

Max. System Voltage	1500V DC - (H)
Max. Series Fuse Rating	35A
Uplift load (wind)	2400 Pa*
Downforce (snow)	5400 Pa*

## PACKAGING INFORMATION

One pallet quantity	31 pcs
40 ft HC/HQ container	620 pcs

\*For more information please refer to Instruction Manual

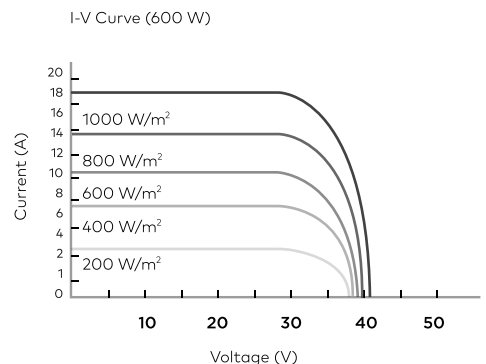
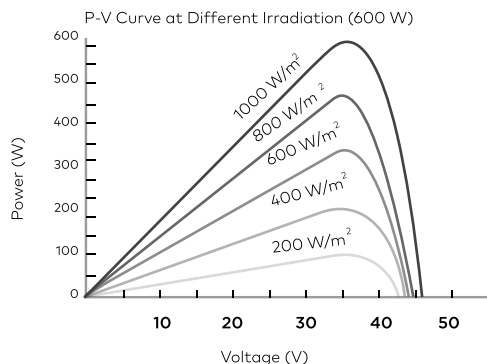
MODULE TYPE 110HCHD/12	580 Wp		585 Wp		590 Wp		595 Wp		600 Wp		605 Wp	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
<b>ELECTRICAL CHARACTERISTICS</b>												
Maximum power (Pmax/Wp)	580	444	585	448	590	452	595	456	600	460	605	464
Open circuit voltage (Voc / V)	41.54	39.00	41.75	39.20	41.94	39.40	41.13	39.60	42.32	39.80	42.51	40.00
Short circuit current (Isc / A)	17.43	14.39	17.49	14.45	17.55	14.50	17.61	14.57	17.67	14.62	17.73	14.66
Maximum power voltage (Vmp / V)	34.88	32.90	35.05	33.10	35.12	33.30	35.19	33.50	35.26	33.70	35.33	33.90
Maximum power current (Imp / A)	16.63	13.50	16.69	13.54	16.76	13.58	16.83	13.62	16.90	13.66	16.97	13.70
Module efficiency at STC (ηm / %)	22.20		22.40		22.60		22.80		23.00		23.20	
Power tolerance (Pmax)	0-+3%											

NMOT: Irradiance 800 W/m<sup>2</sup>, ambient temperature 20°C and wind speed 1 m/s

STC: Irradiance of 1000 W/m<sup>2</sup> with spectrum AM 1.5 and a module temperature of 25°C

## CERTIFICATES

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



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