

ASTORIOS

per aspera ad astra



HIGH EFFICIENCY PHOTOVOLTAIC MODULE BIFACIAL, DOUBLE GLASS

ASTR 80HCND/12 Series 410-420 Wp

TOPCON N-TYPE HALF CUT CELLS

420 Wp

MAXIMUM POWER OUTPUT

21.8%

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

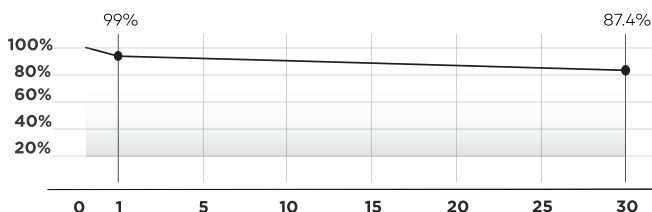
Sand blowing, ammonia and salt mist resistance tests have been passed by international standards to ensure operation in harsh conditions



SUPERIOR SAFETY AND RELIABILITY

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

PERFORMANCE



30 YEARS

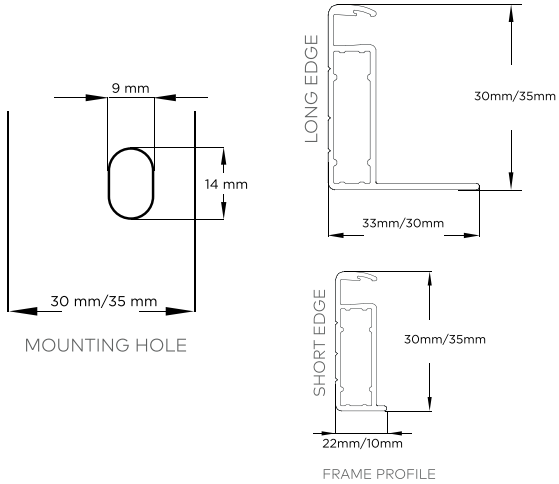
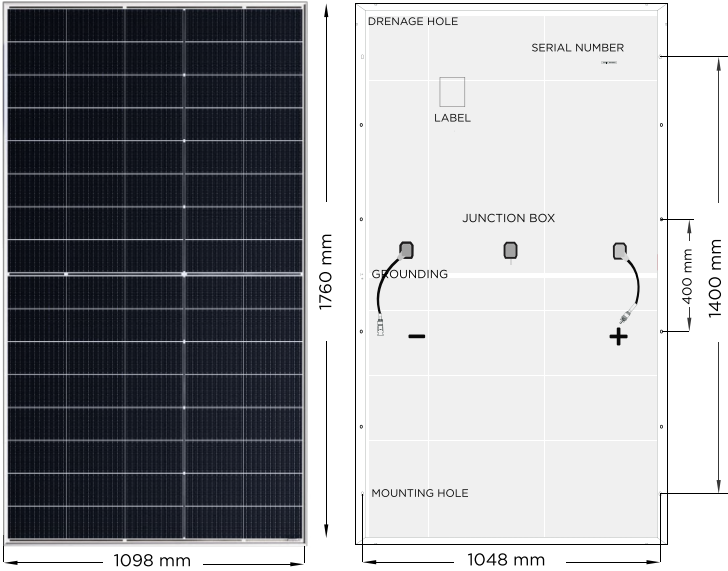
Performance Guarantee

20 YEARS

Product Warranty

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MATERIAL CHARACTERISTICS

Dimensions	1760 x 1098 x 30 mm (35 mm optional)
Weight	23.8 kg (24.1kg optional)
Number of cells	120 pcs (6x20)
Glass front/rear	2mm, High transparency, AR coated
Cell layout	Bifacial, Half Cut N-Type 18BB (210 mm)
Frame	Silver color (Black optional), anodized aluminum alloy
Junction box	IP68 Rated, 3 bypass diodes
Connector type	Staubli MC4-Evo 2 / MC4 (Original)
Cable	4 mm ² , 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

PACKAGING INFORMATION

One pallet quantity	36 pcs (31 pcs optional)
40 ft HC/HQ container	900 pcs (806 pcs optional)

MAXIMUM RATINGS

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

*For more information please refer to Instruction Manual

MODULE TYPE 80HCND/12	410 Wp		415 Wp		420 Wp	
	STC	NMOT	STC	NMOT	STC	NMOT
Maximum power (Pmax/Wp)	410	312	415	316	420	320
Open circuit voltage (Voc / V)	28.80	26.73	29.00	26.93	29.20	27.13
Short circuit current (Isc / A)	18.06	14.75	18.11	14.80	18.16	14.85
Maximum power voltage (Vmp / V)	24.00	22.49	24.20	22.69	24.40	22.89
Maximum power current (Imp / A)	17.08	13.87	17.15	13.92	17.21	13.97
Module efficiency at STC (ηm / %)	21.30		21.50		21.80	
Power tolerance (Pmax)			0~+3%			

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

CERTIFICATES

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

