

# ASTORIOS

per aspera ad astra



## HIGH EFFICIENCY PHOTOVOLTAIC MODULE BIFACIAL, DOUBLE GLASS

ASTR 108HCND/10 Series 430-440 Wp

TOPCON N-TYPE HALF CUT CELLS

**440 Wp**

MAXIMUM POWER OUTPUT

**22.5%**

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

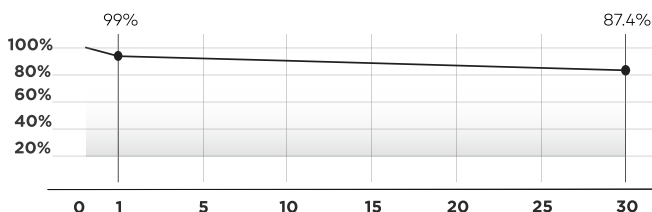
Sand blowing, ammonia and salt mist resistance tests have been passed by international standards to ensure operation in harsh conditions



### SUPERIOR SAFETY AND RELIABILITY

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

## PERFORMANCE

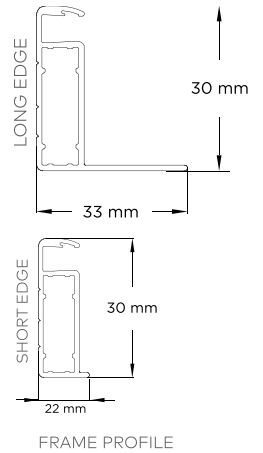
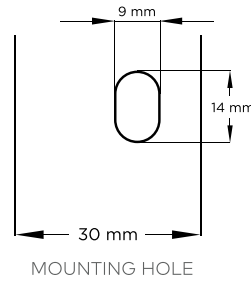
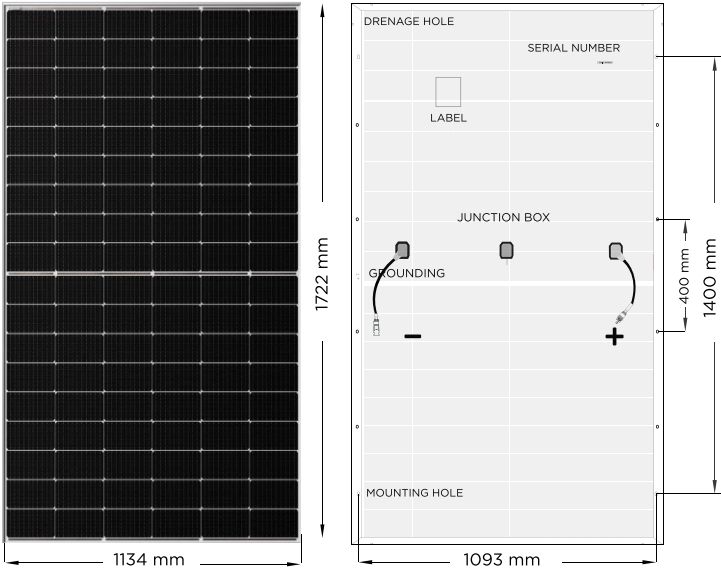


**30 YEARS**

Performance Guarantee

**20 YEARS**

Product Warranty



## MATERIAL CHARACTERISTICS

|                  |  |
|------------------|--|
| Dimensions       | 1722 x 1134 x 30 mm                      |
| Weight           | 25.8kg                                   |
| Number of cells  | 108 pcs (6x18)                           |
| Glass front/rear | 2mm, High transparency, AR coated        |
| Cell layout      | Mono-crystalline, Bifacial 16BB (182 mm) |
| 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           |

## PACKAGING INFORMATION

|                       |         |
|-----------------------|---------|
| One pallet quantity   | 36 pcs  |
| 40 ft HC/HQ container | 828 pcs |

## MAXIMUM RATINGS

|                         |                |
|-------------------------|----------------|
| Max. System Voltage     | 1500V DC - (H) |
| Max. Series Fuse Rating | 25A            |
| Uplift load (wind)      | 2400 Pa*       |
| Downforce (snow)        | 5400 Pa*       |

\*For more information please refer to Instruction Manual

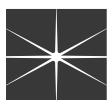
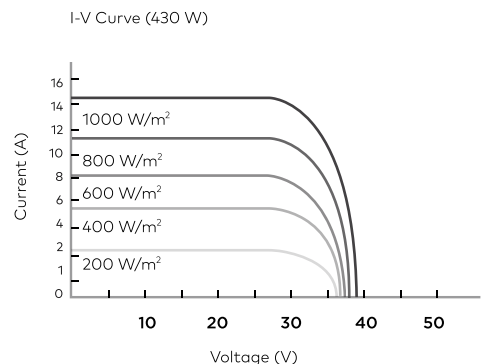
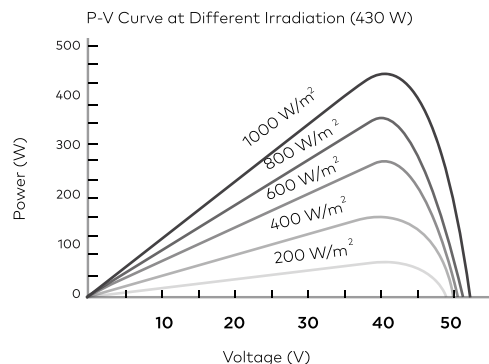
| MODULE TYPE 108HCND/10            | 430 Wp |       | 435 Wp |       | 440 Wp |       |
|-----------------------------------|--------|-------|--------|-------|--------|-------|
|                                   | STC    | NMOT  | STC    | NMOT  | STC    | NMOT  |
| <b>ELECTRICAL CHARACTERISTICS</b> |        |       |        |       |        |       |
| Maximum power (Pmax/Wp)           | 430    | 324   | 435    | 328   | 440    | 332   |
| Open circuit voltage (Voc / V)    | 38.49  | 36.56 | 38.68  | 36.74 | 38.87  | 36.92 |
| Short circuit current (Isc / A)   | 14.23  | 11.49 | 14.31  | 11.56 | 14.39  | 11.63 |
| Maximum power voltage (Vmp / V)   | 31.88  | 29.66 | 32.06  | 29.81 | 32.24  | 29.96 |
| Maximum power current (Imp / A)   | 13.49  | 10.93 | 13.57  | 11.01 | 13.65  | 11.09 |
| Module efficiency at STC (ηm / %) | 22.00  |       | 22.30  |       | 22.50  |       |
| 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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