TopRay 280W-P

Recommended For

Commercial Roof

Utility Scale Ground Mounted

- Plus power tolerance(0-3%) to ensure the high reliability of power output
- Module certified by TUV
  - For SNOW ZONE III, withstand high level of wind loads(2400Pa) and snow loads(5400Pa)
  - For PID test. No Potential Induced Degradation cause by High Voltage Stress
  - For Salt mist corrosion, ammonia corrosion test
- Anti-reflective, hydrophobic layer of module surface(proprietary 800°C online coating technology) improves light absorption and reduces surface dust
- Easy installation and minimal maintenance with compatibility to industry standard inverters and mounting system
- Special PV Module Insurances by world leading insurance company guarantees the benefit of PV investors and PV module users
- Junction box and bypass diodes guarantee the module free of overheating and "hot spot effect"
- Modules' excellent performance under low light environments(mornings, evenings, and cloudy days) create better kWh/kW ratio and produce average 2-3% more electricity in the field

Guaranteed Performance**

10 Years
Manufacturing Warranty

12 Years Warranty
90% Power Output

25 Years Warranty
80% Power Output

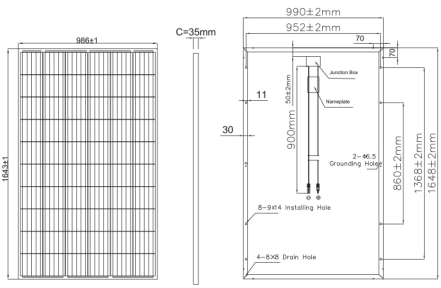
Free module recycling through membership in the PV cycle Association

QUALIFICATIONS AND CERTIFICATES

MECHANICAL SPECIFICATION

Cell Type	Poly crystalline156.75 x 156.75 mm
Number of cells	60(6x10)
Dimensions(AxBxC)	1648 x990 x35mm
Weights	17.5kg
Front Glass	3.2 mm Low iron tempered glass
Frame	Anodized aluminum
Junction Box	IP 67，with bypass diodes
Connector	MC4 compatible
Output Cables	TÜV，length 900mm, 4.0mm²

MECHANICAL DRAWINGS



ELECTRICAL CHARACTERISTICS

PERFORMANCE AT STANDARD TEST CONDITION(STC:1000W/m², 25° C,AM1.5)

Module Series	TopRay 280W-P
Maximum Power at STC(Pmax)	280W
Short Circuit Current(Isc)	9.38A
Open Circuit Voltage(Voc)	38.50V
Maximum Power Current(Impp)	9.0A
Maximum Power Voltage(Vmpp)	31.20V
Encapsulated Cell Efficiency	19.18%
Module Efficiency	17.16%
Power Tolerance	0/+3%

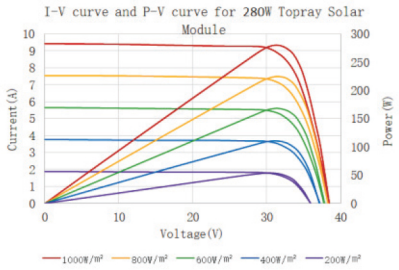
PERFORMANCE AT NORMAL OPERATING CELL TEMPERATURE
(NOTE: Irradiance = 800 W/m2, Air Temperature = 20°C, Wind Velocity = 1 m/s)

Maximum Power(Pmax)	202.9W
Short Circuit Current(Isc)	7.65A
Open Circuit Voltage(Voc)	35.57V
Maximum Power Current(Impp)	7.06A
Maximum Power Voltage(Vmpp)	28.74V

The typical relative change in module efficiency at an irradiance of 200W/m² in relation to 1000W/m²(both at 25° C and AM 1.5 spectrum) is less than 6%

TEMPERATURE CHARACTERISTICS

Nominal Operating Cel Temperature(NOCT)	44±2° C
Temperature Coefficient of Pmax(γ)	-0. 4%/K
Temperature Coefficient of Voc(β)	-0. 37%/K
Temperature Coefficient of Isc(α)	0. 05%/K



PACKING CONFIGURATION

Container	20'GP	40'GP	40'HQ
Pieces per container	360	840	896

SYSTEM INTEGRATION PARAMETERS

Maximum system voltage	DC 1000V/1500V
Maximum Series Fuse	15A
Maximum reverse current	21.5A
Increased snowload acc. to IEC 61215	5400Pa
Operating Temperature	-40~+85° C
Number of bypass diodes	3