

COSMIC PV POWER | TOPCON SOLAR PV MODULES | 144 CELLS | 570-600 WATT

## N-type TOPCon Dual Glass Modules

MODULE DATASHEET

Cosmic PV Power AI-driven photovoltaic (PV) N-type TOPCon modules set a new industry benchmark in reliable energy production, optimized design, and superior environmental performance. Designed with 100% automatic setup, these modules ensure seamless installation, maximizing efficiency and suitable for roof-top and ground mounted applications.

144 HALF-CUT TOPCON  
SOLAR CELLS

16 BB  
TOPCON MODULE

Up TO 23.3%  
EFFICIENCY

570-600 Wp  
RANGE

TOPCon Module

## PRODUCT | KEY FEATURES



No LID Loss - Higher power generation



Glass with anti-reflective coating to maximize sunlight potential



Excellent low light performance with high module efficiency up to 23.3%



Pre and Post 3 stage EL Checking to ensure defect free modules



Less shading and lower resistive loss



Excellent anti-micro cracking performance more balance interior stress



Durability against extreme environmental



**Better Temperature Coefficient-** Higher power generation under higher ambient temperature conditions



Bifaciality Factor 80 ± 5 %



Better Output In Low Irradiance- Higher power output even under low-light environments like on cloudy or foggy days

## APPLICATIONS

- ◆ On-Grid large scale utility systems
- ◆ On-Grid Rooftop residential, commercial and industrial rooftop installations
- ◆ Off-Grid Residential systems

### High Reliability

Using tempered glass to glass, which brings higher reliability and better anti-corrosiveness to the module in weak-light conditions

### Best in Class reliability

Cosmic Modules are able to withstand wind load 2400pa and snow load 5400Pa

### Higher Generation

Lower BOS Cost with Excellent temperature coefficient giving higher yields in the long term

### Delivers Reliable Performance Over Time

- ◆ 100% Fully-automatic facility and industry-leading technology
- ◆ Best-in-class durability and reliability

For handling & installation instructions refer Cosmic PV Power Installation Manual available on company website. Before placing order conform your requirement with our sales representative. The electrical data given here is for reference purpose only. Dispose-of the product as E-Waste after end of its working life. \*\* Refer to Cosmic PV Power warranty document for terms and conditions. Due to constant product modifications, Cosmic PV Power reserves the right to amend the above specifications without prior notice.

**CAUTION: READ SAFETY AND INSTALLATION MANUAL BEFORE USING THE PRODUCT.**

Electrical data without guarantee. Please conform your exact requirement with the company representative while placing your order.

# ELECTRICAL DATA STC

Module Type	COS-TOP 570	COS-TOP 575	COS-TOP 580	COS-TOP 585	COS-TOP 590	COS-TOP 595	COS-TOP 600
Maximum Voltage $V_{mpp}$ (V)	43.05	43.25	43.45	43.65	43.85	44.05	44.21
Maximum Current $I_{mpp}$ (A)	13.25	13.30	13.35	13.40	13.46	13.51	13.57
Open Circuit Voltage $V_{oc}$ (V)	52.52	52.79	53.05	53.30	53.55	53.62	53.80
Short Circuit Current $I_{sc}$ (A)	13.85	13.87	13.91	13.93	13.96	14.03	14.09
Module Efficiency $\eta$ (%)	22.08	22.28	22.47	22.67	22.86	23.03	23.22

\*STC: Irradiance 1000 W/m<sup>2</sup>, cell temperature 25°C, Air mass AM 1.5 according to ENC60904-3. Average efficiency reduction is approx. 3% at 200 W/m<sup>2</sup> according to EN 60904-1. Except Pmp, all other parameter have tolerance of +/-3%, measurement uncertainty <3%.

## BI-FACIAL: Pmax WITH REAR SIDE POWER GAIN

Electrical Specification	Pmax gain from rear side*						
Module Type	COS-TOP 570	COS-TOP 575	COS-TOP 580	COS-TOP 585	COS-TOP 590	COS-TOP 595	COS-TOP 600
5% Gain	599	604	604	614	620	625	630
10% Gain	627	633	633	644	649	655	660
15% Gain	656	661	661	673	679	684	690
20% Gain	684	690	690	702	708	714	720
25% Gain	713	719	719	731	738	744	750
30% Gain	741	748	748	761	767	774	780

\* Power gain from rear side depends upon the ground reflectance (Albedo) & Bifaciality factor.

## THERMAL CHARACTERISTICS

$T_c$ of open circuit voltage ( $\beta$ )	-0.24% /°C
$T_c$ of short circuit current ( $\alpha$ )	0.028% /°C
$T_c$ of power ( $\gamma$ )	-0.32% /°C
Maximum system voltage	1500 VDC (IEC & UL)
NOCT	45°C ± 2°C
Temperature range	-40°C to + 85°C

## MECHANICAL CHARACTERISTICS

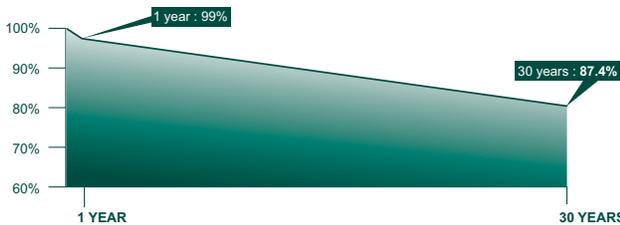
Length	2278 mm
Width	1134 mm
Height	33 mm
Weight	31.3 kg
Junction box	IP68
Cable and connectors	300 mm length cable, MC4 compatible connectors
Application Class	Class A (Safety class II)
Superstrate	High Transmission ARC glass 2.0 mm
Cells	N-type TopCON 144 Half-cut cell
Encapsulation	High volume resistivity and low MVTR
Substrate	Semi Tempered Glass 2.0 mm
Frame	Anodized Frame
Design Mechanical load	5400 Pa-downward; 2400 Pa-Upward
Safety Factor for Mechanical load	1.5
Maximum Series fuse rating	30 A

Under Standard Test Conditions (STC) of irradiance 1000 W/m<sup>2</sup>, spectrum AM 1.5 and cell temperature of 25°C. Except Pmax, all other parameters have a tolerance of ±3%.

## PACKAGING CONFIGURATION

Container	40'HC		
Pallets / Container	22	Pieces / Container	616

### Cosmic PV Performance Warranty



12 Years Product Warranty - 30 Years Linear Power Warranty

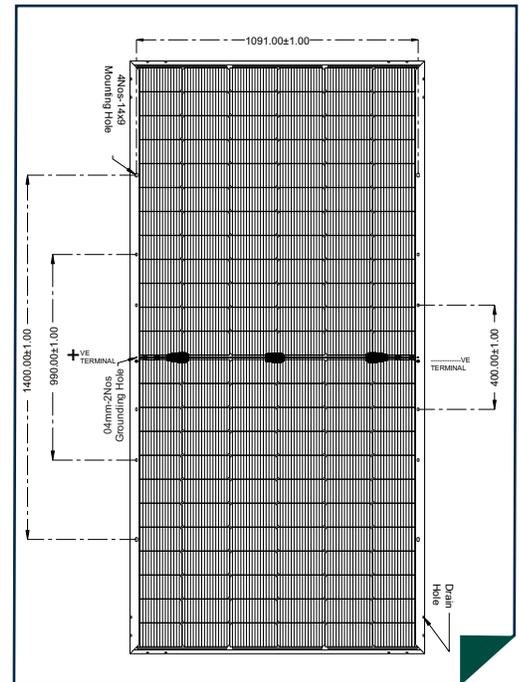
## COSMIC PV POWER LIMITED

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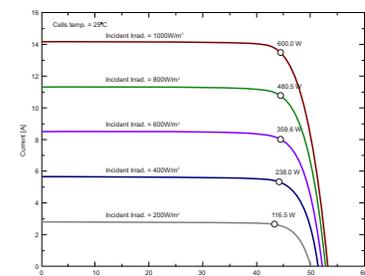
**Registered Office**  
E-11, First Floor, Ghael Compound, Nr. Laxminarayan Temple BRTS, Udhna, Surat, Gujarat - 394210

**Unit-1**  
Survey No. 1605/1, Block No. 2098/1/B/2, Village: Tadkeshwar, Taluka: Mandvi, Dist: Surat, Gujarat - 394170

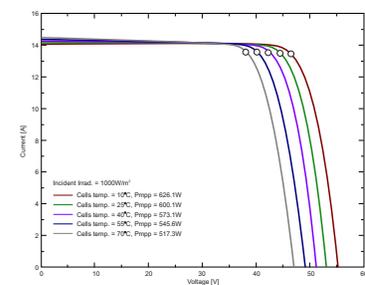
**Unit-2**  
Block No. 178,194B,194A, Tadkeshwar, Mandavi, Surat, Gujarat - 394170



### I-V Curve Variation With Temperature (600W)



### I-V Curve Variation With Temperature (600W)



\*All dimensions are in mm with +/-1% tolerance.