

SUNORA[®]

SOLAR PV MODULE

INDIA'S

LEADING SOLAR

PV MODULE

MANUFACTURER WITH A

GLOBAL PRESENCE

PRODUCT BY



**UNIQUE
SUN
POWER**
Reclaim Your Energy

www.sunorasolar.com



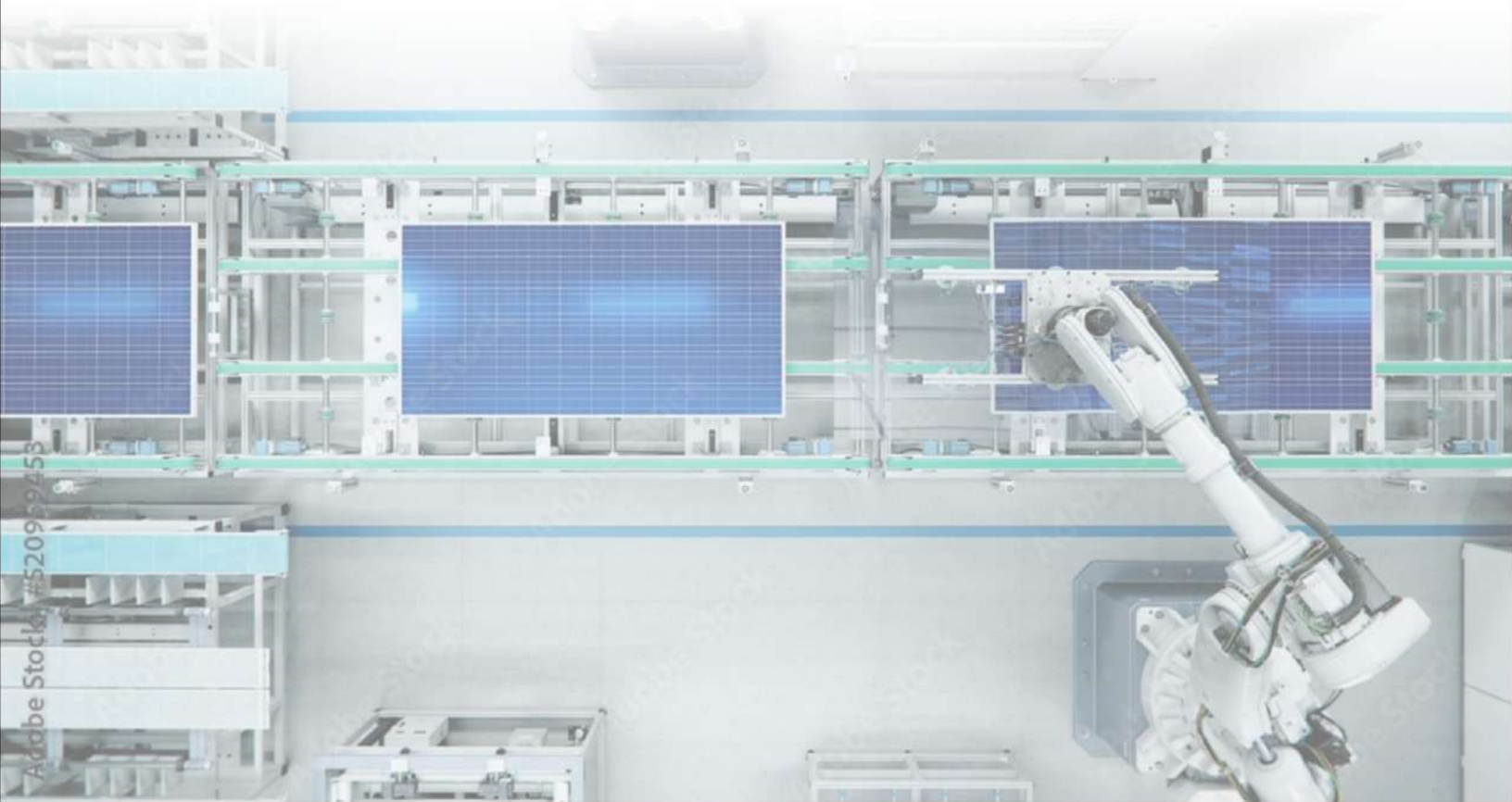
WE ARE BUILDERS OF FUTURE

Sunora Solar is the flagship company of Unique Sun Power LLP, which supplies solar panels used for **green energy** generation, also extend our service in EPC services, rooftop solutions, and many other solar solutions as and when required.

We are an astute team of passionate technocrats who have come together to contribute to the **enhancement and development of Mother Earth**. Due to the increasing usage of fossil fuels, the earth's climate is compromised and, its temperature is getting affected day by day.

With an aim to **save the natural environment of the earth** for a better living of current and the upcoming generation, we are on a mission to make our planet greener and better again.

As a team of **young entrepreneurs**, we highly believe that the youth of India is a treasure trove of magnanimous energy and can develop **our country with efficient and reliant solutions**.



Adobe Stock #520989753

IEC, ALMM & BIS Tested Solar Modules

- ▶ 100% material traceability through testing facility.
- ▶ Best industry process and adopted SPC methodology at various manufacturing processes
- ▶ Provides best in class, technologically and end to end solution
- ▶ Projects are in working condition for over 6 years with excellent power generation

OUR CERTIFICATION



ISO 14001:2015



ISO 9001:2015



ISO 45001:2018



CE Certificate



IS 14286:2010



IEC 61730-2



BIS Certificate



Start Up India



IEC 61730 - 1

PRODUCT BY



SUNORA[®] AT A GLANCE



PV
Modules



EPC
Services



Complete
O&M Support



Solar
Street Light



Solar
On-Grid



Solar
Water Pump

Looking for
Trusted Partner



More than
6 Years in
Industry

TOP 10
Solar Consultant
Company in India

25+ MW
Solar Projects
Installations



SUNORA'S UNSTOPPABLE GROWTH

Unique Sun Power Established

2016

2017

MNRE Approved SOLAR VENDOR &
500 KW+ Solar Projects

GEDA Approved Agency &
1 MW + Solar Projects

2018

2019

Empanelment of SURYA GUJARAT SCHEME
5 MW + Solar Projects

SUNORA PV MODULE Established &
Awarded EPC Company of the year

2020

2021

Achieved 12 MW + Solar Projects,
Consecutively awards EPC Company of the Year

Launch SUNORA PV Module manufacturing
Plant at SURAT with 200 MW capacity

2022

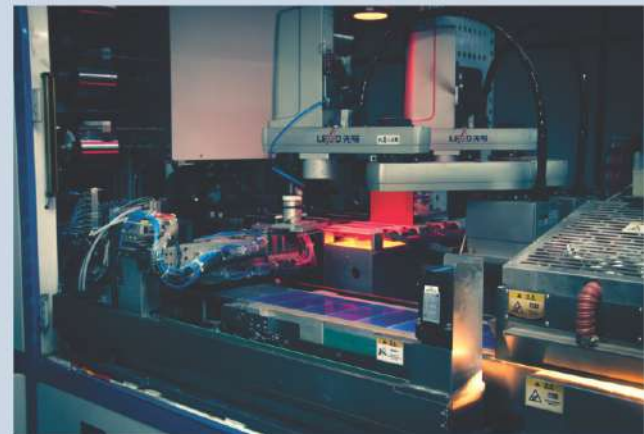
2023

Expand total 500 MW PV Module
Manufacturing Capacity

SUNORA[®]

Production Facilities

- ▶ **200MW** Manufacturing capacity with **MBB Technology** integrating EUROPEAN standard
- ▶ World-class machinery, highly-skilled workforce and best-in-class raw materials
- ▶ An additional capacity of 300MW to be operational in Phase 2 by early 2023



LEAD Stringer With MBB Technology



AUTO LAY UP





Pre EL Testing

Post EL Testing



Final Inspection

Sun Simulator Testing

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SOLAR PV MODULE

ELITE
PRO



US10-B144- (520 Wp - 550 Wp)

10
- YEAR -

**WARRANTY FOR
MATERIALS AND PROCESSING**

27
- YEAR -

**WARRANTY FOR
LINEAR POWER OUTPUT**

INDUSTRY LEADING PROTECTION



EXCELLENT EFFICIENCY

Excellent module conversion efficiency of up to 21.03%



LOW-LIGHT PERFORMANCE

Advanced glass and cell surface textured design ensure excellent performance in low-light environment



HIGH SAVING

Lower LCOE, reduced BOS cost, shorter payback time



PID RESISTANCE

Excellent Anti-PID Performance guarantee limited power degradation for mass production



IP68 JUNCTION

High waterproof



REDUCED RISK

Reduced hot spot risk with optimized electrical design and lower operating current

ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 Certified Facility



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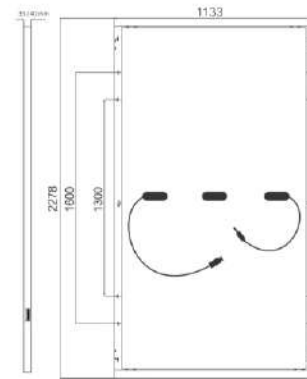
MECHANICAL SPECIFICATION

Solar cells	144 monocrystalline Silicon(PERC), Multi BB
Encapsulation	Ultra - clear PID free EVA (Ethylene-Vinyl-Acetate)
Backside	UV protected reflective backsheet
Frame	Silver Anodized Aluminium Alloy
Front Glass	3.2mm, High Transmission, AR Coated Tempered Glass
Dimensions	(L) 2278 mm x (W) 1133 mm x (H) 35mm
Weight	~28 Kg
J-box	IP 68 certified, 3 diodes, Split junction box
Series Fuse Rating	25 A
Cable	Solar cable 400 mm length
Connectors	MC4 compatible connectors
Application Class	Class A
Electrical Safety	Class II
Fire Safety	Class C (Type 1)
Surface load	Snow load 5400 Pa, Wind load 2400 pa

OPERATING PARAMETERS

Operational Temperature: -40°C ~ +85°C
Power Output Tolerance: 0 ~ +5 W
Voc and Isc Tolerance: ± 3%
Maximum System Voltage: DC1500V (IEC/UL)
Maximum Series Fuse Rating: 30A
Nominal Operating Cell Temperature: 45± 2°C
Safety Protection Class: Class II
Fire Rating: UL type 3

DESIGN (MM)



Units: mm (inch)
Tolerance:
Length: ±2mm
Width: ±2mm
Height: ±1mm
Pitch: ±1mm

ELECTRICAL CHARACTERISTICS

TEST UNCERTAINTY FOR P_{MAX}: + 3%

Model Number	Elite pro - US 10 - B144 - (520 WP - 550WP)						
Maximum Power (P _{max} /W)	520	525	530	535	540	545	550
Open Circuit Voltage (V _{oc} /V)	49.10	49.20	49.30	49.42	49.51	49.61	49.70
Short Circuit Current (I _{sc} /A)	13.32	13.40	13.50	13.56	13.63	13.73	13.82
Voltage at Maximum Power (V _{mp} /V)	41.30	41.40	41.48	41.56	41.65	41.77	41.88
Current at Maximum Power (I _{mp} /A)	12.60	12.69	12.78	12.88	12.97	13.05	13.14
Module Efficiency (%)	20.18	20.37	20.56	20.76	20.95	21.14	21.34

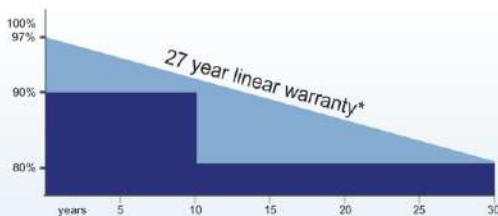
STC (Standard Testing Conditions): Irradiance 1000W/m², Cell Temperature 25 C, Spectra at AM1.5⁺
NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m², Ambient Temperature 20 C, Spectra at AM1.5, Wind at 1m/S

TEMPERATURE RATINGS (STC)

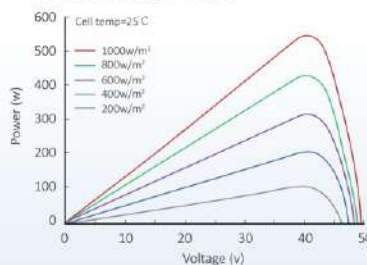
Temperature Coefficient of Isc	+0.050%/C
Temperature Coefficient of Voc	-0.284%/C
Temperature Coefficient of P _{max}	-0.350%/C

MECHANICAL LOADING

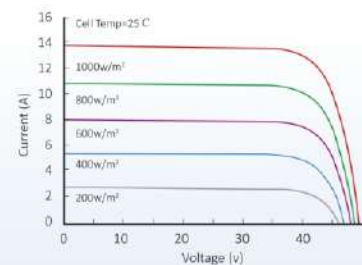
Front Side Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Hailstone Test	25mm Hailstone at the speed of 23m/s



Power-Voltage Curve



Current-Voltage Curve



PRODUCT CERTIFICATIONS

IES 61215: 2016,
IS 14286:2010/IES 61215:2005,
IS/IEC 61730-1 & 2: 2004
UL 61730-1&2, IEC 61701,

PRODUCT BY



SUNORA[®]

SOLAR PV MODULE



HIGH EFFICIENT POLYCRYSTALLINE SOLAR PV MODULE

27
Year
LINEAR POWER
OUTPUT WARRANTY*

10
Year
PRODUCT WARRANTY

BEST SOLAR SOLUTION | 1500V BIS CERTIFIED

KEY FEATURES



POSITIVE POWER TOLERANCE
UPTO +5W



SUSTAIN HEAVY WIND & SNOW
LOADS (2400 Pa & 5400 Pa)



EXCELLENT MODULE EFFICIENCY
UPTO 16.90 %



100% PRE AND POST EL FOR
ENSURE DEFECT FREE MODULE



HEAVY DUTY ANODIZED
ALUMINIUM FRAME USE



SUPERIOR PERFORMANCE AT
NOCT AND SCT CONDITION



ARC COATED TEMPERED 3.2 MM GLASS
ANTI-REFLECTIVE MODULE SURFACE



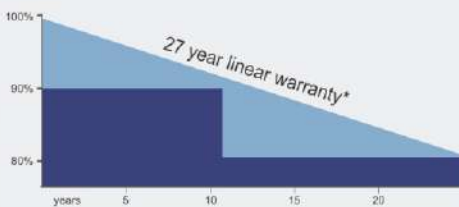
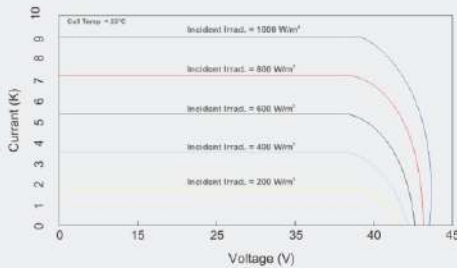
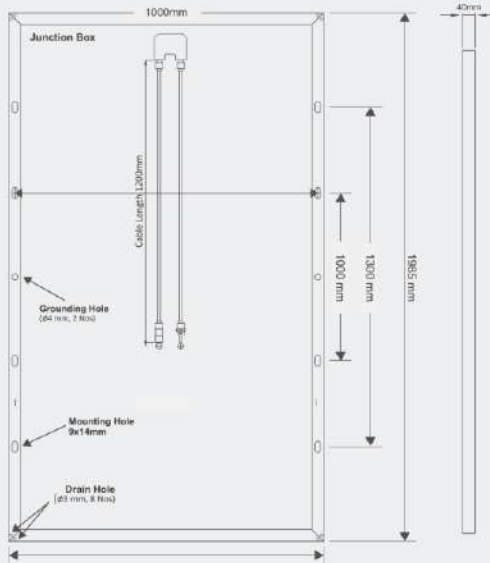
ENSURE SAFETY PARAMETERS
THROUGH SAFETY TEST



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TECHNICAL DATA



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**UNIQUE
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Performance Under STC

Peak Power (0 → 4.99Wp) Pmax(Wp)	330	333	335	340
Maximum Voltage, Vmpp (V)	38.75	38.89	39.00	39.25
Maximum Current, Imp (A)	8.528	8.566	8.600	8.68
Open Circuit voltage, Voc (V)	45.95	46.11	46.15	46.85
Short Circuit current, Isc (A)	9.03	9.06	9.09	9.15
Module efficiency (%)	16.63	16.77	16.88	17.11

Electrical Parameter at NOCT

Maximum Power Pmax @ NOCT	242.5	252.1	257.0	246.8
Maximum Voltage, Vmpp (V)	35.25	35.5	35.6	35.41
Maximum Current, Imp (A)	6.88	7.1	7.2	6.97
Open Circuit voltage, Voc (V)	42.77	43.2	43.4	42.92
Short Circuit current, Isc (A)	7.42	7.6	7.7	7.5

*STC: Irradiance 1000 W/m², cell temperature 25°C, or mass AM 1.5 according to EN 60904-3.

Average efficiency reduction of 4.5% at 200 W/m² according to EN 60904-1.

Except P_{mp}, all other parameters have a tolerance of +/-3%, measurement uncertainty <3%.

*NDCT irradiance 800 W/m², ambient temperature 20°C, wind speed 1 m/sec.

Temperature co-efficient (TC) and permissible operating conditions

TC of open circuit voltage	α	-0.30% /C
TC of short circuit current	β	0.070% /C
TC of power	γ	-0.40% /C
Maximum system voltage		1000 V / 1500 V (IEC & UL)
NOCT		45 C + -2 C
Temperature range		-40 C to +85 C

Mechanical Data

Length	1985 mm
Width	1000 mm
Height	35 mm / 40 mm
Weight	22.7 kg
Junction Box	IP68
Cable and connectors	1200 mm length cable, MC4 & Amphenol compatible connectors
Application class	Class A (Safety class II)
Superstrate	High transmittance arc glass
Cells	72 multi-crystalline solar cell ; 5 bus bars
Cell Encapsulation	Superior dielectric strength & PID resistant EVA
Substrate	Tri layer backsheet
Frame	Anodized aluminium frame with twin wall probable
Mechanical load test as per IEC & UL	5400 Pa-front_ 2400 Pa-back
Maximum series fuse rating	20A



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SOLAR PV MODULE

📍 **Head Office**

White House Apartment, Shop no : 201/202, opp. Iaxmikant Soc, Near Rashi circle, Katargam, Surat, Gujarat 395004

📍 **Factory**

BL No. 2281/2/1/1, Near Salasar Minor Canal, Vi.- Tadkeshwar, Ta - Mandvi, Surat, Guj. - 394 170

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📷 [/sunorasolar](https://www.instagram.com/sunorasolar)

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