



Your Partner In
**Smart
Sustainable
Energy**



www.indosolsolar.com

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About Us

Indosol Solar Pvt. Ltd. is the solar PV manufacturing arm of Shirdi Sai Electricals Limited (SSEL), one of India's fastest-growing and most trusted power equipment manufacturers. As a strategic expansion of SSEL, India's largest transformer manufacturing company, Indosol leverages decades of expertise in transformers, EPC services, electrification, substation construction, and grid infrastructure to drive growth in advanced solar technologies.

Indosol is spearheading India's renewable energy mission by developing a state-of-the-art, 100% vertically integrated giga-scale solar PV manufacturing ecosystem, spanning the entire value chain from quartz to high-efficiency photovoltaic modules.

The company commenced operations with a 500 MW module manufacturing facility at Ramayapatnam, Andhra Pradesh, and is rapidly scaling up. By 2027, Indosol aims to achieve 10 GW of integrated solar PV manufacturing capacity, encompassing metallurgical-grade silicon, polysilicon, ingots, wafers, cells, and modules, along with ancillary production. Recognized as an awardee under the Production Linked Incentive (PLI) scheme, Indosol is committed to strengthening domestic solar manufacturing and reducing India's reliance on imports.

Looking ahead, by 2028, Indosol targets a landmark manufacturing ecosystem comprising 30 GW of polysilicon, 20 GW of wafer-cell-module capacity, and 3,600 TPD of solar glass production. With this scale, adoption of advanced technologies such as TOPCon and HJT, and the synergistic strengths of SSEL, Indosol Solar is uniquely positioned to transform India's solar landscape and establish the nation as a global hub for integrated solar manufacturing.



Indosol strives to be a catalyst in the clean energy revolution, driving economic growth, creating green jobs, and contributing to a brighter, more sustainable future for India and beyond.

To revolutionize the energy landscape in India by being a front-runner in solar manufacturing. We aim to empower individuals, businesses, and communities with sustainable energy options and drive the adoption of solar power to create a greener, more resilient future for India.



Our Values

Empowerment

We are dedicated to empowering stakeholders, including employees, customers, partners, & communities and creating an environment that fosters growth and positive impact.



Responsibility

We prioritize integrity and accountability in all our actions, ensuring trust and reliability in every endeavor.



Sustainability

We shall integrate sustainability into every facet of our business, contributing to a balanced future that factors environmental, social, and economic considerations.



Excellence

We are committed to upholding the highest standards of quality with relentless effort.



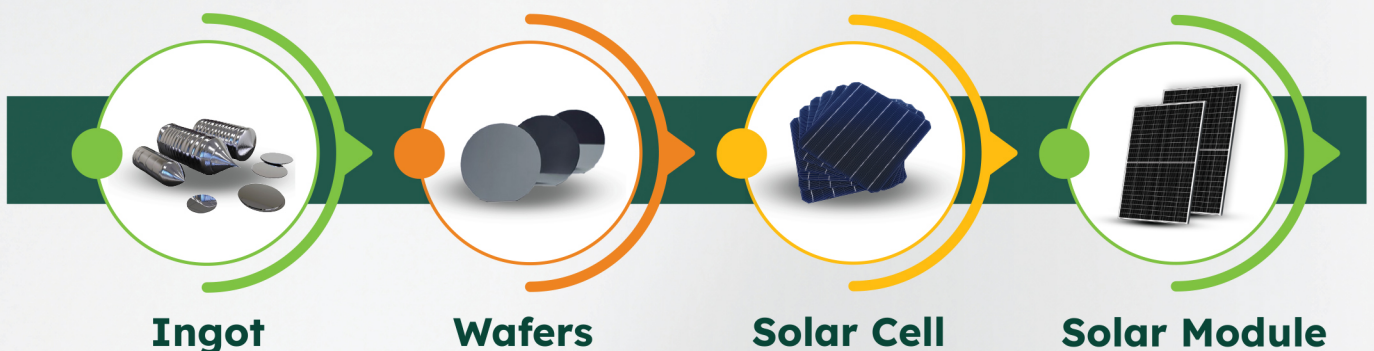
Downstream Solar Manufacturing

We established a state-of-the-art, fully automated manufacturing facility in Chevuru, SPSR Nellore District, Andhra Pradesh. We are currently operating with a 500 MW module production line. We are expected to be fully operational with a 1 GW integrated ingot-wafer-cell-module production facility by the end of 2025. We aim to scale up to an impressive 20 GW of ingot-wafer-cell-module capacity by 2028.

By integrating high-performance solar cells with EVA, solar glass, and innovative manufacturing techniques, we produce modules that are reliable, cost-effective, and engineered to exceed global standards of quality and performance.

We have in-house, state-of-the-art QC lab adhering to global standards, with experts dedicated to testing and validating solar panels. The lab ensures durability, safety, compliance, and long-term performance.

Our in-house Reliability Lab rigorously tests solar modules under simulated real-world conditions to ensure durability, long-term performance, and compliance with international standards.



Fully Automated Production Facility



Tabber & Stringer



EL Testing



Auto JB Fixing



Auto Sorter



QC Lab



Reliability Lab

Our Module Plant at Chevuru, SPSR Nellore, AP

N-Type TOPCon G12R Bifacial Solar Cell

High Conversion Efficiency

Ensures optimal photovoltaic conversion and maximum energy utilization, with an average efficiency of 25.3% and a bifaciality factor of 85% and delivers superior performance.

Low Degradation Rate

Engineered for exceptional durability, featuring a remarkably low degradation rate that ensures a longer lifespan and stable energy output.

Temperature Resilience

Delivers stable efficiency in hot and high-sunlight conditions with a power temperature coefficient as low as $-0.29\%/^{\circ}\text{C}$ and ensures dependable performance.

Anti-PID Cell Technology

Anti-PID technology effectively suppresses efficiency losses using high quality wafer, superior passivation and anti-reflection coating, which effectively reduces the leakage path.

Low Light-Induced Degradation (LID)

Maintains strong performance even in low-light conditions, achieving a relative conversion efficiency of 97% under 200 W/m^2 .

G12R Monocrystalline Bifacial TOPCon Cell

Efficiency
25.3%

Mechanical Features

Product : G12R_16BB_Bifacial

Diagonal : 272mm

Format : 182.2mm×210mm

Busbars : 16BB

Key Features



High Conversion Efficiency



PID Free



Low CTM



Minimal LID

Giga Scale Manufacturing Excellence

We are establishing a state-of-the-art manufacturing facility designed to integrate the entire solar value chain from sourcing Quartz to producing high-efficiency photovoltaic (PV) modules.

Our journey begins with premium-grade Quartz, refined into Metallurgical Grade Silicon (MG-Si) with nearly 99% purity. In Phase I, we are setting up an MG-Si plant with an annual capacity of 58,000 TPA, to be followed by an identical facility in Phase II.

Advancing along the value chain, MG-Si is transformed into high-purity Polysilicon. Our Phase I plant will have a capacity of 45,000 TPA, with Phase II adding another 45,000 TPA of Polysilicon. Through advanced, precision-controlled processes, we will achieve purity levels exceeding 11N, placing us among the global leaders in Polysilicon manufacturing.

By 2028, we aim to commission a 30 GW Polysilicon production line, further strengthening India's renewable energy manufacturing ecosystem and its contribution to the global clean energy transition.

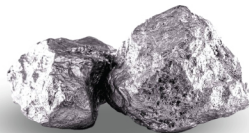
A significant share of the Polysilicon produced will be utilized in our fully integrated in-house operations, while the remainder will be supplied to leading solar manufacturers worldwide. This initiative will not only support global demand but also play a critical role in reducing India's dependence on solar manufacturing imports.

Fully Integrated Upstream Ecosystem.

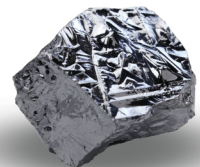
Mg Silicon	30 GW
Polysilicon	30 GW



Quartz



MG Silicon



Polysilicon

Integrating the entire solar value chain to make India a global hub for solar manufacturing.

Solar Glass Manufacturing Facility

As part of our vision to strengthen India's solar value chain, we are establishing one of the country's largest Solar Pattern Glass facilities with a capacity of 3600 TPD equivalent to 20 GW of solar module manufacturing.

This world-class facility is being designed with advanced technology, exceptional flexibility, and global competitiveness, catering to the rapidly growing requirements of international solar giga factories.

Our proposed portfolio of solar pattern glass products includes,

Ultra-Clear Patterned Solar Glass

Manufactured from high-quality raw materials, our ultra-clear patterned glass ensures exceptional clarity and purity. The molten glass, formed through precision-engineered rollers, creates a unique textured pattern that enhances light transmittance.

ARC Solar Pattern Glass / Front Glass

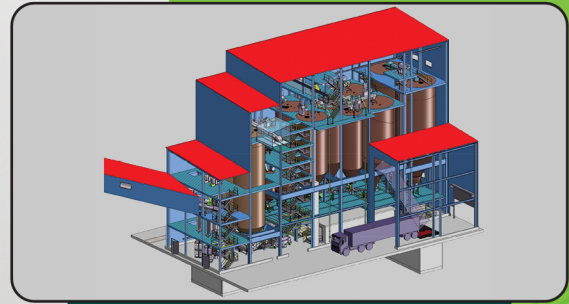
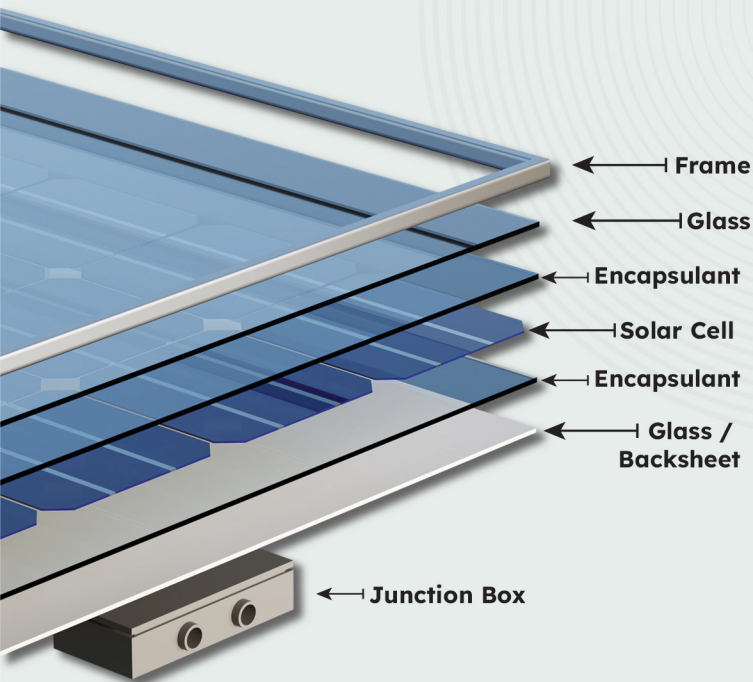
Our ARC Solar Glass is produced by applying a double-layer anti-reflective coating on ultra-clear patterned glass using advanced equipment. This significantly reduces surface reflection, allowing higher light transmission and improved module efficiency.

Screen-Printed Solar Glass / Back Glass

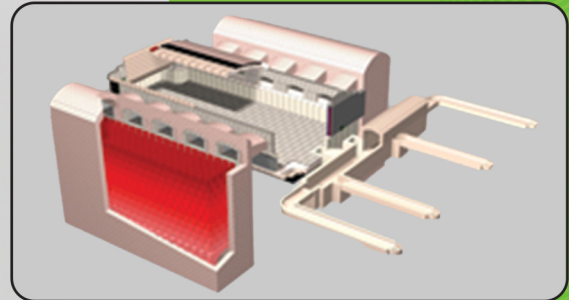
Engineered from ultra-white patterned glass, our back glass undergoes laser drilling and precision ceramic grid screen printing. This enhances reflection, minimizes transmission loss, and optimizes module performance.

Why Choose Us?

- Among India's largest solar glass facilities.
- Integrated with next-generation technology.
- Designed to meet global demand for giga factories.
- Products compliant with international benchmarks.
- Focused on sustainability, durability, and performance.



Batch Preparation



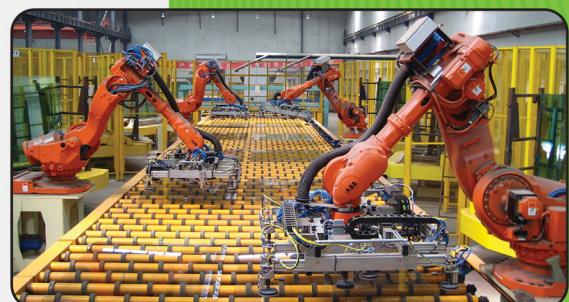
Melting



Forming



Glass Processing



Packing

Applications

Our modules are designed for versatile applications, delivering reliable renewable energy solutions. They help reduce carbon footprints and significantly lower energy costs. With proven durability, they ensure long-term sustainability and performance.



Utility-Scale Projects

Solar modules for large solar parks and power plants that generate substantial electricity for direct grid integration, empowering the nation with sustainable, renewable energy.

Commercial & Industrial Projects

PV modules that seamlessly integrate with open access, captive and specific applications for Data centers, IT & Infra, etc., providing businesses a smarter path to energy independence.



Residential Rooftop Projects

Generate clean energy from rooftops, lower electricity costs, and enable surplus energy contribution to the grid, aligned with the PM Surya Ghar Yojana.





NEXT-GEN **SOLAR** SOLUTIONS





OUR COMMITMENT

We are committed to renewable energy and eco-friendly practices, delivering world-class solar solutions through sustainable innovation, green manufacturing, and community-focused initiatives that not only minimize our carbon footprint but also create local employment opportunities and promote responsible practices across our ecosystem.



Local Employability



Beach Conservation



World Environment Day



Blood Donation Camp

TOPCon PV Module

Bifacial Glass-Glass Configuration

144 Cut Cell 16 BB



Key Features



Higher Efficiency



Lower Temperature Coefficient



Lower Degradation



Less Hot Spot Shading Effects



Outstanding Power Generation



Enhanced Bifacial Factor



PID Free/ Low LID Protection



Exceptional Mechanical Resistance

22.84%

Maximum Efficiency

590Wp

Maximum Power Output

12 Years

Product Warranty

30 Years

Performance Warranty



TOPCon PV Module

Bifacial Glass-Glass Configuration

144 Cut Cell 16 BB

INDOSOL SOLAR is one of India's leading, fully automated solar module manufacturer, with core competency in high-efficiency PV module manufacturing. INDOSOL SOLAR modules are best-in-class in power output and long-term reliability.

Key Features



Higher Efficiency



Lower Temperature Coefficient



Lower Degradation



Less Hot Spot Shading Effects



Outstanding Power Generation



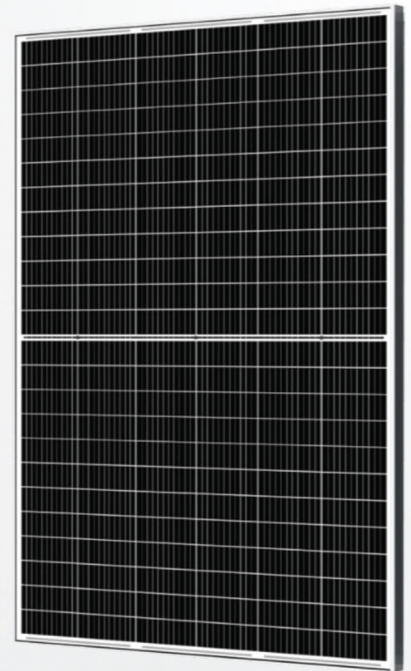
Enhanced Bifacial Factor



PID Free/ Low LID Protection



Exceptional Mechanical Resistance



Model No: ISTD3M16BN4590

22.84%

Maximum Efficiency

590Wp

Maximum Power Output

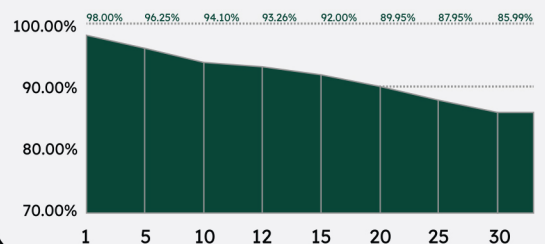
12 Years

Product Warranty

30 Years

Performance Warranty

Performance Warranty



MADE IN INDIA



Utility



Industrial



Commercial



Residential

Certifications



ALMM
Approved List of Models and Manufacturers



IEC 61215 | IEC 61730 (Part 1&2) | IEC 61701
IEC 62716 | IEC 62804 | IEC 61853 | IEC 60068
ISO 9001:2015 | CE

TOPCon Bifacial Glass to Glass Module

Specifications (STC)

Maximum Power – Pmax [Wp]	590	585	580	575	570
Maximum Power Voltage – Vmp [V]	44.15	44.11	44.07	44.03	43.99
Maximum Power Current – Imp [A]	13.37	13.27	13.17	13.06	12.96
Open-circuit Voltage – Voc [V]	51.42	51.38	51.34	51.30	51.26
Short-circuit Current – Isc [A]	14.04	13.93	13.83	13.71	13.61
Module Efficiency STC [%]	22.84	22.65	22.46	22.25	22.06
Power Tolerance	0 to +5 W				
Temperature Coefficients of Pmax	-0.34 %/°C				
Temperature Coefficients of Voc	-0.26 %/°C				
Temperature Coefficients of Isc	+0.05 %/°C				

STC: Irradiance 1000W/m², Cell Temperature 25°C, AM=1.5

Mechanical Characteristics

Cell Type	TOPCon 182.2*183.75 mm
No. of cells	144 (6 x 24)
Dimensions	2278.5 x 1134.5 x 30*32 & 30*15mm
Weight	29 Kg
Front & Rear Glass	2 mm, low iron glass
Frame	Anodized Aluminum Alloy
Junction Box	IP68 rated (3 bypass diodes)
Safety Class	Class II
IEC Fire Type	Class A
Connector Type	MC4
Output Cables	4mm ²
Encapsulate	PID Free & UV Resistant

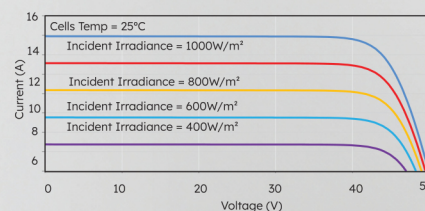
Packaging Specification

Pallet Dimensions	2304 x 1121 x 1006 mm
Packing detail (Two pallets=One stack)	36 pcs/pallets, 72 pcs/stack, 720 pcs/ 40'HQ Container, (20 pallets x 36 pcs)

Application Conditions

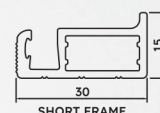
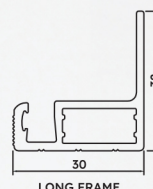
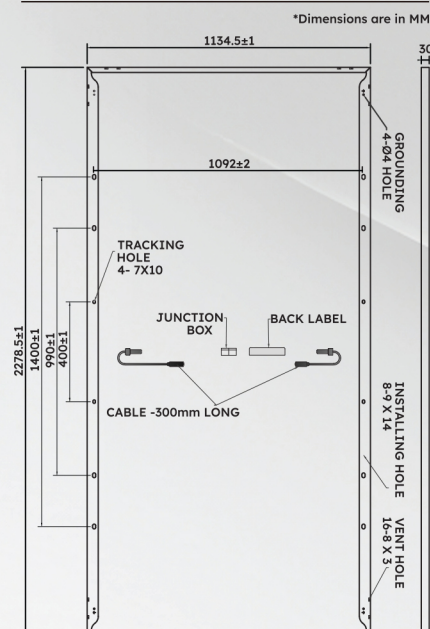
Operating Temperature	-40 °C to +85°C
Maximum System Voltage	1500 VDC
Maximum Series Fuse Rating	25 A

Electrical Performance



Current Vs Voltage Curve

Design Specifications



NOTE: Please read safety and installation instructions before using the product.

Disclaimer : Specifications are subject to change without prior notice owing to continuous innovation in the Product Development. INDOSOL SOLAR reserves the right to make any adjustment to the information described here. T&C Apply



Get in Touch

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