



OFTOB ENERGY Solar Panel Description

Solar Module OE-S/PV 620W – 650W (TOPCon, Dual-Glass, Bifacial)



The **OE-S/PV series** represents premium dual-glass solar modules built on advanced **TOPCon 2.0 technology**, designed for high-demand industrial, commercial, and hybrid energy systems where maximum reliability, power output, and long-term stability are essential.



Key Advantages

✓ High Power Output: 620–650 W

These panels deliver one of the highest power ratings in their class—ideal for industrial facilities, commercial buildings, and hybrid off-grid/on-grid systems.



✓ Dual-Glass Construction (2 mm + 2 mm)

Front and rear 2 mm glass layers ensure:

- Superior resistance to temperature cycles
- No PID degradation
- High moisture resistance
- Salt-mist and ammonia corrosion resistance

Certified according to:

IEC61215 / IEC61730 / IEC61701 / IEC62716



✓ TOPCon 2.0 — Enhanced Efficiency

The upgraded N-type TOPCon cell structure provides:

- Module efficiency up to **22.95%**
- Reduced thermal performance loss
- Greater stability under heat, humidity, and voltage fluctuations
(Performance verified by independent laboratory testing.)



✓ Ultra-Low Degradation

- < 2% in the first year
- ≤ 0.55% annual degradation afterward

Backed by a **30-year linear power-output warranty**.

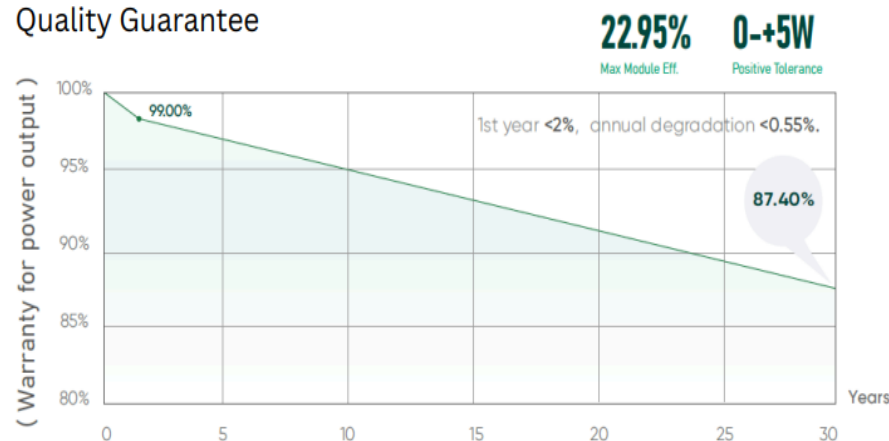


✓ Bifaciality up to 90%

Thanks to the symmetrical N-type architecture, the rear side of the module generates:

- **+10–25% additional energy** from reflected light
- Most effective on concrete, tile, bright gravel, and other reflective surfaces.

Quality Guarantee



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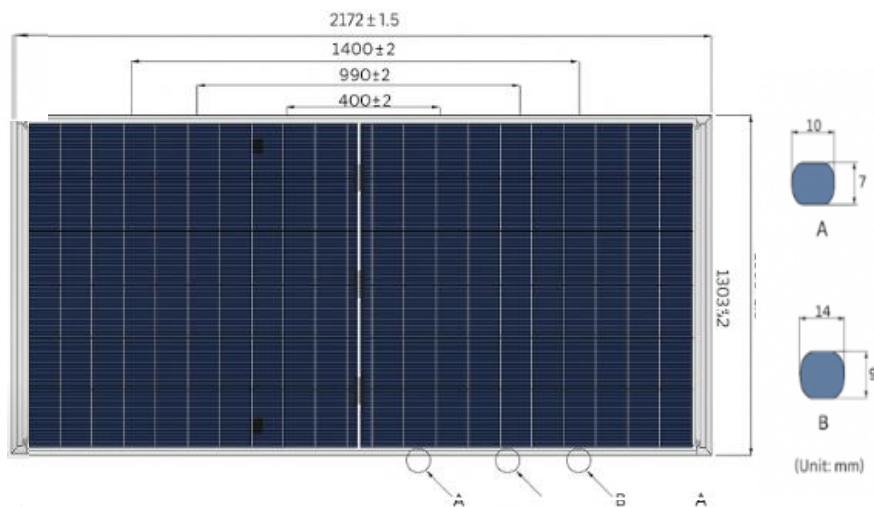
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- **Solar Cells** TOPCon 210mm
- **No. of Cells** 120 (6×20)
- **Dimensions** 2172 × 1303 × 35 mm
- **Weight** 35.3 kg
- **Glass Thickness**
(F) 2.0 mm anti-reflective solar glass
(B) 2.0 mm solar glass
- **Frame** Anodized aluminium alloy
- **Junction Box** IP68
- **Output Cables** 4 mm², 300 mm in length
(Customizable length / UV resistant)
- **Connectors** MC4 original / MC4 compatible
- **Mechanical Load Test** 5400 Pa
- **Packaging** 31 pcs/box, 558 pcs / 40' HQ



Electrical Parameter

Module Type: OE-S/PV 620W – 650W	620	625	630	635	640	645	650
Maximum Power (Pmax/W)	620	625	630	635	640	645	650
Module Efficiency (%)	21.90%	22.10%	22.30%	22.40%	22.60%	22.78%	22.95%
Optimum Operating Voltage (Vmp/V)	35.70	35.90	36.10	36.30	36.50	36.70	36.90
Optimum Operating Current (Imp/A)	17.37	17.41	17.46	17.50	17.54	17.58	17.62
Open Circuit Voltage (Voc/V)	42.90	43.10	43.30	43.50	43.70	43.90	44.10
Short Circuit Current (Isc/A)	18.31	18.36	18.41	18.46	18.50	18.54	18.58

BSTC*

Maximum Power (Pmax/W)	469	473	476	480	484	488	492
Optimum Operating Voltage (Vmp/V)	33.80	33.90	34.10	34.30	34.50	34.70	34.90
Optimum Operating Current (Imp/A)	13.89	13.93	13.96	13.99	14.03	14.07	14.11
Open Circuit Voltage (Voc/V)	40.60	40.80	41.00	41.20	41.40	41.60	41.80
Short Circuit Current (Isc/A)	14.77	14.81	14.85	14.89	14.93	14.97	15.01

*STC: Irradiance 1000 W/m², cell temperature 25°C, AM=1.5. Tolerance of Pmax is within +/- 3%.

*BSTC: Front side irradiation 1000W/m², back side reflection irradiation 135W/m², AM=1.5, ambient temperature 25°C



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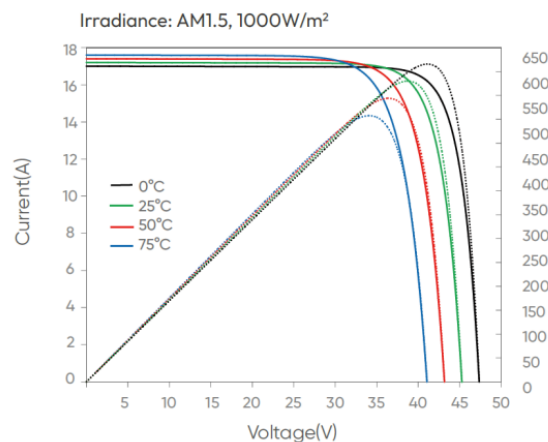
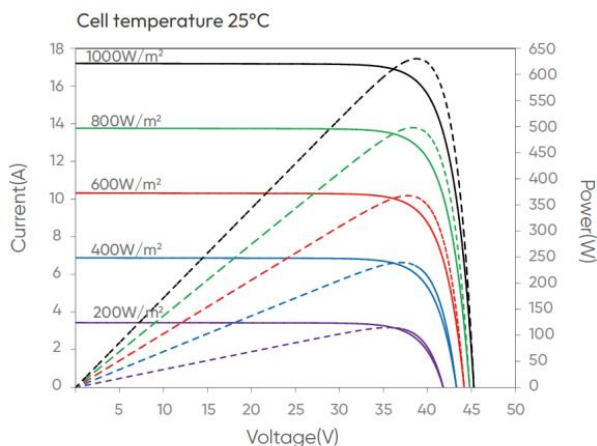


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I-V Curve



Temperature Characteristics

NMOT (Nominal Module Operating Temperature)	44°C (±2°C)
Temperature Coefficient of Voc	-0.250% / °C
Temperature Coefficient of Isc	+0.046% / °C
Temperature Coefficient of Pmax	-0.300% / °C

Operating Characteristics

Operating Module Temperature	-40°C ~ +85°C
Maximum System Voltage	DC 1500 (IEC)
Maximum Series Fuse Rating	35A
Power Tolerance	0 ~ +5W
Bifaciality	85% ± 5%

Quality Management System and Product Certification

- 🛡️ IEC 61215 / IEC 61730 – Design & safety qualification
- 🛡️ IEC 62804 – PID resistance
- 🛡️ IEC 61701 – Salt mist corrosion test
- 🛡️ IEC 62716 – Ammonia corrosion test
- 🛡️ IEC 60068-2-68 – Sand abrasion test
- ⚙️ ISO 9001:2015 – Quality management system
- 🌿 ISO 14001:2015 – Environmental management system
- 🏢 ISO 45001:2018 – Occupational health & safety management
- 🔌 ISO 50001:2011 – Energy management system

