



ORISun N-Type OSD4DH5416H TOPCon High-Efficiency Dual Glass Solar Module With MBB Technology



Intelligent Manufacturing, High-Performance N-type Solar cell

Industry-leading intelligent and efficient production lines, with the highest quality standards in the industry. Ensuring the most cost-effective production.



Higher Yield

High power, low temperature coefficient, high bifaciality ensuring the product can generate more energy benefits even in cloudy or hot weather with the same area. The bifaciality power gain increases with the backside illumination which can reach up to 25% or more.

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Extremely Durable

Thanks to the optimal material matching and interconnection encapsulation technology, the product has outstanding module weather resistance performances. The overall module has passed the certification of 2400Pa wind load and 5400Pa snow load, while minimizing the degradation caused by PID.



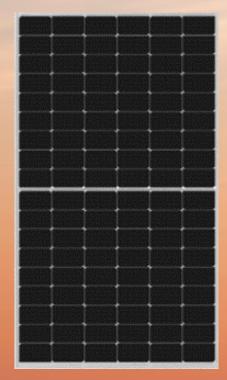
Guaranteed Reliability

Industry leading 30 year product and performance linear warranty. Adopting the most advanced N-type mass production technology to ensure low LID and LETID degradation.



Extremely Elegant

Simple and elegant industrial design, suitable for various application scenarios.



440-460 Watt Higher Energy Output

Mechanical Structure Specifications

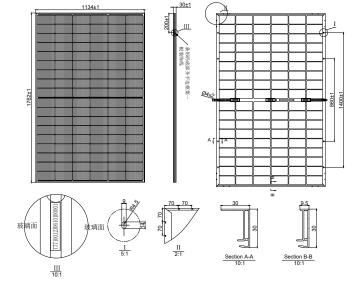
Dimensions	1762 x 1134 x 30 mm /69.37 x 44.7 x 1.2in
Weight	22.5Kg / 70.5lbs
Front Material	Tempered high transparency photovoltaic glass, 2.0 mm / 0.08 in, anti reflective film
Back Material	Semi tempered photovoltaic glass, 2.0 mm / 0.08 in,
Frame	Anodized aluminum alloy
Cell Type	108Half piece, N-type monocrystalline silicon bifacial TOPCon solar cells
Junction Box	Protection grade IP68
Cable	Wireway: 4 mm²/TÜV, Length (+):300 mm/11.81 in & (-):200 mm

Packaging and Transportation



Transport by container or truck. For truck freight, each pallet has a loading capacity of 17.5 meters and a height of 3.5-4.5 meters.

Module Electrical Performance Specifications¹



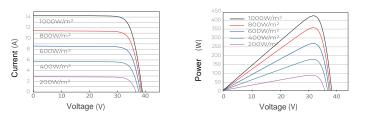
Module model **Efficiency** Power* Short-circuit current Open circuit current Optimal operating current Optimum operating voltage Pmax lsc Voc Impp Vmpp η [%] [W] [A] [V] [A] [V] stc² NOCT³ STC NOCT STC NOCT STC NOCT NOCT STC STC 440 22.02 331 440 11.55 14.32 36.52 38.44 10.87 13.49 30.45 32.62 445 22.27 335 445 11.63 14.41 10.93 13.55 30.65 32.83 36.67 38.60 450 22.52 339 450 11.70 14.50 36.78 38.71 11.02 13.64 30.76 32.99 455 22.77 14.59 30.96 343 455 1178 36.83 38.77 11.08 13.71 33.19 460 23.02 346 460 11.83 14.66 36.94 38.88 11.12 13.78 31.12 33.37

* (Power tolerance 0 W / +5 W for STC)

Bifacial Power Generation Performance (Rearside gain)

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5%	Pmax	462Wp	467Wp	473Wp	478Wp	483Wp
5%	Efficiency	23.12%	23.38%	23.65%	23.91%	24.17%
1 697	Pmax	506Wp	512Wp	518Wp	523Wp	529Wp
15%	15% Efficiency	25.32%	25.61%	25.90%	26.19%	26.48%
0.577	Pmax	550Wp	556Wp	563Wp	569Wp	575Wp
25%	Efficiency	27.53%	27.84%	28.15%	28.46%	28.78%

I-V Curve Under Different Illuminances



System Related Technical Parameters

Maximum system voltage	[V]	1500
Maximum rated fuse current	[A]	30
Security level		ll
Fire rating(UI61730)		А
Operating temperature range	[°C]	-40 to +85
Reference bifacial factor	[%]	80±5

Related Certifications

IEC IEC 61215:2016, IEC 61730:2016, UL 61730-1, UL 61730-2, PID (IEC 62804), Salt Mist (IEC 61701)

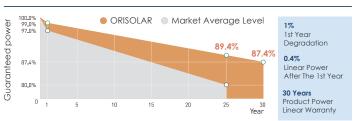
Note: All data and specifications are preliminary and may change without notice. For installation and operation instructions, please refer to the installation guide.

Temperature Coefficient

Isc TEMP coefficient	a	[%/K]	+0.045
Voc TEMP coefficient	β	[%/K]	-0.25
Pmpp TEMP coefficient	γ	[%/K]	-0.29
Nominal operating TEMP	NOCT	[°C]	45±2

The temperature coefficient described is a linear value.

Industry Leading Linear Quality Assurance



Passed Multiple IEC Standards With 3x Reliability And Weather Resistance Testing Procedures

1x IEC 3x IEC

Average Standard

The Lowest Testing Level Of Orisolar

 Power test according to IEC 60904-3, test tolerance: 0~+3%
STC condition: Light intensity 1000 W/m², Component temperature 25 ° C, AM1.5G spectral conditions

 $^{\rm 8}$ NMOT: nominal component operating temperature, light intensity 800 W/m $^{\rm 2},$ AM1.5G spectral conditions, ambient temperature 20 $^{\circ}$ C

