



RELIABLE ENERGY, POWERING AMERICA

2026 Product Manual

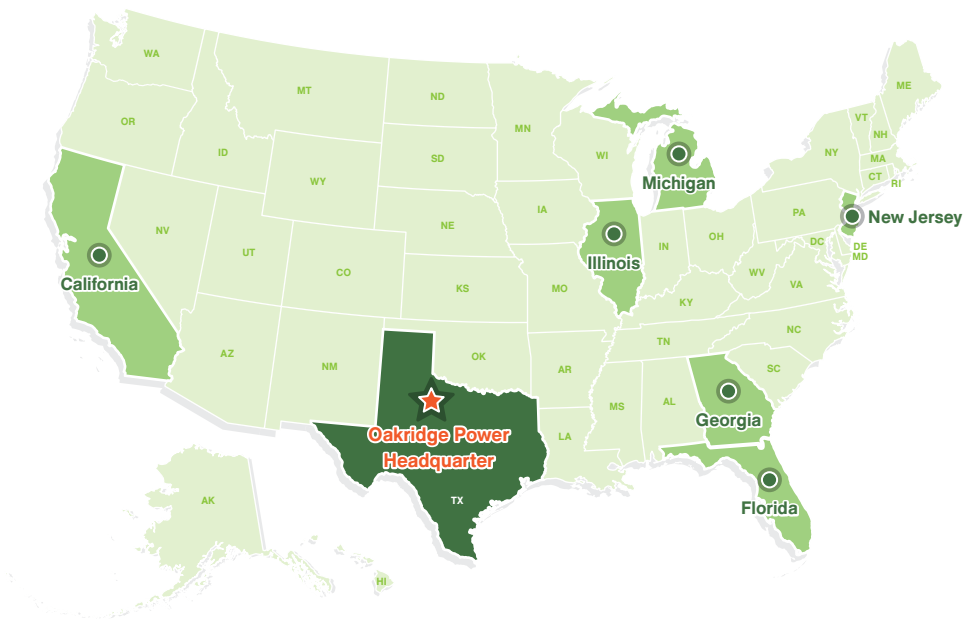
Version 7/2026

The U.S. solar market is evolving rapidly — yet many customers continue to face familiar challenges: inconsistent supply, delayed communication, limited local support, and inflexible commercial models. Oakridge Power is built to close this gap.

We believe solar partnerships should be reliable, responsive, and execution-driven. By combining a mature global supply chain with a fully localized U.S. operating team, we help customers move projects forward with greater confidence, speed, and flexibility.

Established in America Positioned for Growth

Founded in 2026 and headquartered in Texas, Oakridge Power is a fast-growing U.S. solar solutions company focused on delivering reliable, high-performance photovoltaic modules and end-to-end support, with a main focus on the commercial & industrial (C&I) and utility-scale solar markets.



With regional offices in Texas and California, alongside strategically distributed warehousing capabilities across the East, Central, and West Coast regions, we are building a responsive and localized platform to better serve customers throughout the United States.



Global Supply Chain U.S.-Ready Standards

Backed by a mature global supply chain and experienced industry expertise, Oakridge Power delivers solar modules designed to meet U.S. market expectations for performance, quality, and compliance. Our products are certified to UL standards, with additional compliance documentation and certification packages available on request.



Local Team, Real-Time Support

Our fully localized U.S. team covers sales, technical support, customs clearance coordination, logistics management, and customer service, enabling us to provide timely, responsive, and end-to-end support throughout the project lifecycle — from product selection, design support and delivery coordination to installation support as well as after-sales service.



Flexible Partner Growing Together

As a newly established and rapidly expanding solar company, we remain highly flexible in pricing, commercial structures, and project-level collaboration models. We value long-term partnerships and are committed to growing alongside our customers by offering responsive support, practical solutions, and flexible collaboration tailored to the evolving needs of the U.S. solar market.

Our Vision

To become a trusted long-term partner powering the growth of the U.S. solar industry through reliability, responsiveness, and customer-focused execution.

Our Mission

To bridge global supply chain strength with localized U.S. execution, delivering reliable solutions, responsive support, and customer-focused partnerships that help customers move projects forward with confidence.





5GW

Manufacturing capacity globally

Our Certificates



CALIFORNIA
ENERGY COMMISSION



IEC 61215, IEC 61730

ISO 9001:2015 Quality Management System

ISO 14001:2015 Environment Management System

ISO 45001:2018 Occupational Health and Safety Management System



CORE Series Bifacial Modules



Power Range | 415-435W
Maximum Efficiency | 22.28%



Power Range | 580-600W
Maximum Efficiency | 23.23%



Power Range | 610-630W
Maximum Efficiency | 23.32%

☆ Outstanding Performance

- Industry-leading efficiency — enables higher power density and optimized project layouts.
- Premium power output per standard size panel — supports efficient system configurations.
- Excellent temperature coefficient — maintains strong output in hot climates.
- Bifacial design captures reflected light from snow, white roofs, concrete, or gravel — up to 90% bifaciality for extra energy at no added cost.

∞ Long-Term Reliability

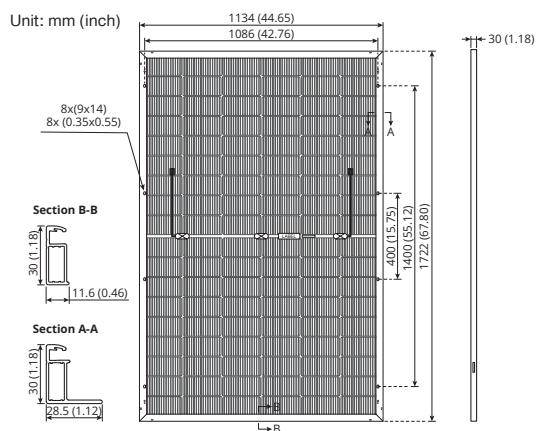
- Advanced dual-glass structure — exceptional moisture resistance virtually eliminates PID degradation.
- First year degradation $\leq 1\%$ — delivers full performance right from day one.
- 12-year product warranty, 30-year performance, coverage with 0.4% max annual degradation and 87.4% retained performance.

\$ Lifetime Investment Return

- Higher energy harvest reduces the number of panels required, directly lowering balance of system costs.
- Stronger return on investment — more power, lower degradation and extended warranty combine to shorten your payback period.
- Lower LCOE — more affordable electricity over the full 30-year system lifespan, maximizing your long-term savings.

CORE Series Bifacial Modules OPA-HBDW415~435-182(54)

Physical Characteristics



Mechanical Description

No. of Half cells	108pcs(6×18)
Dimension	1722×1134×30mm (67.8 × 44.65 × 1.18in)
Weight	23.1kg (50.93lbs)
Front Glass	2.0mm, highly transparent tempered glass with anti-reflective coating
Rear Glass	2.0mm, tempered glass
Frame	Anodized aluminum alloy
Junction Box	IP68 rated
Cable	4mm ² , portrait: 400mm(+) / 200mm (-), landscape: 1400mm (+) / 1400mm (-), can be customized
Diode Quantity	3 pcs
Connector	MC4 Compatible

Temperature Characteristics

Nominal Module Operating Temperature	44±2°C	Temperature Coefficient (V _{oc})	-0.25%
Temperature Coefficient (I _{sc})	+0.043%	Temperature Coefficient (P _{max})	-0.30%

Maximum Parameters

Load Rating	Front Side 5400pa Rear Side 2400pa	Maximum System Voltage	1500V DC
Operating Temperature	-40~+85°C	Maximum Fuse Rating	30A

Packaging Information

Modules Per Pallet	36 pcs/pallet	Per Container	20 pallet/container, 720 pcs/ 40'HQ container
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Electrical Performance Parameters

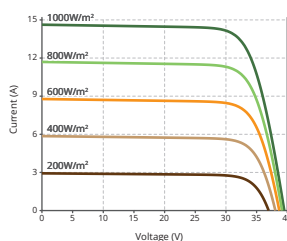
Model Type	OPA-HBDW415-182(54)			OPA-HBDW420-182(54)			OPA-HBDW425-182(54)			OPA-HBDW430-182(54)			OPA-HBDW435-182(54)		
Testing Condition	STC	NMOT	BNPI	STC	NMOT	BNPI	STC	NMOT	BNPI	STC	NMOT	BNPI	STC	NMOT	BNPI
Nominal Max. Power P _{max} (W)	415	311	457	420	315	463	425	319	468	430	323	474	435	327	479
Max. Power Voltage V _{mp} (V)	31.18	29.41	31.24	31.42	29.61	31.48	31.65	29.82	31.71	31.88	30.02	31.94	32.11	30.23	32.17
Max. Power Current I _{mp} (A)	13.31	10.58	14.65	13.37	10.64	14.72	13.43	10.70	14.79	13.49	10.76	14.85	13.55	10.82	14.92
Open Circuit Voltage V _{oc} (V)	38.57	35.98	38.56	38.72	36.12	38.71	38.87	36.26	38.86	39.02	36.40	39.01	39.17	36.54	39.16
Short Circuit Current I _{sc} (A)	14.55	11.80	16.06	14.61	11.85	16.13	14.67	11.90	16.20	14.73	11.95	16.26	14.79	12.00	16.33
Module Efficiency (%)	21.25			21.51			21.76			22.02			22.28		

* STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5; NMOT: Irradiance 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s; Power measurement tolerance ±3%.

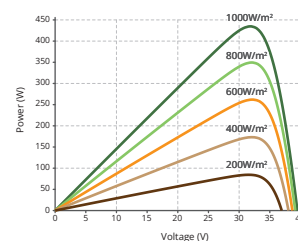
Bifacial Output-rearside Power Gain

5%	Maximum Power P _{max} (W)	436	441	446	452	457
	Module Efficiency (%)	22.31	22.58	22.85	23.12	23.39
10%	Maximum Power P _{max} (W)	457	462	468	473	479
	Module Efficiency (%)	23.38	23.66	23.94	24.22	24.50
25%	Maximum Power P _{max} (W)	519	525	531	538	544
	Module Efficiency (%)	26.57	26.89	27.21	27.53	27.85

Current-Voltage Curve (435W)



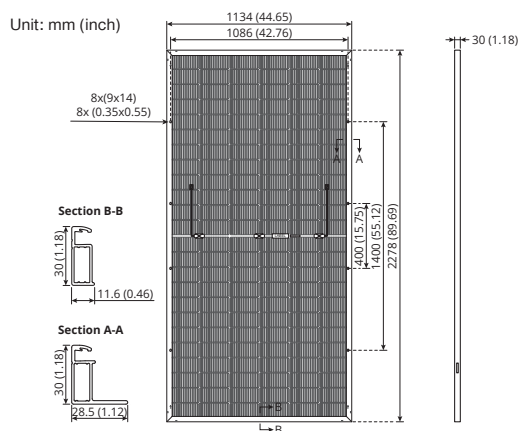
Power-Voltage Curve (435W)



Data contained in these specifications is subject to change without notice.

CORE Series Bifacial Modules OPA-HBDW580~600-182(72)

Physical Characteristics



Mechanical Description

No. of Half cells	144pcs(6×24)
Dimension	2278×1134×30mm (89.69 × 44.65 × 1.18in)
Weight	31.2kg (68.78lbs)
Front Glass	2.0mm, highly transparent tempered glass with anti-reflective coating
Rear Glass	2.0mm, tempered glass
Frame	Anodized aluminum alloy
Junction Box	IP68 rated
Cable	4mm ² , portrait: 400mm(+) / 200mm (-), landscape: 1400mm (+) / 1400mm (-), can be customized
Diode Quantity	3 pcs
Connector	MC4 Compatible

Temperature Characteristics

Nominal Module Operating Temperature	44±2°C	Temperature Coefficient (V _{oc})	-0.25%
Temperature Coefficient (I _{sc})	+0.043%	Temperature Coefficient (P _{max})	-0.30%

Maximum Parameters

Load Rating	Front Side 5400pa Rear Side 2400pa	Maximum System Voltage	1500V DC
Operating Temperature	-40~+85°C	Maximum Fuse Rating	30A

Packaging Information

Modules Per Pallet	36 pcs/pallet	Per Container	16 pallet/container, 576 pcs/ 40'HQ container
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Electrical Performance Parameters

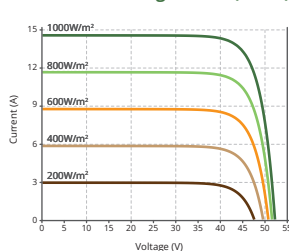
Model Type		OPA-HBDW580-182(72)			OPA-HBDW585-182(72)			OPA-HBDW590-182(72)			OPA-HBDW595-182(72)			OPA-HBDW600-182(72)		
Testing Condition		STC	NMOT	BNPI	STC	NMOT	BNPI	STC	NMOT	BNPI	STC	NMOT	BNPI	STC	NMOT	BNPI
Nominal Max. Power	P _{max} (W)	580	437	639	585	441	645	590	445	650	595	449	655	600	453	660
Max. Power Voltage	V _{mp} (V)	42.75	40.17	42.84	42.89	40.32	42.98	43.04	40.47	43.11	43.18	40.62	43.25	43.33	40.77	43.39
Max. Power Current	I _{mp} (A)	13.57	10.88	14.94	13.64	10.94	15.02	13.71	11.00	15.08	13.78	11.06	15.15	13.85	11.12	15.22
Open Circuit Voltage	V _{oc} (V)	51.43	48.85	51.42	51.63	49.04	51.62	51.83	49.23	51.82	52.03	49.42	52.02	52.23	49.61	52.22
Short Circuit Current	I _{sc} (A)	14.33	11.56	15.82	14.39	11.61	15.89	14.45	11.66	15.95	14.51	11.70	16.02	14.57	11.75	16.09
Module Efficiency	(%)	22.45			22.65			22.84			23.03			23.23		

* STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5; NMOT: Irradiance 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s; Power measurement tolerance ±3%.

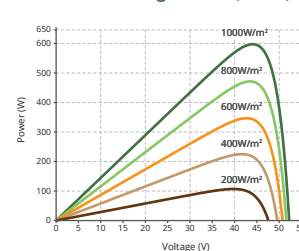
Bifacial Output-rearside Power Gain

5%	Maximum Power	P _{max} (W)	609	614	620	625	630
	Module Efficiency	(%)	23.57	23.78	23.98	24.18	24.39
10%	Maximum Power	P _{max} (W)	638	644	649	655	660
	Module Efficiency	(%)	24.70	24.91	25.12	25.34	25.55
25%	Maximum Power	P _{max} (W)	725	731	738	744	750
	Module Efficiency	(%)	28.07	28.31	28.55	28.79	29.03

Current-Voltage Curve (600W)



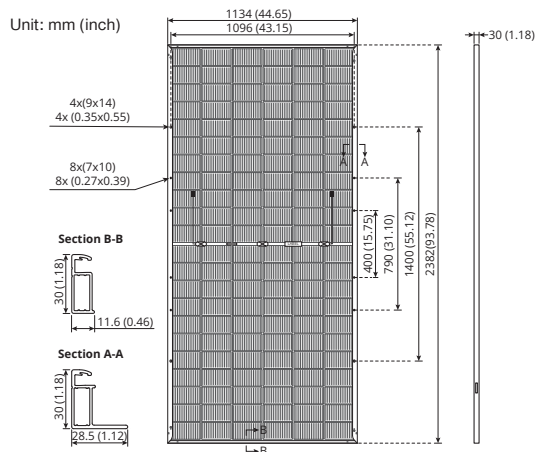
Power-Voltage Curve (600W)



Data contained in these specifications is subject to change without notice.

CORE Series Bifacial Modules OPA-HBDW610~630-210R(66)

Physical Characteristics



Mechanical Description

No. of Half cells	132pcs(6×22)
Dimension	2382×1134×30mm (93.78 × 44.65 × 1.18in)
Weight	32.5kg (71.65lbs)
Front Glass	2.0mm, highly transparent tempered glass with anti-reflective coating
Rear Glass	2.0mm, tempered glass
Frame	Anodized aluminum alloy
Junction Box	IP68 rated
Cable	4mm ² , portrait: 400mm(+) / 200mm (-), landscape: 1400mm (+) / 1400mm (-), can be customized
Diode Quantity	3 pcs
Connector	MC4 Compatible

Temperature Characteristics

Nominal Module Operating Temperature	44±2°C	Temperature Coefficient (V _{OC})	-0.25%
Temperature Coefficient (I _{SC})	+0.043%	Temperature Coefficient (P _{MAX})	-0.30%

Maximum Parameters

Load Rating	Front Side 5400pa Rear Side 2400pa	Maximum System Voltage	1500V DC
Operating Temperature	-40~+85°C	Maximum Fuse Rating	35A

Packaging Information

Modules Per Pallet	36 pcs/pallet	Per Container	15 pallet/container, 540 pcs/ 40'HQ container
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Electrical Performance Parameters

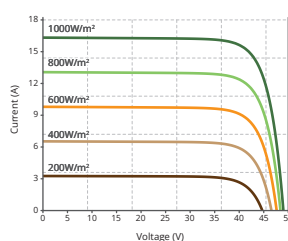
Model Type	OPA-HBDW610-210R(66)			OPA-HBDW615-210R(66)			OPA-HBDW620-210R(66)			OPA-HBDW625-210R(66)			OPA-HBDW630-210R(66)		
Testing Condition	STC	NMOT	BNPI	STC	NMOT	BNPI	STC	NMOT	BNPI	STC	NMOT	BNPI	STC	NMOT	BNPI
Nominal Max. Power P _{MAX} (W)	610	460	673	615	464	679	620	468	685	625	472	688	630	476	695
Max. Power Voltage V _{MP} (V)	40.64	38.10	40.69	40.76	38.26	40.83	40.88	38.43	40.97	40.99	38.60	41.06	41.12	38.77	41.23
Max. Power Current I _{MP} (A)	15.01	12.08	16.54	15.09	12.13	16.63	15.17	12.18	16.71	15.25	12.23	16.78	15.33	12.28	16.87
Open Circuit Voltage V _{OC} (V)	48.69	46.20	48.70	48.82	46.33	48.83	48.95	46.46	48.96	49.08	46.59	49.09	49.21	46.72	49.22
Short Circuit Current I _{SC} (A)	15.89	12.82	17.53	15.98	12.89	17.63	16.06	12.96	17.73	16.15	13.03	17.83	16.23	13.10	17.91
Module Efficiency (%)	22.58			22.77			22.95			23.14			23.32		

* STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5; NMOT: Irradiance 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s; Power measurement tolerance ±3%.

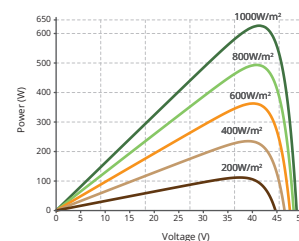
Bifacial Output-rearside Power Gain

5%	Maximum Power P _{MAX} (W)	641	646	651	656	662
	Module Efficiency (%)	23.71	23.91	24.10	24.29	24.49
10%	Maximum Power P _{MAX} (W)	671	677	682	688	693
	Module Efficiency (%)	24.84	25.04	25.25	25.45	25.66
25%	Maximum Power P _{MAX} (W)	763	769	775	781	788
	Module Efficiency (%)	28.23	28.46	28.69	28.92	29.15

Current-Voltage Curve (630W)



Power-Voltage Curve (630W)



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