PRODUCT CATALOG 2025

910.623.8512 Sales@BlueHorizon-Innovations.com BlueHorizon-Innovations.com

WELCOME

BLUE HORIZON innovations

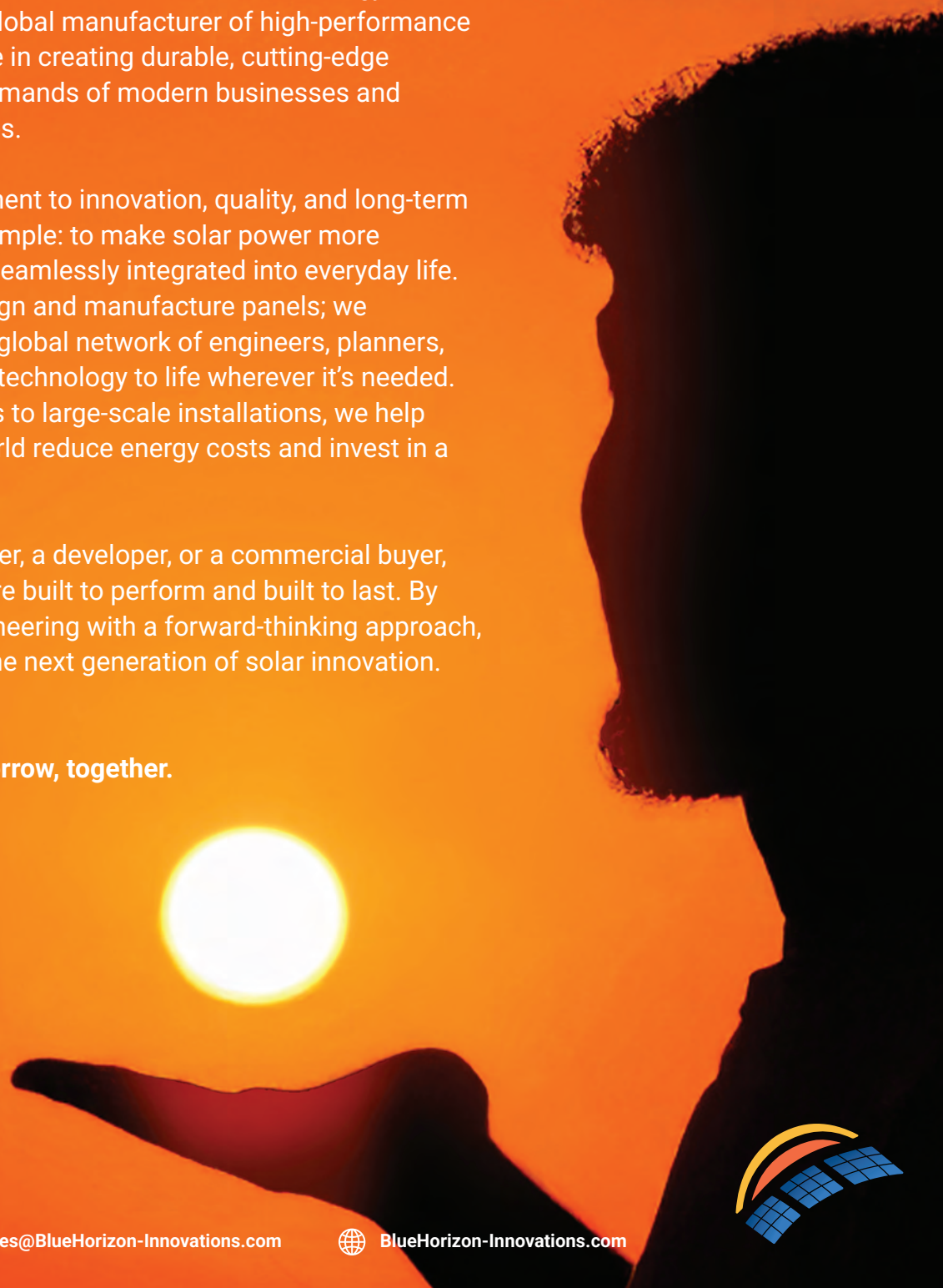
At Blue Horizon Innovations,

we're changing the way the world thinks about solar energy. As a U.S.-based designer and global manufacturer of high-performance solar panels, we specialize in creating durable, cutting-edge solutions that meet the demands of modern businesses and evolving energy landscapes.

Driven by a deep commitment to innovation, quality, and long-term progress, our mission is simple: to make solar power more accessible, efficient, and seamlessly integrated into everyday life. We do more than just design and manufacture panels; we collaborate with a trusted global network of engineers, planners, and installers to bring our technology to life wherever it's needed. From commercial rooftops to large-scale installations, we help businesses across the world reduce energy costs and invest in a more sustainable future.

Whether you're a wholesaler, a developer, or a commercial buyer, our 25-year PV modules are built to perform and built to last. By combining advanced engineering with a forward-thinking approach, we're paving the way for the next generation of solar innovation.

Let's build a brighter tomorrow, together.



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WHICH PANEL FITS YOUR NEEDS?

ES Line – Engineered for Toughness and Performance

The **ES series** from Blue Horizon Innovations is built for durability in the harshest environments. These panels feature a robust double-glass design and a taller, reinforced frame for long-term resilience. With high-voltage output, the **ES** line is ideal for installations where space is limited but power demand is high, delivering maximum efficiency without sacrificing output. Perfect for commercial, rugged, or space-constrained applications.

RC Line – Practical Power at a Competitive Price

The **RC series** offers a budget-friendly solution without compromising essential performance. Designed for price-conscious customers, these panels deliver solid voltage and current ratings suitable for a wide range of installations. With industry-standard sizing and dependable output, the **RC** line is ideal for residential or value-driven commercial projects where affordability meets reliable energy production.

	BHI-ESPSC 470	BHI-ESPSC 320	BHI-ESPSC 280	BHI-RC48 HC	BHI-RC66 HC
MAXIMUM POWER (WP)	470W	320W	280W	440-460W	610-630W
OPEN CIRCUIT VOLTAGE(VOC)	86.5V	81.8V	72.3V	34.80-35.60V	48.10-48.80V
SHORT CIRCUIT CURRENT(ISC)	7A	5.1A	5.05A	16-16.20A	16.05-16.25A
MAXIMUM POWER VOLTAGE(VM)	70.15V	66.67V	58.95V	28.80-29.60V	39.77-40.47V
MAXIMUM POWER CURRENT (IMP)	6.7A	4.8A	4.75A	15.28-15.54A	15.34-15.57A
MODULE DIMENSIONS (L/W/H)	1909mm (75.16in) x1134mm (44.65in) x49mm (1.93in)	1665mm (65.55in) x1002mm (39.45in) x49mm (1.93in)	1506mm (59.29in) x1002mm (39.45in) x49mm (1.93in)	1762mm (69.37in) x1134mm (44.65in) x30mm (1.18in)	2382mm (93.78in) x1134mm (44.65in) x30/35mm (1.18/1.38in)

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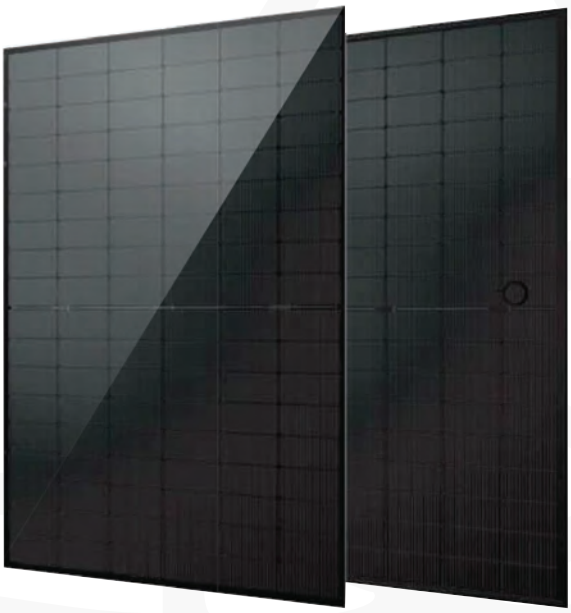


BHI-ESPSC280

Black Series | N-Type Full Black Monocrystalline

280W	MAXIMUM POWER OUTPUT
0~+5w	POSITIVE POWER TOLERANCE
22.79%	MAXIMUM EFFICIENCY

280W
PRODUCT RANGE

MBB HALF-CUT SOLAR CELL
108 cells

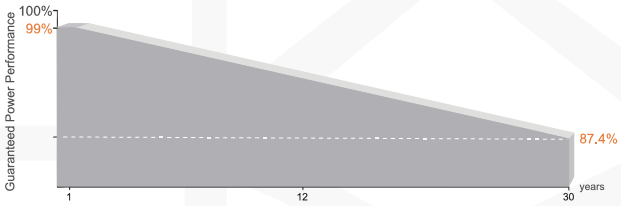
HIGHER MODULE CONVERSION EFFICIENCY
Higher module output up to 280W with module efficiency up to 22.79%

TRANSPARENT DUAL-GLASS DESIGN
Excellent fire rating, with better temperature coefficiency

LOW-LIGHT PERFORMANCE
Advanced glass and surface texturing allow for excellent performance in low-light environments

LINEAR PERFORMANCE WARRANTY

15 Year	Product Warranty
30 Year	Linear Power Warranty
<1%	First Year Power Degradation
<0.4 %	Year 2-30 Power Degradation

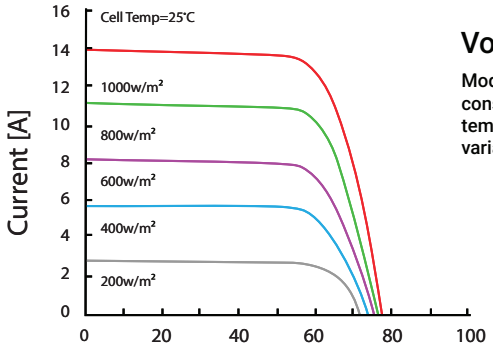


HIGHER POWER OUTPUT
Module power increases 5-25% generally, bringing significantly lower LCOE and higher IRR

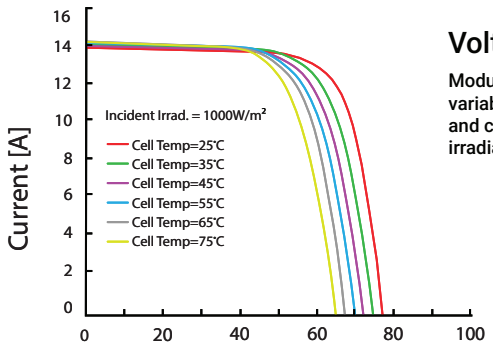
CERTIFICATIONS
Quality Management System and Product Certification

IEC61215(2021), IEC61730(2023), IEC61701
IEC61215-2(bifaciality): 2021
IS09001:2015: Quality Management System
IS014001:2015: Environment Management System
IS045001:2018: Occupational health and safety management systems

CURRENT-VOLTAGE CURVES:



Voltage (V)
Module characteristics at constant module temperatures of 25°C and variable levels of irradiance



Voltage (V)
Module characteristics at variable module temperatures and constant module irradiance of 1000W/M²

DOUBLE GLASS, 108-CELL HALF-CUT SERIES

ELECTRICAL PARAMETERS AT STC

Module Type: BHI-ESPSC280	
Maximum Power(Wp)	280W
Open Circuit Voltage(Voc)	72.3V
Short Circuit Current(Isc)	5.05A
Maximum Power Voltage(Vm)	58.95V
Maximum Power Current(Im)	4.75A
Module Efficiency	22.79%
Maximum Series Fuse	10A
Watts Positive Tolerance	0~+5W
Number Of Diode	3
Standard Test Conditions	1000W/M², 25°C, AM1.5
Maximum System Voltage	1000V/DC (11 in series)
Temperature-Coefficient Isc	+0.043%/°C
Temperature-Coefficient Voc	-0.24%/°C
Temperature-Coefficient Pmpp	-0.30%/°C
Operating Temperature	-40°C...+85°C
Normal Operating Cell Temperature	45±2°C
Load Capacity For The Cover Of The Module (Glass)	5400Pa(IEC61215) (snow)
Load Capacity For The Front & Back Of The Module	2400Pa(IEC61215) (wind)

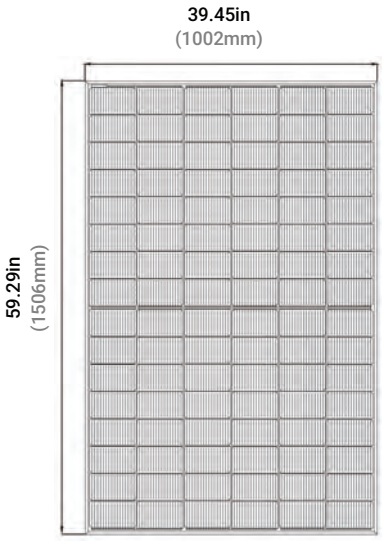
MECHANICAL CHARACTERISTICS

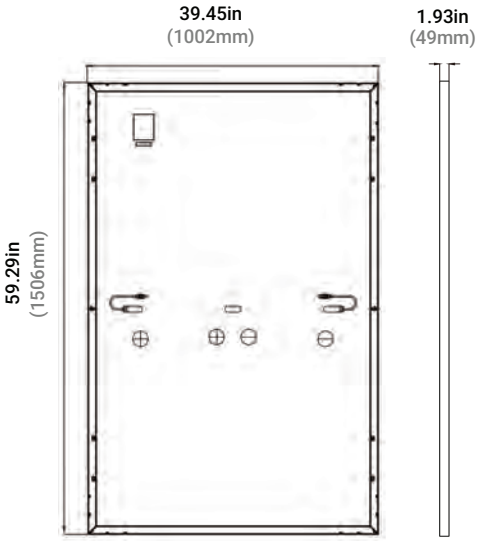
Front/Back Cover (Material / Thickness)	low-iron tempered glass / 2.0mm
Cell (Quantity / Material / Dimensions)	108(6x9x2) / monocrystalline silicon, bifacial
Frame (Material / Color)	aluminum hollow-chamber frame on each side anodized aluminum alloy / Black
Junction Box (Protection Degree)	≥IP68
Cables & Plug Connectors	4mm², 300mm in length, length can be customized
Module Dimensions (L / W / H)	1506x1002x49mm
Module Weight	15.4kg
Application Class	Class A
Electrical Protection Class	Class II
Fire Safety Class	Class A

PACKING

Container Size	Units/Pallet (PCS)	Weight/Pallet (KG)	Pallet Measurement (in)	Units/Container (PCS)
40HQ	21	554	63"x44"x45"	630

MODULE DIAGRAM





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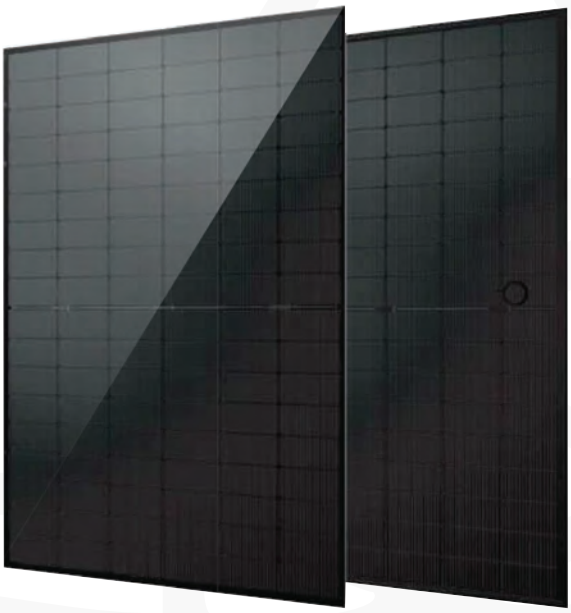


BHI-ESPSC320

Black Series | N-Type Full Black Monocrystalline

320W	MAXIMUM POWER OUTPUT
0~+5w	POSITIVE POWER TOLERANCE
22.79%	MAXIMUM EFFICIENCY

320W
PRODUCT RANGE

MBB HALF-CUT SOLAR CELL
120 cells

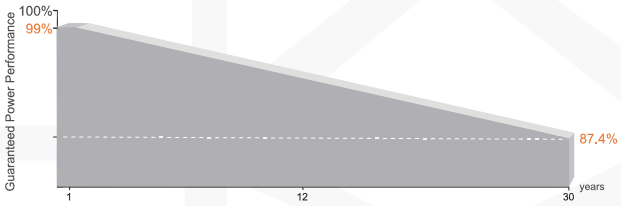
HIGHER MODULE CONVERSION EFFICIENCY
Higher module output up to 320W with module efficiency up to 22.79%

TRANSPARENT DUAL-GLASS DESIGN
Excellent fire rating, with better temperature coefficiency

LOW-LIGHT PERFORMANCE
Advanced glass and surface texturing allow for excellent performance in low-light environments

LINEAR PERFORMANCE WARRANTY

15 Year	Product Warranty
30 Year	Linear Power Warranty
<1%	First Year Power Degradation
<0.4 %	Year 2-30 Power Degradation

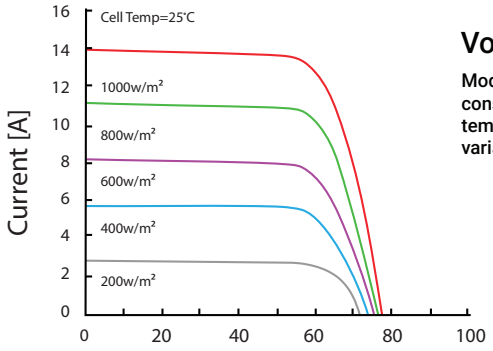


HIGHER POWER OUTPUT
Module power increases 5-25% generally, bringing significantly lower LCOE and higher IRR

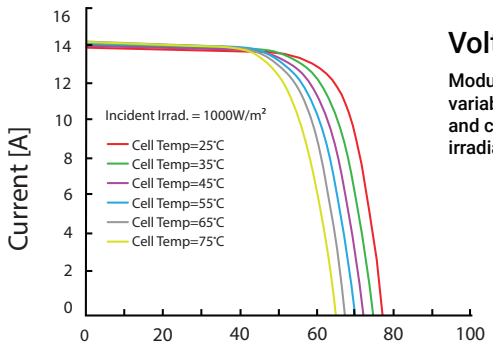
CERTIFICATIONS
Quality Management System and Product Certification

IEC61215(2021), IEC61730(2023), IEC61701
IEC61215-2(bifaciality): 2021
IS09001:2015: Quality Management System
IS014001:2015: Environment Management System
IS045001:2018: Occupational health and safety management systems

CURRENT-VOLTAGE CURVES:



Voltage (V)
Module characteristics at constant module temperatures of 25°C and variable levels of irradiance



Voltage (V)
Module characteristics at variable module temperatures and constant module irradiance of 1000W/M²

DOUBLE GLASS, 108-CELL HALF-CUT SERIES

ELECTRICAL PARAMETERS AT STC

Module Type: BHI-ESPSC320	
Maximum Power(Wp)	320W
Open Circuit Voltage(Voc)	81.8V
Short Circuit Current(Isc)	5.1A
Maximum Power Voltage(Vm)	66.67V
Maximum Power Current(Im)	4.8A
Module Efficiency	22.79%
Maximum Series Fuse	10A
Watts Positive Tolerance	0~+5W
Number Of Diode	3
Standard Test Conditions	1000W/M², 25°C, AM1.5
Maximum System Voltage	1000V/DC (11 in series)
Temperature-Coefficient Isc	+0.043%/°C
Temperature-Coefficient Voc	-0.24%/°C
Temperature-Coefficient Pmpp	-0.30%/°C
Operating Temperature	-40°C...+85°C
Normal Operating Cell Temperature	45±2°C
Load Capacity For The Cover Of The Module (Glass)	5400Pa(IEC61215) (snow)
Load Capacity For The Front & Back Of The Module	2400Pa(IEC61215) (wind)

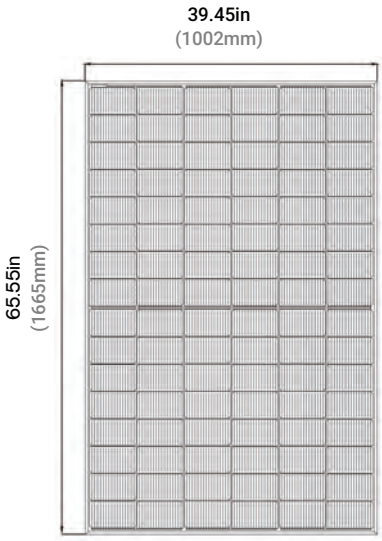
MECHANICAL CHARACTERISTICS

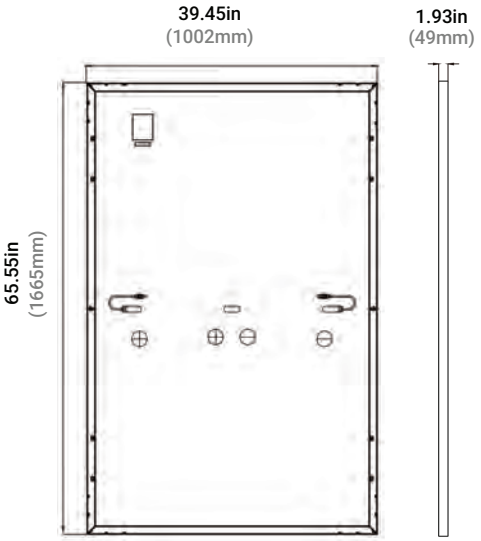
Front/Back Cover (Material / Thickness)	low-iron tempered glass / 2.0mm
Cell (Quantity / Material / Dimensions)	120(6x9x2) / monocrystalline silicon, bifacial
Frame (Material / Color)	aluminum hollow-chamber frame on each side anodized aluminum alloy / Black
Junction Box (Protection Degree)	≥IP68
Cables & Plug Connectors	4mm², 300mm in length, length can be customized
Module Dimensions (L / W / H)	1665x1002x49mm
Module Weight	16.5kg
Application Class	Class A
Electrical Protection Class	Class II
Fire Safety Class	Class A

PACKING

Container Size	Units/Pallet (PCS)	Weight/Pallet (KG)	Pallet Measurement (in)	Units/Container (PCS)
40HQ	21	594	69"x44"x45"	588

MODULE DIAGRAM





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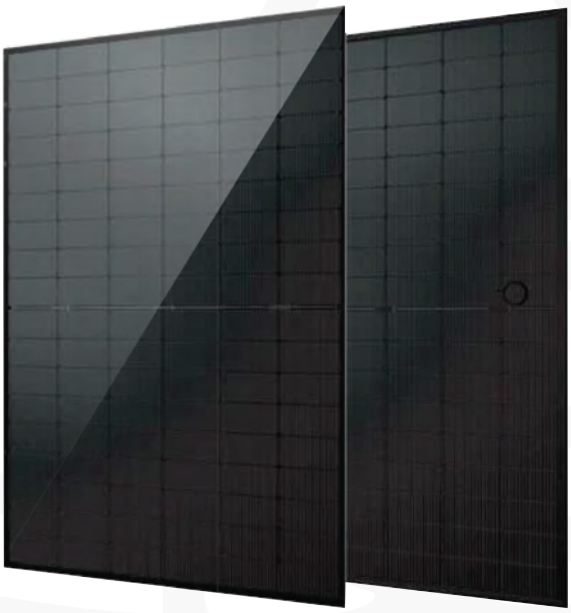


BHI-ESPSC470

Black Series | N-Type Full Black Monocrystalline

470W	MAXIMUM POWER OUTPUT
0~+5w	POSITIVE POWER TOLERANCE
22.79%	MAXIMUM EFFICIENCY

470W
PRODUCT RANGE

MBB HALF-CUT SOLAR CELL
120 cells

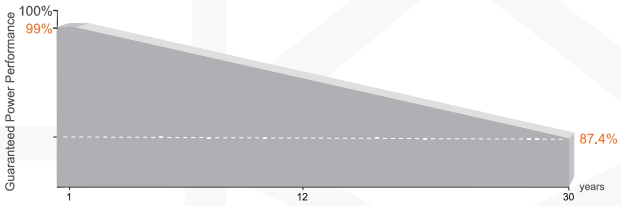
HIGHER MODULE CONVERSION EFFICIENCY
Higher module output up to 470W with module efficiency up to 22.79%

TRANSPARENT DUAL-GLASS DESIGN
Excellent fire rating, with better temperature coefficiency

LOW-LIGHT PERFORMANCE
Advanced glass and surface texturing allow for excellent performance in low-light environments

LINEAR PERFORMANCE WARRANTY

15 Year	Product Warranty
30 Year	Linear Power Warranty
<1%	First Year Power Degradation
<0.4 %	Year 2-30 Power Degradation

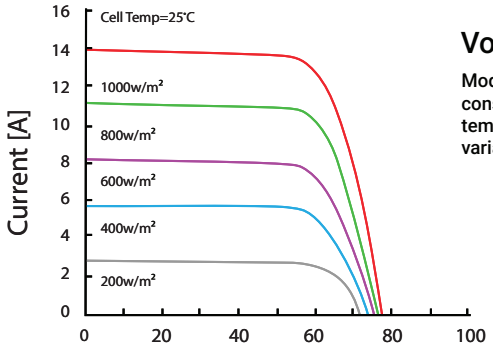


HIGHER POWER OUTPUT
Module power increases 5-25% generally, bringing significantly lower LCOE and higher IRR

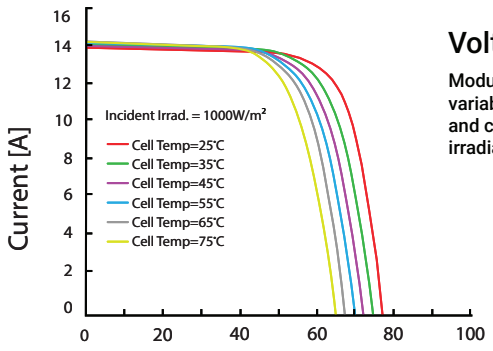
CERTIFICATIONS
Quality Management System and Product Certification

IEC61215(2021), IEC61730(2023), IEC61701
IEC61215-2(bifaciality): 2021
IS09001:2015: Quality Management System
IS014001:2015: Environment Management System
IS045001:2018: Occupational health and safety management systems

CURRENT-VOLTAGE CURVES:



Voltage (V)
Module characteristics at constant module temperatures of 25°C and variable levels of irradiance



Voltage (V)
Module characteristics at variable module temperatures and constant module irradiance of 1000W/M²

DOUBLE GLASS, 120-CELL HALF-CUT SERIES

ELECTRICAL PARAMETERS AT STC

Module Type: BHI-ESPSC470	
Maximum Power(Wp)	470W
Open Circuit Voltage(Voc)	86.5V
Short Circuit Current(Isc)	7A
Maximum Power Voltage(Vm)	70.15V
Maximum Power Current(Im)	6.7A
Module Efficiency	22.79%
Maximum Series Fuse	10A
Watts Positive Tolerance	0~+5W
Number Of Diode	3
Standard Test Conditions	1000W/M², 25°C, AM1.5
Maximum System Voltage	1000V/DC (11 in series)
Temperature-Coefficient Isc	+0.043%/°C
Temperature-Coefficient Voc	-0.24%/°C
Temperature-Coefficient Pmpp	-0.30%/°C
Operating Temperature	-40°C...+85°C
Normal Operating Cell Temperature	45±2°C
Load Capacity For The Cover Of The Module (Glass)	5400Pa(IEC61215) (snow)
Load Capacity For The Front & Back Of The Module	2400Pa(IEC61215) (wind)

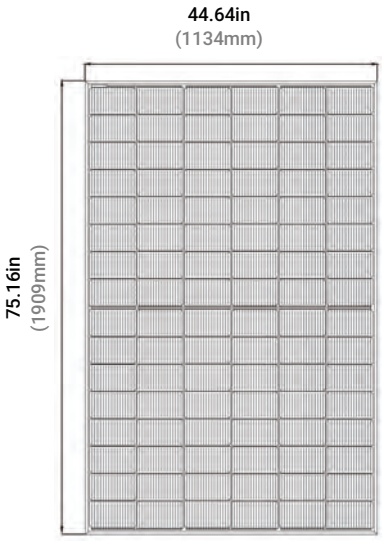
MECHANICAL CHARACTERISTICS

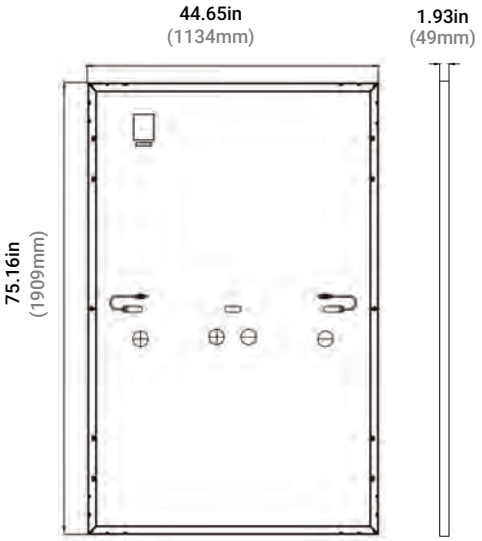
Front/Back Cover (Material / Thickness)	low-iron tempered glass / 2.0mm
Cell (Quantity / Material / Dimensions)	120(6x9x2) / monocrystalline silicon, bifacial
Frame (Material / Color)	aluminum hollow-chamber frame on each side anodized aluminum alloy / Black
Junction Box (Protection Degree)	≥IP68
Cables & Plug Connectors	4mm², 300mm in length, length can be customized
Module Dimensions (L / W / H)	1909x1134x49mm
Module Weight	22kg
Application Class	Class A
Electrical Protection Class	Class II
Fire Safety Class	Class A

PACKING

Container Size	Units/Pallet (PCS)	Weight/Pallet (KG)	Pallet Measurement (in)	Units/Container (PCS)
40HQ	21	825	69"x44"x45"	504

MODULE DIAGRAM





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BHI-RC48HC

Silver Series | N-Type Monocrystalline

460W	MAXIMUM POWER OUTPUT
0~+5w	POSITIVE POWER TOLERANCE
23.02%	MAXIMUM EFFICIENCY

440-460W
PRODUCT RANGE

MBB HALF-CUT SOLAR CELL
182x210mm, 96cells

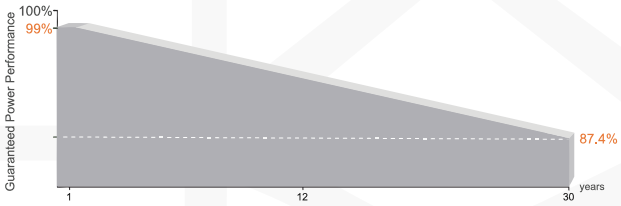
HIGHER MODULE CONVERSION EFFICIENCY
Higher module output up to 460W with module efficiency up to 23.02%

LIGHT-WEIGHT DESIGN
Light-weight design using transparent backsheet for easy installation and low BOS cost

LOW-LIGHT PERFORMANCE
Advanced glass and surface texturing allow for excellent performance in low-light environments

LINEAR PERFORMANCE WARRANTY

15 Year	Product Warranty
30 Year	Linear Power Warranty
<1%	First Year Power Degradation
<0.4 %	Year 2-30 Power Degradation

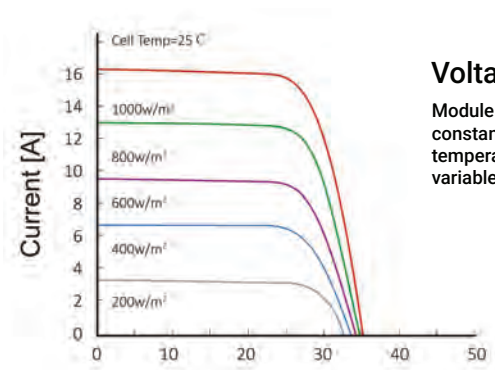


HIGHER POWER OUTPUT
Module power increases 5-25% generally, bringing significantly lower LCOE and higher IRR

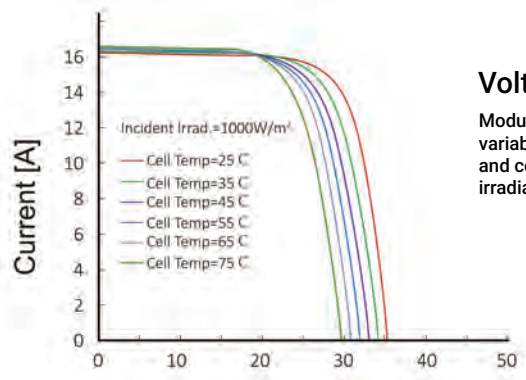
CERTIFICATIONS
Quality Management System and Product Certification

IEC61215(2021), IEC61730(2023), IEC61701
IEC61215-2(bifaciality): 2021
IS09001:2015: Quality Management System
IS014001:2015: Environment Management System
IS045001:2018: Occupational health and safety management systems

CURRENT-VOLTAGE CURVES:



Voltage (V)
Module characteristics at constant module temperatures of 25°C and variable levels of irradiance



Voltage (V)
Module characteristics at variable module temperatures and constant module irradiance of 1000W/M²

182mm, 48-CELL HALF-CUT SERIES

ELECTRICAL PERFORMANCE

Module Type: BHI-RC48HC	440M	/ 445M	/ 450M	/ 455M	/ 460M
Maximum Power(Wp)	440W	445W	450W	455W	460W
Open Circuit Voltage(Voc)	34.80V	35.00V	35.20V	35.40V	35.60V
Short Circuit Current(Isc)	16A	16.05A	16.10A	16.15A	16.20A
Maximum Power Voltage(Vm)	28.80V	29.00V	29.20V	29.40V	29.60V
Maximum Power Current(Im)	15.28A	15.35A	15.41A	15.48A	15.54A
Module Efficiency	22.02%	22.27%	22.52%	22.77%	23.02%
Maximum Series Fuse	25A				
Watts Positive Tolerance	0~+5W				
Number Of Diode	3				
Standard Test Conditions	1000W/M², 25°C, AM1.5				
Maximum System Voltage	1500V/DC				
Temperature-Coefficient Isc	+0.043%/°C				
Temperature-Coefficient Voc	-0.24%/°C				
Temperature-Coefficient Pmpp	-0.30%/°C				
Operating Temperature	-40°C...+85°C				
Normal Operating Cell Temperature	45±2°C				
Load Capacity For The Cover Of The Module (Glass)	5400Pa(IEC61215)(snow)				
Load Capacity For The Front & Back Of The Module	2400Pa(IEC61215)(wind)				

ELECTRICAL PERFORMANCE (NOCT)

Module Type: BHI-RC48HC	440M	/ 445M	/ 450M	/ 455M	/ 460M
Maximum Power(Wp)	334W	338W	342W	346W	350W
Open Circuit Voltage(Voc)	34.05V	33.25V	33.45V	33.65V	33.85V
Short Circuit Current(Isc)	12.8A	12.84A	12.88A	12.92A	12.96A
Maximum Power Voltage(Vm)	28.34V	27.53V	27.76V	27.95V	28.16V
Maximum Power Current(Im)	12.22A	12.28A	12.32A	12.38A	12.43A

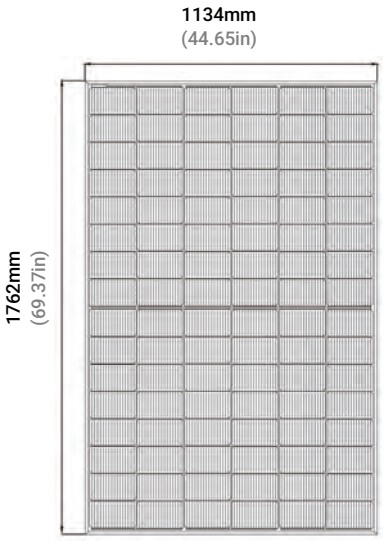
MECHANICAL CHARACTERISTICS

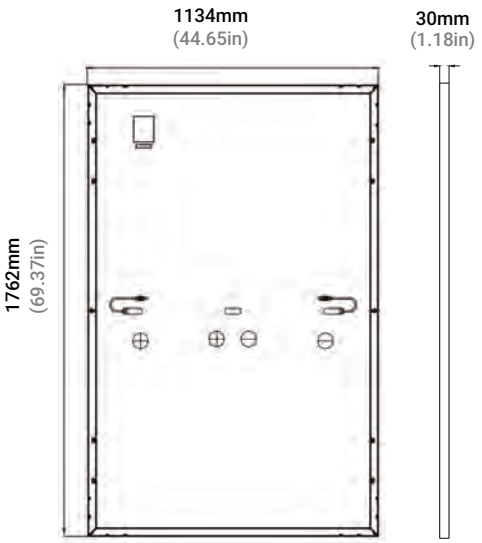
Front/Back Cover (Material / Thickness)	low-iron tempered glass / 3.2mm
Backsheet (Color)	TPT in white
Cell (Quantity / Material / Dimensions)	108(6x9x2) / monocrystalline silicon
Frame (Material / Color)	aluminum hollow-chamber frame on each side anodized aluminum alloy / silver
Junction Box (Protection Degree)	≥IP68
Cables & Plug Connectors	4mm², 300mm in length, length can be customized
Module Dimensions (L / W / H)	1762x1134x30mm
Module Weight	22.5kg
Application Class	Class A
Electrical Protection Class	Class II
Fire Safety Class	Class C

PACKING

Container Size	Units/Pallet (PCS)	Weight/Pallet (KG)	Pallet Measurement (mm)	Units/Container (PCS)
40HQ	36	845	1790x1120x1260mm	936

MODULE DIAGRAM





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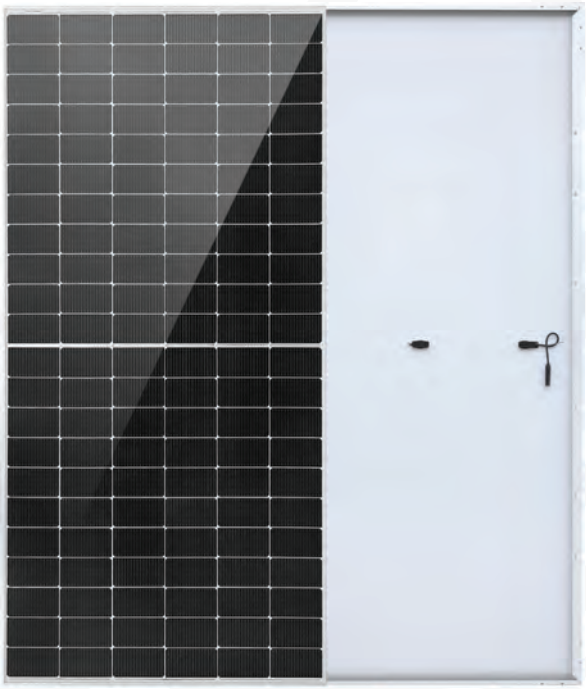


BHI-RC66HC

Silver Series | N-Type Rectangle Monofacial (High Efficiency)

630W	MAXIMUM POWER OUTPUT
0~+5w	POSITIVE POWER TOLERANCE
23.32%	MAXIMUM EFFICIENCY

610-630W
PRODUCT RANGE

MBB HALF-CUT RECTANGLE SOLAR CELL

182x105mm, 132cells

HIGHER MODULE CONVERSION EFFICIENCY

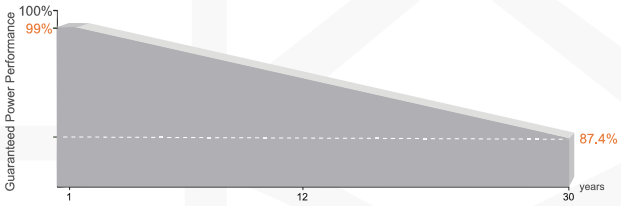
Higher module output up to 630W with module efficiency up to 23.32%

LOW-LIGHT PERFORMANCE

Advanced glass and surface texturing allow for excellent performance in low-light environments

LINEAR PERFORMANCE WARRANTY

15 Year	Product Warranty
30 Year	Linear Power Warranty
<1%	First Year Power Degradation
<0.4 %	Year 2-30 Power Degradation



HIGHER POWER OUTPUT

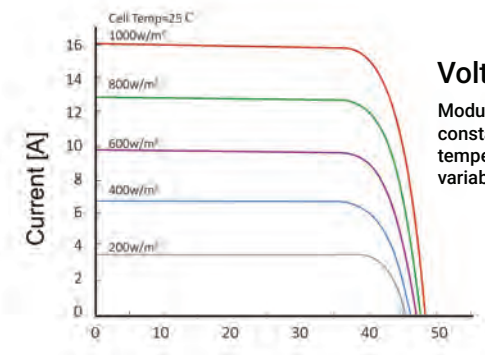
Module power increases 5-25% generally, bringing significantly lower LCOE and higher IRR

CERTIFICATIONS

Quality Management System and Product Certification

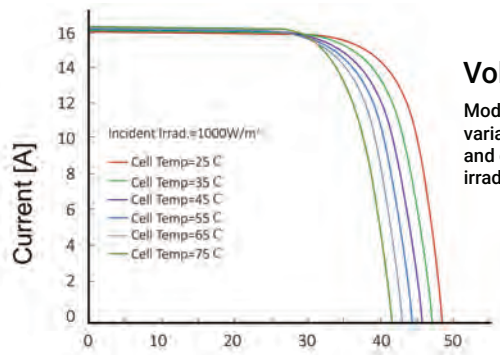
IEC61215(2021), IEC61730(2023), IEC61701
IEC61215-2(bifaciality): 2021
IS09001:2015: Quality Management System
IS014001:2015: Environment Management System
IS045001:2018: Occupational health and safety management systems

CURRENT-VOLTAGE CURVES:



Voltage (V)

Module characteristics at constant module temperatures of 25°C and variable levels of irradiance



Voltage (V)

Module characteristics at variable module temperatures and constant module irradiance of 1000W/M²

66-CELL HALF-CUT SERIES

ELECTRICAL PERFORMANCE

Module Type: BHI-RC-66HC	610M	615M	620M	625M	630M
Maximum Power(Wp)	610W	615W	620W	625W	630W
Open Circuit Voltage(Voc)	48.10V	48.30V	48.50V	48.65V	48.80V
Short Circuit Current(Isc)	16.05A	16.10A	16.15A	16.20A	16.25A
Maximum Power Voltage(Vm)	39.77V	39.96V	40.15V	40.30V	40.47V
Maximum Power Current(Im)	15.34A	15.39A	15.45A	15.51A	15.57A
Module Efficiency	22.58%	22.77%	22.95%	23.14%	23.32%
Maximum Series Fuse	25A				
Watts Positive Tolerance	0~+5W				
Number Of Diode	3				
Standard Test Conditions	1000W/M², 25°C, AM1.5				
Maximum System Voltage	1500V/DC				
Temperature-Coefficient Isc	+0.043%/°C				
Temperature-Coefficient Voc	-0.24%/°C				
Temperature-Coefficient Pmpp	-0.30%/°C				
Operating Temperature	-40°C...+85°C				
Normal Operating Cell Temperature	45±2°C				
Load Capacity For The Cover Of The Module (Glass)	5400Pa(IEC61215)(snow)				
Load Capacity For The Front & Back Of The Module	2400Pa(IEC61215)(wind)				

ELECTRICAL PERFORMANCE (NOCT)

Module Type: BHI-RC-66HC	610M	615M	620M	625M	630M
Maximum Power(Wp)	464W	468W	472W	476W	480W
Open Circuit Voltage(Voc)	45.70V	45.90V	46.10V	46.30V	46.50V
Short Circuit Current(Isc)	12.84A	12.88A	12.92A	12.96A	13.00A
Maximum Power Voltage(Vm)	37.82V	37.99V	38.19V	38.39V	38.59V
Maximum Power Current(Im)	12.27A	12.32A	12.36A	12.40A	12.44A

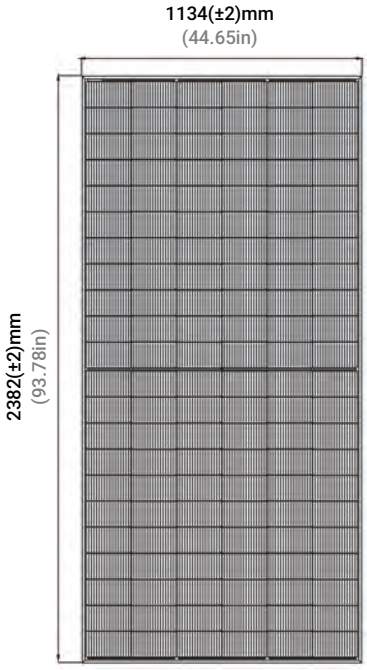
MECHANICAL CHARACTERISTICS

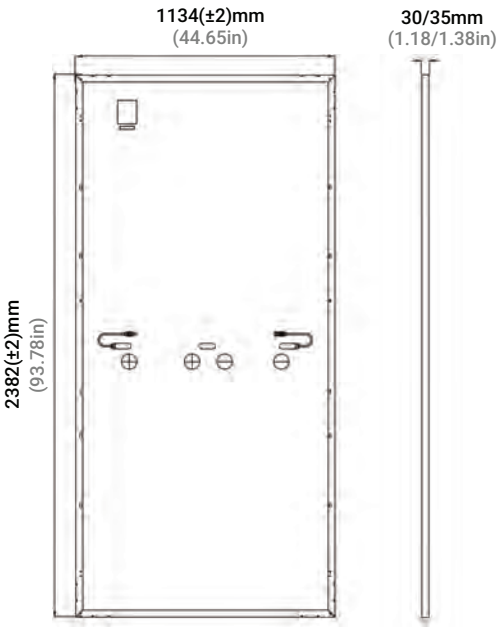
Front Cover (Material / Thickness)	low-iron tempered glass / 3.2mm
Backsheet (Color)	TPT in white
Cell (Quantity / Material / Dimensions)	132(6x11x2) / monocrystalline silicon
Frame (Material / Color)	aluminum hollow-chamber frame on each side anodized aluminum alloy / silver
Junction Box (Protection Degree)	≥IP68
Cables & Plug Connectors	4mm², 300mm in length, length can be customized
Module Dimensions (L / W / H)	2382(±2)x1134(±2)x30/35mm
Module Weight	27.5kg / 28kg
Application Class	Class A
Electrical Protection Class	Class II
Fire Safety Class	Class C

PACKING

Container Size	Units/Pallet (PCS)	Weight/Pallet (KG)	Pallet Measurement (mm)	Units/Container (PCS)
40HQ	36 (30mm)	1060	1140x1120x2540mm	720
	31 (35mm)	935	1140x1120x2540mm	620

MODULE DIAGRAM





BLUE HORIZON innovations

GLOBAL REACH, LOCAL IMPACT

Headquartered in Wilmington, North Carolina, Blue Horizon Innovations proudly delivers solar solutions across the globe. Through our trusted network of planners, engineers, and installers, we bring our high-performance panels to businesses in every corner of the world - empowering progress with reliable, efficient energy wherever it's needed.

Currently Connected With:

BERMUDA HONDURAS NIGERIA SOUTH AFRICA CHINA
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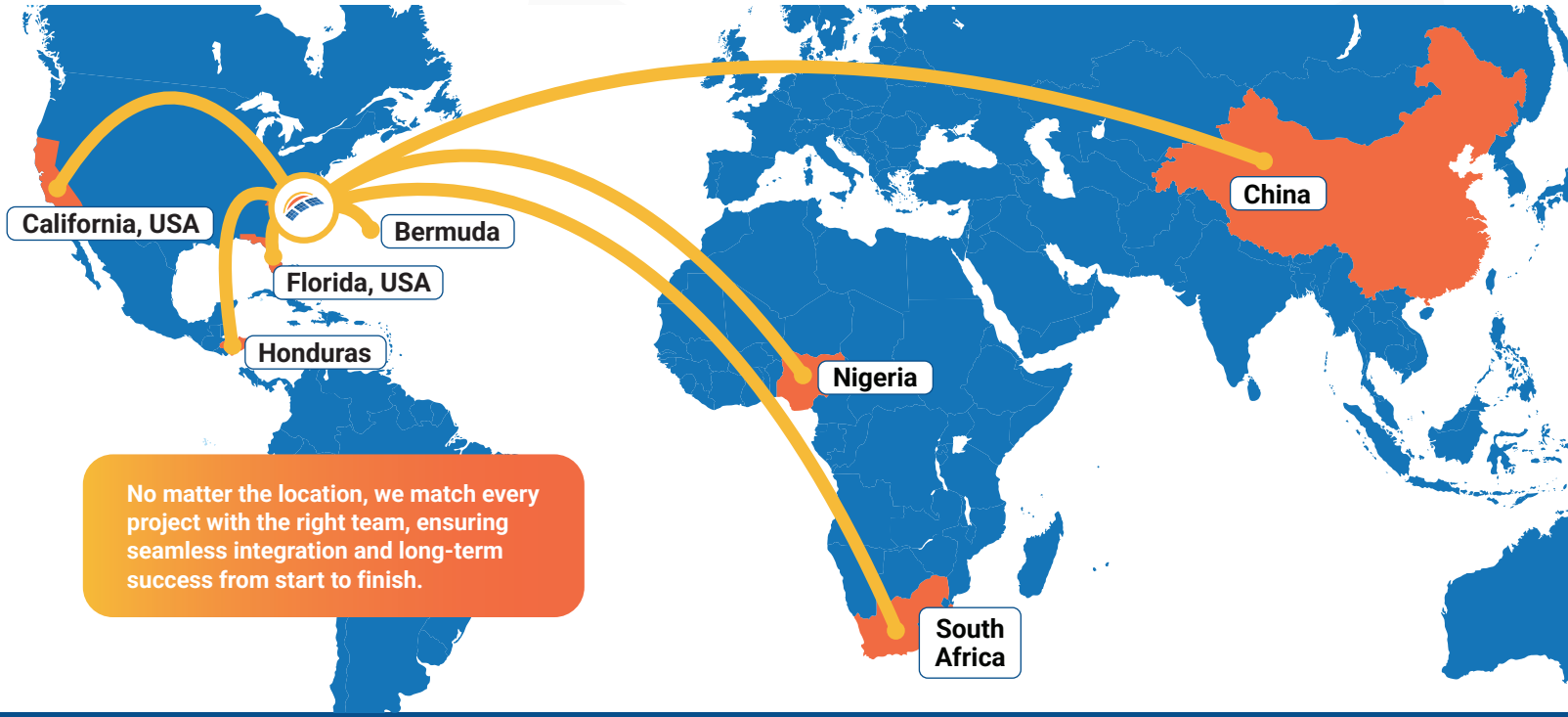

LET'S BUILD WHAT'S NEXT TOGETHER.

Whether you're ready to place an order, explore a partnership, or learn more about how our technology can power your next project, we'd love to connect.
Reach out anytime at: Sales@BlueHorizon-Innovations.com

910.623.8512 Sales@BlueHorizon-Innovations.com BlueHorizon-Innovations.com