



PHILADELPHIA SOLAR
DELIVERING CLEAN ENERGY SOLUTIONS

PVTECH
TIER - 1 Solar Panels
Manufacturer



Discover

PHILADELPHIA SOLAR

PV CATALOGUE



www.philadelphia-solar.com

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PSPC514



Established in **2007**, Philadelphia Solar is a vertically integrated manufacturer specializing in high-efficiency photovoltaic panels and advanced steel mounting structures. With a state-of-the-art facility covering **14,200m²** and a strategic investment of **\$160 million**, the company is committed to driving innovation and delivering cutting-edge solar energy solutions worldwide.

Headquartered in the MEA region, Philadelphia Solar is the first PVTech **Tier-1** solar company in the region to fully develop, design, construct, own, and operate utility-scale commercial & industrial PV power plants.



Automated
Production Line



Certified
Quality



High **Efficiency**
Extra Yield



VISION

Philadelphia Solar is committed to advancing cutting-edge green energy technologies by delivering products that meet the highest international standards — all backed by warranties of up to 30 years.



MISSION

To provide customers with Industry-leading PV modules and mounting structures at competitive prices, backed by exceptional technical support and customer service.



STRATEGY

We are a customer-focused company, offering differentiated products and services, and committed to delivering superior clean energy solutions to strengthen our distinctive position in the market.

Our Global Reach



Exports

+56 Countries



Regional Offices

4 Offices



Factory (Jordan)

800 MW



Capacity Expansion

1.2 GW

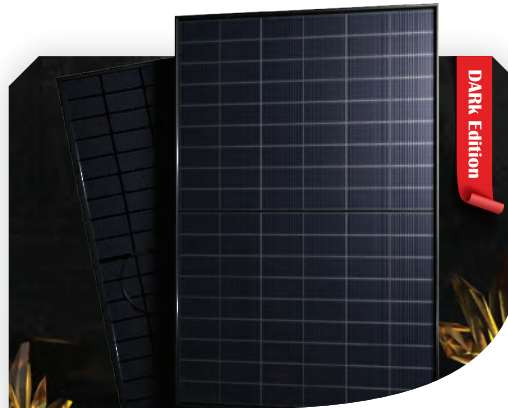


N-Type Next-Level Modules











PS-MNB144-HCBF-xxxW

	Cell Type	Monocrystalline N-Type cells		
	Number of Cells	144 (72 x 2)		
	Maximum Power (W)	580w	590w	600w
	Module Efficiency	22.45%	22.84%	23.23%
	Dimensions (LxW)	2278 x 1134 mm		
	Weight (Kg)	29±1		
	Degradation Rates	-0.4% annual degradation		
	Frame (mm)	35 mm		



PS-MNB108-HCBF-xxxW

	Cell Type	Monocrystalline N-Type cells	
	Number of Cells	108 (54 x 2)	
	Maximum Power (W)	440w	450w
	Module Efficiency	22.57%	23.02%
	Dimensions (LxW)	1721 x 1133	1724 x 1134
	Weight (Kg)	20.5 ±1	21 ±1
	Degradation Rates	-0.4% annual degradation	
	Frame (mm)	30 mm	



PS-MNG144-HCBF-xxxW

	Cell Type	Monocrystalline N-Type cells		
	Number of Cells	144 (72 x 2)		
	Maximum Power (W)	580w	590w	600w
	Module Efficiency	22.50%	22.83%	23.22%
	Dimensions (LxW)	2279 x 1134 mm		
	Weight (Kg)	32.5 ±1		
	Degradation Rates	-0.4% annual degradation		
	Frame (mm)	30 mm		











Additional technical specifications can be found in the official datasheet, accessible via our website's Downloads section at www.philadelphia-solar.com

N-Type Next-Level Modules











PS-MNB156-HCBF-xxxW

	Cell Type	Monocrystalline N-Type cells		
	Number of Cells	156 (78 x 2)		
	Maximum Power (W)	630w	640w	650w
	Module Efficiency	22.57%	22.90%	23.26%
	Dimensions (LxWxD)	2464 x 1134 mm		
	Weight (Kg)	32.5 ±1		
	Degradation Rates	-0.4% annual degradation		
	Frame (mm)	35 mm		



PS-MNB132-HCBF-xxxW

	Cell Type	Monocrystalline N-Type cells		
	Number of Cells	132 (66 x 2)		
	Maximum Power (W)	520w	530w	540w
	Module Efficiency	21.85%	22.27%	22.69%
	Dimensions (LxWxD)	2099 x 1134 mm		
	Weight (Kg)	26±1		
	Degradation Rates	-0.4% annual degradation		
	Frame (mm)	35 mm		



12 YEARS  **PRODUCT WARRANTY**

30 YEARS  **LINEAR POWER WARRANTY**

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Blossoming beauty Powered by the sun

Philadelphia Solar

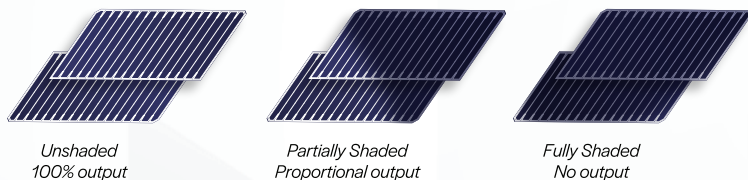


Half-Cut Cell Technology

Half-cut solar cells are designed to carry half the electrical current of full cells, which reduces resistance to just a quarter. This lower resistance means less energy loss, allowing half-cell modules to deliver up to **3% more power** output compared to standard full-cell modules.

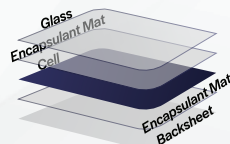
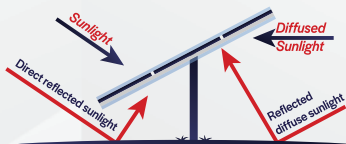
A key advantage of half-cut panels is their superior performance under shading. Traditional panels are typically divided into three cell groups, so shading just one cell can cut output by a third. In contrast, half-cell modules are split into six smaller sections. This means that if one cell is shaded, only one-sixth of the total output is affected, greatly minimizing power loss.

Thanks to this innovative layout, half-cut technology ensures higher energy yields, improved reliability, and greater efficiency, especially in partially shaded or high-temperature environments.



Bifacial Technology

Bifacial modules generate power from both the front and rear sides, making them highly efficient and adaptable. Their energy gain depends on the reflectivity of the installation surface, with rear-side contributions reaching up to **25%** on highly reflective ground. This innovative design increases overall energy yield, providing a more sustainable and cost-effective solar solution.

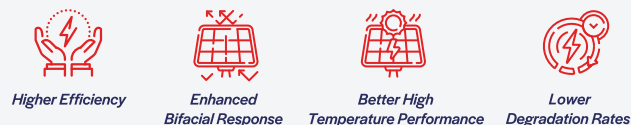


N-Type Technology

N-Type solar cell technology represents the next generation in photovoltaic innovation, offering superior performance, stability, and longevity compared to traditional PERC (Passivated Emitter Rear Cell) technology. Unlike P-type cells, which are doped with boron, N-type cells use phosphorus as the primary dopant, which helps eliminate many of the limitations seen in previous technologies.

One of the key advantages of N-Type cells is their higher efficiency. N-Type wafers are not susceptible to light-induced degradation (LID), a common issue in PERC cells, meaning they maintain their performance more consistently over time. Additionally, N-type cells feature lower impurity levels and better tolerance to high temperatures, which translates into improved energy yield in hot climates.

N-Type technology also provides superior bifacial performance. Because both sides of the cell can capture sunlight, N-Type bifacial modules can generate more electricity per square meter, maximizing energy production even in diffuse or reflected light conditions — a major advantage over standard PERC modules.



N-Type cells have a longer operational lifespan and typically show lower degradation rates, ensuring stronger performance guarantees and a higher return on investment over the system's lifetime — making them an ideal choice for utility-scale and high-efficiency solar installations.

Low Power Temperature Coefficient

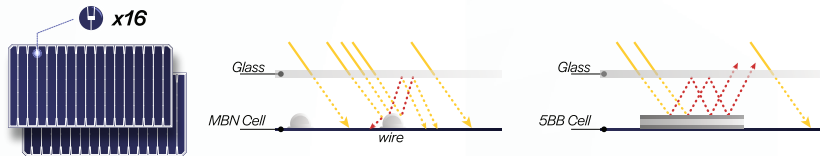
Philadelphia Solar's bifacial panels feature an industry-leading temperature coefficient of **-0.29%/°C**, ensuring excellent performance and energy yield even in high-temperature environments. A smart choice for hot climates.

Multi Busbar Cells

Philadelphia Solar panels feature a 16-busbar design with shorter current paths, minimizing power loss caused by micro-cracks and broken fingers. This structure ensures better current distribution across the cell, boosting reliability and maintaining stable output over time.

The panels also use circular ribbon technology, which reduces shading on the cell surface and improves light capture by reflecting more sunlight into the active area.

Together, these design enhancements improve overall module efficiency while delivering a durable and cost-effective solar solution.

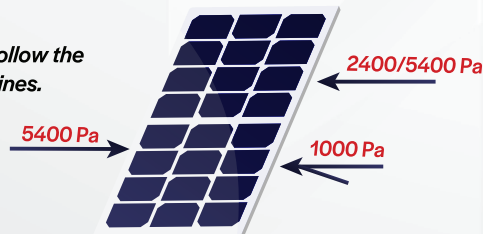


Durability

Philadelphia's bifacial panels are built to endure harsh weather and heavy loads.

Tested to withstand **5400 Pa** from the front, **2400 Pa** from the back, and dynamic loads up to **1000 Pa**, our modules deliver reliable performance in even the toughest environments. Residential panels achieve **5400 Pa** rear load — proving they're made to last.

For best results, always follow the official installation guidelines.



Quality You Can Rely On

At Philadelphia Solar, we are committed to delivering the highest standards of quality in every panel we produce.

To uphold this commitment, our modules undergo rigorous **electroluminescence (EL)** inspections using advanced, state-of-the-art equipment — ensuring early detection of micro-defects and consistent, reliable performance.

Our dedicated quality team maintains strict oversight across every stage of production, and our products are backed by a wide range of internationally recognized certifications. These credentials reinforce the trust, efficiency, and long-term value our panels offer — making them a dependable choice for any solar energy project.



Reliable Protection

Philadelphia Solar panels come with two layers of protection to ensure long-term confidence and performance.

Each module includes a **product warranty of 12 years**, and **25 years for residential systems**.

In addition, all panels are covered by a **linear power output warranty** of up to **30 years**, guaranteeing consistent energy production over time.

Warranty documents are available in both English and Arabic for ease and transparency.





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NEXUS
N-Type

Empowering a generational leap
Toward a **sustainable** clean future

Philadelphia Solar

www.philadelphia-solar.com

Modules index

Module	Cells	Max Power	Efficiency	Wt. (Kg)	Frame	Per 40ft Container
PS-MNB156 (HCBF) 630W - 650W	156 (78x2)	650W	23.26%	32.5 ± 1	35 mm	496 Panels
PS-MNB144 (HCBF) 580W - 600W	144 (72x2)	600W	23.23%	29.0 ± 1	35 mm	620 Panels
PS-MNB144 (HCBF) 580W - 600W	144 (72x2)	600W	23.23%	27.0 ± 1	30 mm	720 Panels
PS-MNB132 (HCBF) 520W - 540W	132 (66x2)	540W	22.69%	26.0 ± 1	35 mm	620 Panels
DARK Edition						
PS-MNB108 (HCBF) 425W - 440W	108 (54x2)	440W	22.57%	20.5 ± 1	30 mm	962 Panels
PS-MNB108 (HCBF) 445W - 460W	108 (54x2)	460W	23.60%	21.0 ± 1	30 mm	962 Panels
Glass to Glass						
PS-MNG144 (HCBF) 580W - 600W	144 (72x2)	600W	23.22%	32.5 ± 1	30 mm	720 Panels



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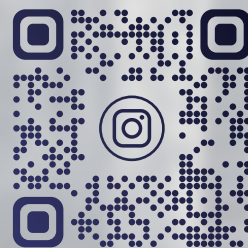
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the sunny side of life

www.philadelphia-solar.com

info@philadelphia-solar.com

T. +962 6 471 6601

F. +962 6 471 6602

Philadelphia Solar LLC, Al Qastal Industrial Area 2
Airfreight Road 11814 Amman Jordan, P.O. box 143808

 PhiladelphiaSolarJO  Philadelphia-Solar  PhiladelphiaSolar