



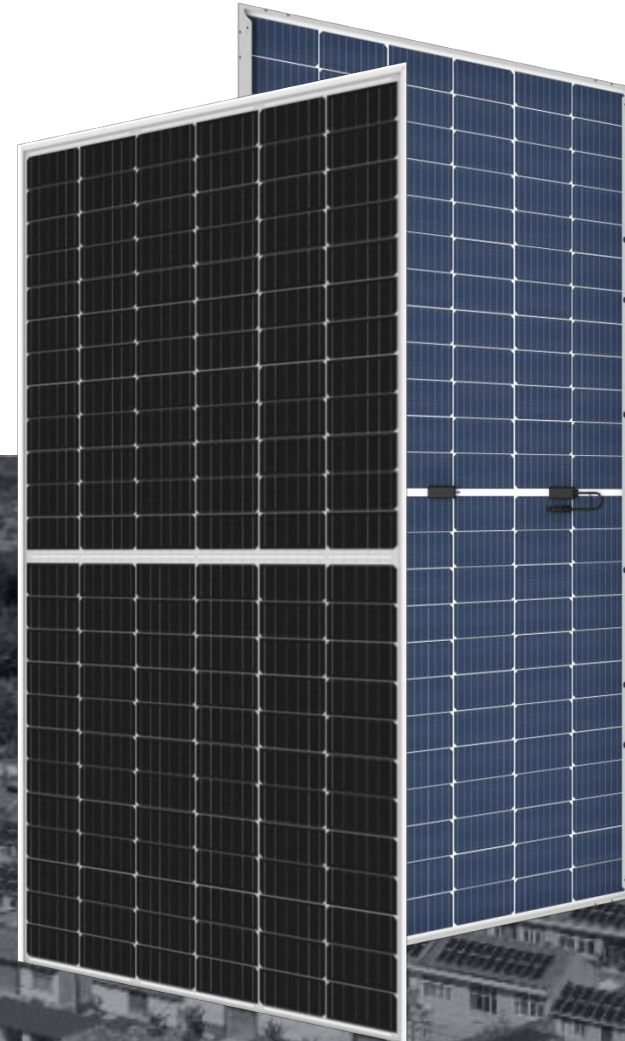
166 series

QUALITY CASTING VALUE

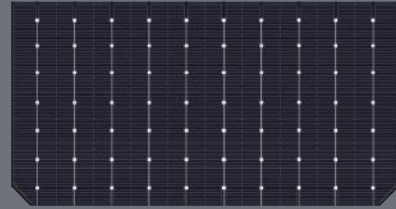
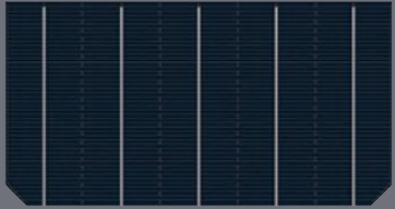
Tailored For The Distributed Market



Haitai Solar has been constantly innovating in the design of its products. Its reliable and efficient 166mm modules integrate mainstream cell efficiency technologies to meet the demands of different markets and customers.



Technical Features



M10 wafers (PERC)

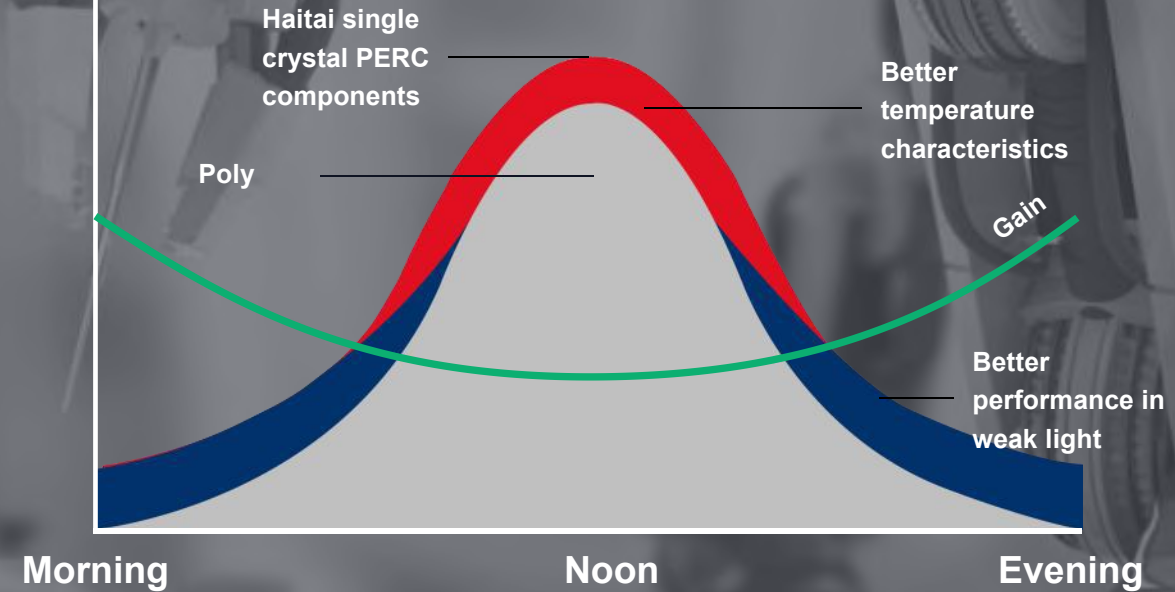
Better temperature coefficient and weak light performance, lower degradation rate



Multi-busbar

Better current collecting; improved ability to prevent invisible fissures and broken busbars

Power ↑





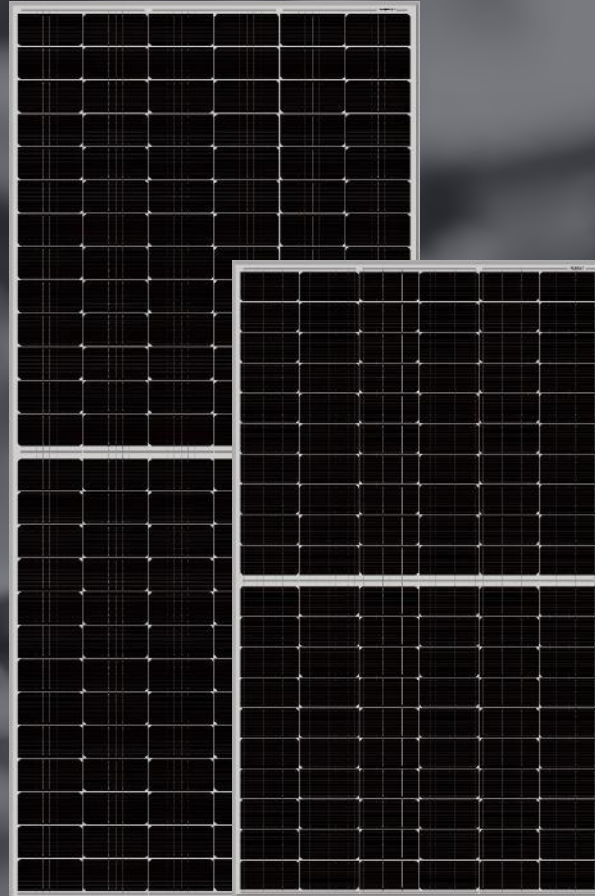
Anti-hotspot

When hot spots occur, the hot spot temperature of a half-cut module is 10-20°C lower compared to a normal module in the same environment and application scenario.



Low working temperature

Current running through the module is halved as the module uses half-cut cells, the lower cell energy consumption helping to reduce operating temperature.



Not affected by shading

When the lower half of a half-cut module is shaded by horizontal PV arrays, power generated by the upper half will not be affected.



Adaptable to high temperatures and irradiation levels

In high temperature and high irradiation environments, the output of a half-cut module is higher.

Product Warranty

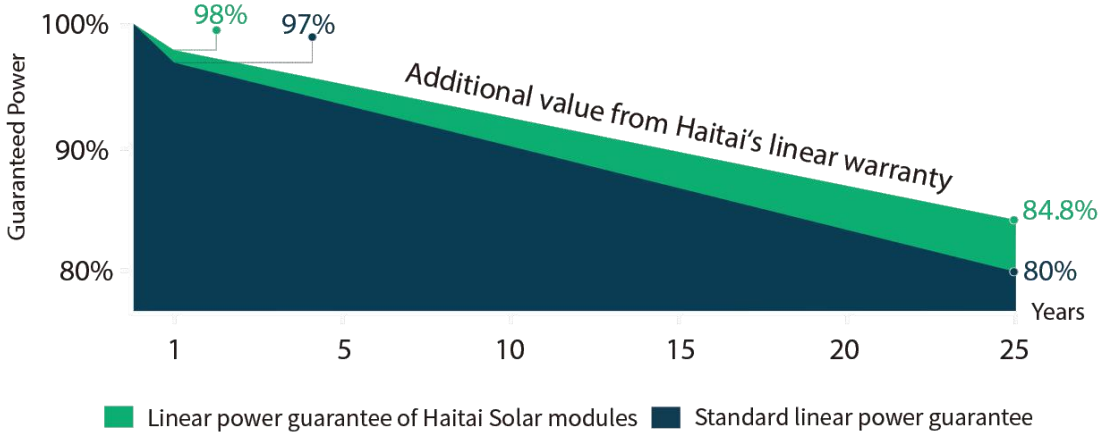


2.0%

Degradation of 2%
in the first year

0.55%

Subsequently 0.55%
year on year

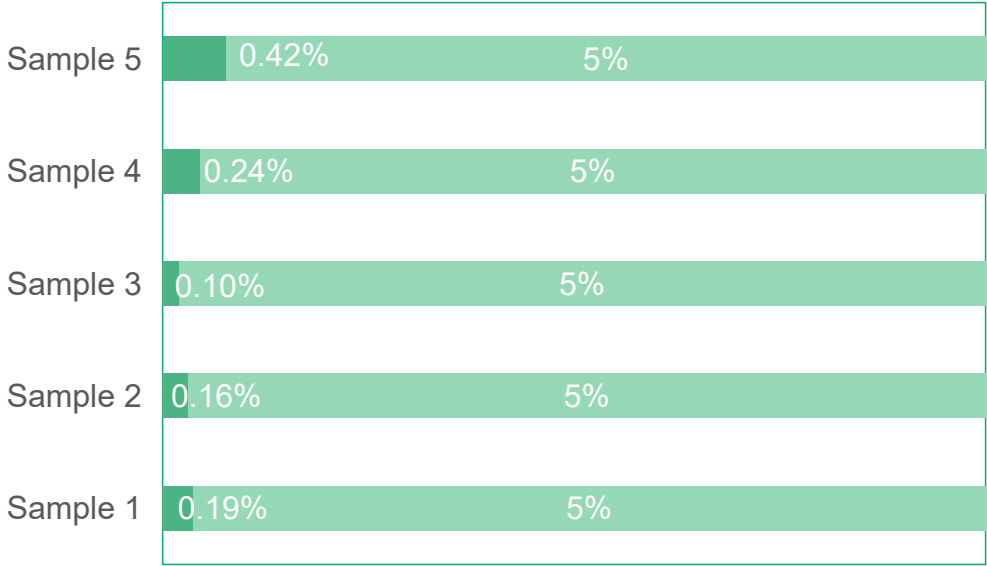


Product Quality Assurance - PID test

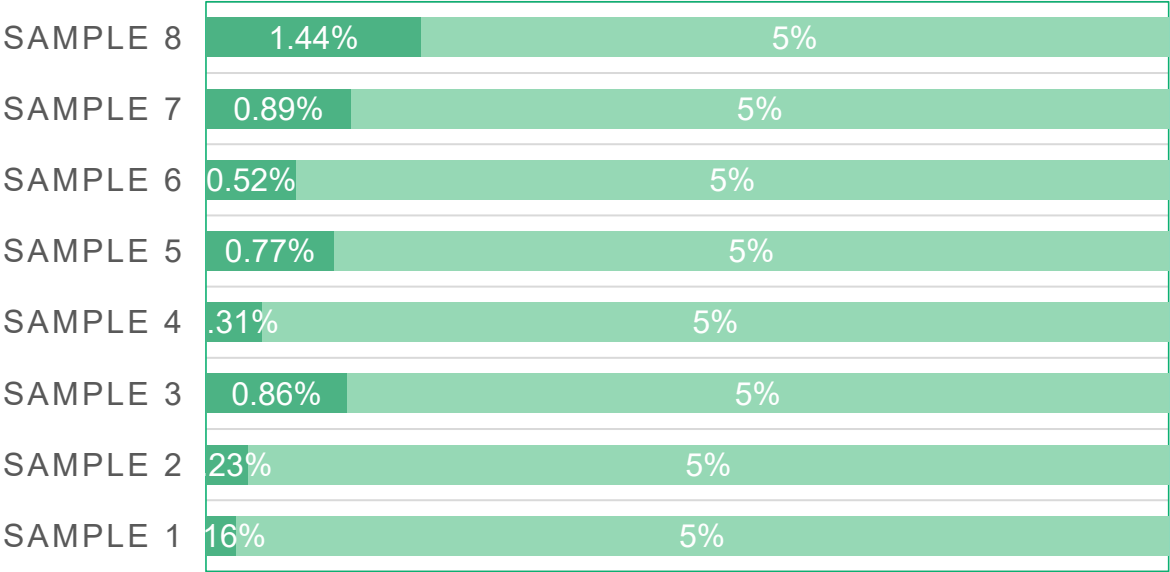


Monofacial and bifacial products all performed very well in TUV's PID96h test. Upon test completion, the average module degradation rate is shown to be 0.22% (monofacial) and 0.65% (bifacial), far exceeding IEC standards.

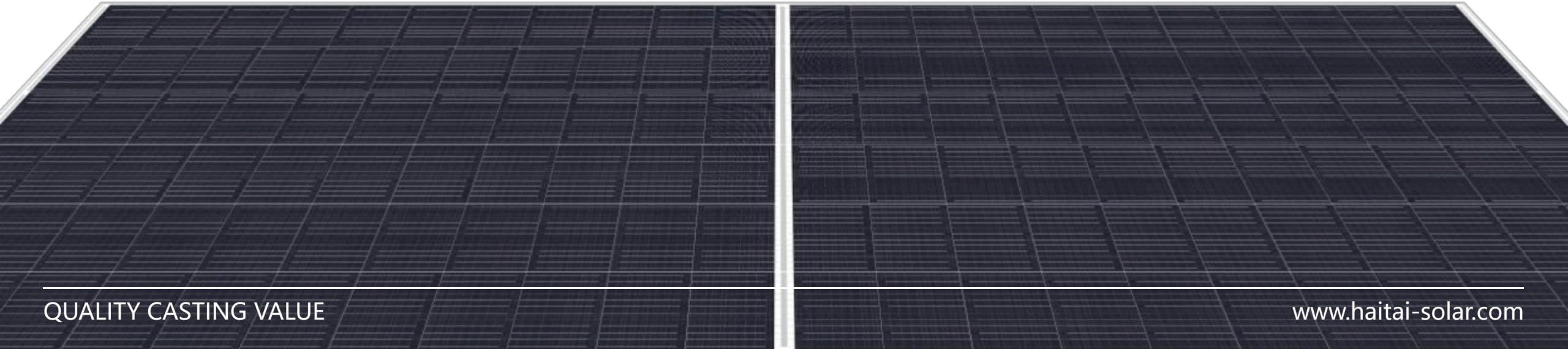
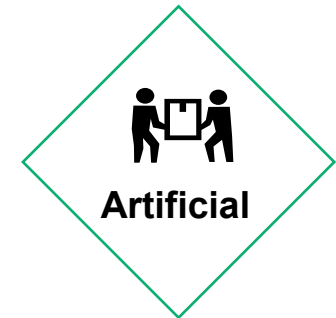
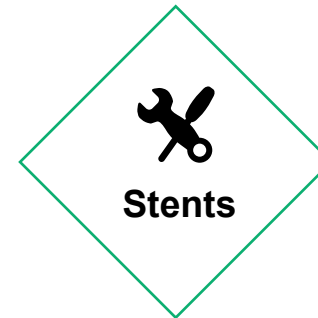
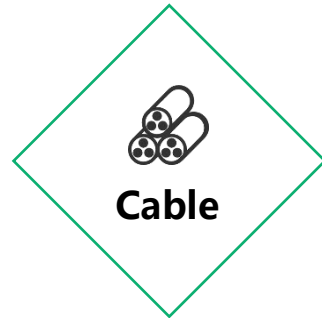
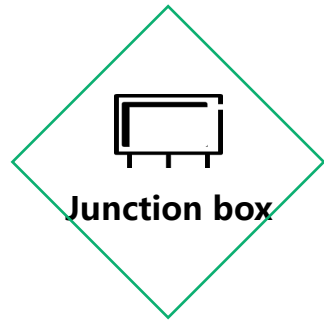
PID testing for monofacial mono products



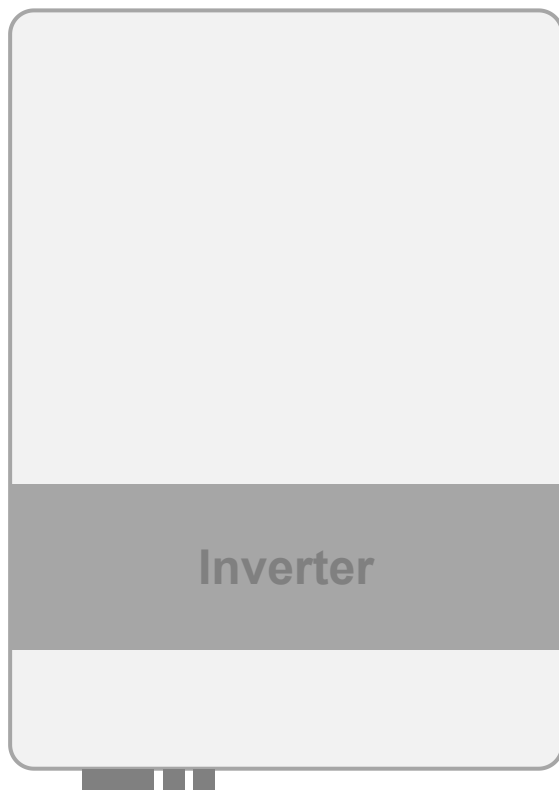
PID TESTING FOR BIFACIAL MONO PRODUCTS



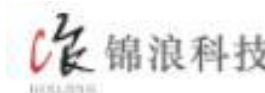
System Application-BOS savings



System Application - Inverters



Electrical adaption - inverter			
	60	72	
Pmax (W)	375W	450W	
Isc (A)	11.54	11.53	< 15A
Imp (A)	11.0	11.0	< 13.5A
	60	72	
Pmax (W)	375W	450W	
Isc (A)1.1	12.69	12.68	< 15A
Imp (A) 1.1	12.1	12.1	< 13.5A



System Application - Optimizer

There are optimizers, micro inverters and standardized items of electrical equipment available on the market which are fully compatible with 166mm modules.

Electrical adaptability-optimizer and micro inverter

	Supplier	Model	Module Input	The maximum current allowed
Optimizer	Solaredge	P401	~400W	11.75A (Isc)
	Huawei	SUN2000-450W-P	~450W	13A (Isc)
Micro inverter	Apsystems	QS1		12A (Imp)



System Application - Rooftops



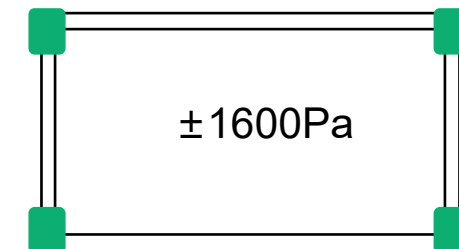
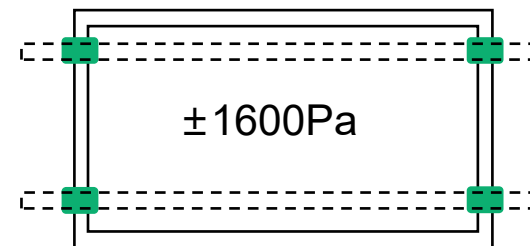
The most suitable module type can be chosen from the 166mm series based on rooftop conditions. Making full use of the limited roof area can help maximize installation capacity to reduce racking and inverter costs, boosting power generation and profits.

Country	Location	Rooftop length(m)	Rooftop width(m)	Installation method	166-60		166-72	
					375W		450W	
					Number	Capacity	Number	Capacity
U.S.	Fresno, California	8.53	6.83	Horizontal	24	9000	24	10800
				Vertical	24	9000	24	10800
	Clovis	7.89	4.17	Horizontal	12	4500	9	4050
				Vertical	14	5250	14	6300
Germany	Munich, Bavaria	16	5.46	Horizontal	45	16875	35	15750
				Vertical	45	16875	30	13500
	Ramersdorf	11.63	5.24	Horizontal	24	9000	20	9000
				Vertical	22	8250	22	9900
Holland	Amsterdam	7.5	5.8	Horizontal	20	7500	15	6750
				Vertical	21	7875	14	6300
	Rotterdam	6.1	5.85	Horizontal	15	5625	10	4500
				Vertical	15	5625	10	4500
China	Linyi City, Shandong	13.2	7.5	Horizontal	49	18375	42	18900
				Vertical	48	18000	36	16200
	Guangdong	6.49	3.85	Horizontal	9	3375	9	4050
				Vertical	12	4500	6	2700

System Application - Rooftops In Key Locations Overseas



◆ In Europe and the US, residential rooftop and some small C&I projects favour short-side /four-corner installation methods with minimum module load not less than $\pm 1600\text{Pa}$. A large format module cannot meet the load requirement, whereas the 54C 182mm module launched by Haitai for such scenarios is a perfect match.



◆ There are many types of residential rooftops in the Japanese market, where the available space is quite limited. Local customers generally prefer small sized modules, and the 54C 182mm product can also be used here.

◆ For small distributed projects ($< 100\text{kW}$) in Australia, the minimum DC capacity is limited to 75%, so the model and power of the module chosen will directly impact installer gains. Haitai's HTM415MH5-54 product can maximize inverter capacity to boost profits for installers.

The optimal module type selected for 5kW mainstream inverters

Module type	Module Output	Number of strings	Power of Single String	The maximum power allowed into the inverter
166-60	370W	18	6.66kW	6.66kW

166 泰极

主流功率: 380W

尺寸: 1755*1038*35mm

重量: 20.0kg/24.0kg

载荷: +5400Pa, -2400Pa

应用场景



户用 (含阳光房)

泰合 166

主流功率: 445W

尺寸: 2094*1038*35mm

重量: 24.0kg/30.0kg

载荷: +5400Pa, -2400Pa

应用场景



地面电站



中小型工商业

Intelligent Quality Made



6S

MES

ERP

The use of digital, systematic, standardized manufacturing and leading-edge technology and advanced manufacturing process control ensure excellent quality of products



Haitai products meet ISO9001, 1400 and 45001 standards



High-efficiency crystalline silicon solar cells and modules – inspected and certified by Hebei Engineering Laboratory



Comprehensive smart management system to stringently control the whole manufacturing cycle



Fully automated modular manufacturing enhances product reliability, with the use of digital, systematic and standardized leading-edge technology and advanced process control ensuring excellent product quality



Full service

01

Pre-sales support

professional pre-sales support, comprehensive support from product technology to system solution

02

After-sales service

dedicated service, customer first, professional 7x24h after-sales service

03

High quality standards

strict monitoring of production lines and product quality control to meet the demands of different customers.

04

Flexible response

In addition to its latest products, Haitai can also offer tailored versions of previous products, according to customers' special requests.

Comprehensive Service and Efficient Operation



Resource integration, quick response to customer requests, sound pre-sales support and after-sales service to speed up signing and shipment cycles.

Professional team

Sales

Marketing

Technical support/after-sales service

Operation management

Different customer needs

Distributors

EPCs

Installers

Developers


Retailers

IPPs

Residential Projects



2MW

 Tangshan, Hebei Province

Residential Projects





4MW

📍 Jiangsu Kanion Pharmaceutical

C&I Projects

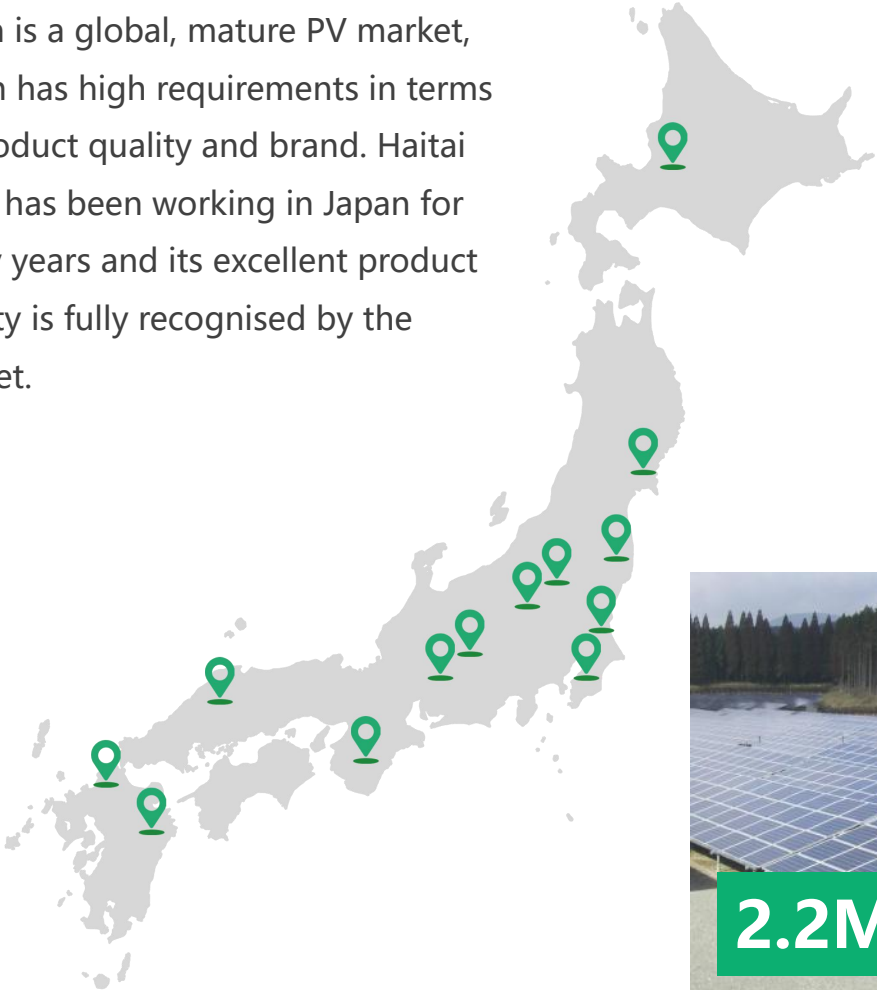


C&I Projects



Projects in Japan

Japan is a global, mature PV market, which has high requirements in terms of product quality and brand. Haitai Solar has been working in Japan for many years and its excellent product quality is fully recognised by the market.





Thanks