LONGi

Hi-MO X6 Guardian Anti-Dust

Pure light， creating a clean future

Innovative Anti-Dust Design
No dust left behind
Continuous high power generation

About LONGi

Founded in 2000, LONGi Green Energy Technology Co., Ltd. (LONGi) is committed to being the most valuable solar technology company in the world.

Under the mission of "To make the best of solar energy to build a green world" with a brand positioning of "The most trusted, reliable solar company that blazes the trail for green technology", LONGi is developing solutions for large-scale power plants, for different industries and households with its innovation-focused development. Eventually, we will also supply "Green Power + Green Hydrogen" solutions for global zero-carbon development.

2000
Foundation

60000+
Global Employees

30+
Global Network

$18.52
billion
2022 Operating Revenue

$2.12
billion
2022 Net Profit Attributable to Shareholders

$1,025
million
2022 R&D Investment

Source: 2022 Annual Reports

The Rank of LONGi Module Shipment from 2018 to 2022

	2018	2019	2020	2021	2022
1	A	A	LONGi	LONGi	LONGi
2	B	B	A	D	A
3	C	D	B	B	D
4	D	LONGi	D	A	B
5	LONGi	E	E	E	E
6	E	C	C	C	F
7	F	F	F	F	J
8	G	H	J	M	M
9	H	J	M	H	C/N
10	J/K	K	H	J	-

No.1

LONGi has held the top position in global monocrystalline silicon wafer shipments for 9 consecutive years.

No.1

In 2020，2021，and 2022, LONGi ranked world No.1 in three consecutive years in terms of shipment volume and market share.

85.06GW

Wafer Shipment
(2022)

46.76GW

Module Shipment
(2022)

190GW+

Wafer Planned Capacity
(2023)

130GW+

Module Planned Capacity
(2023)

/Illuminating Possibilities

A New Evolution

LONGi Hi-MO X6

Illuminating Possibilities

LONGi new generation HPBC cell technology opens a new chapter in the mass production of high-efficiency cells and continues to lead the reform of the industry.

The efficiency of LONGi HPBC cells exceeds 25.5%

The efficiency of the HPBC+ cells exceeds 25.8%

HPBC+ version

Sub-micron texture

Hydrogen passivation

Light absorption

No grid lines on the front side and multi-layered anti-reflection film

Maximize light absorption

Photoelectric conversion

Tunneling oxidation passivation and multi-layer passivation

Reduce compounding

Increase open-circuit voltage

Electric transmission

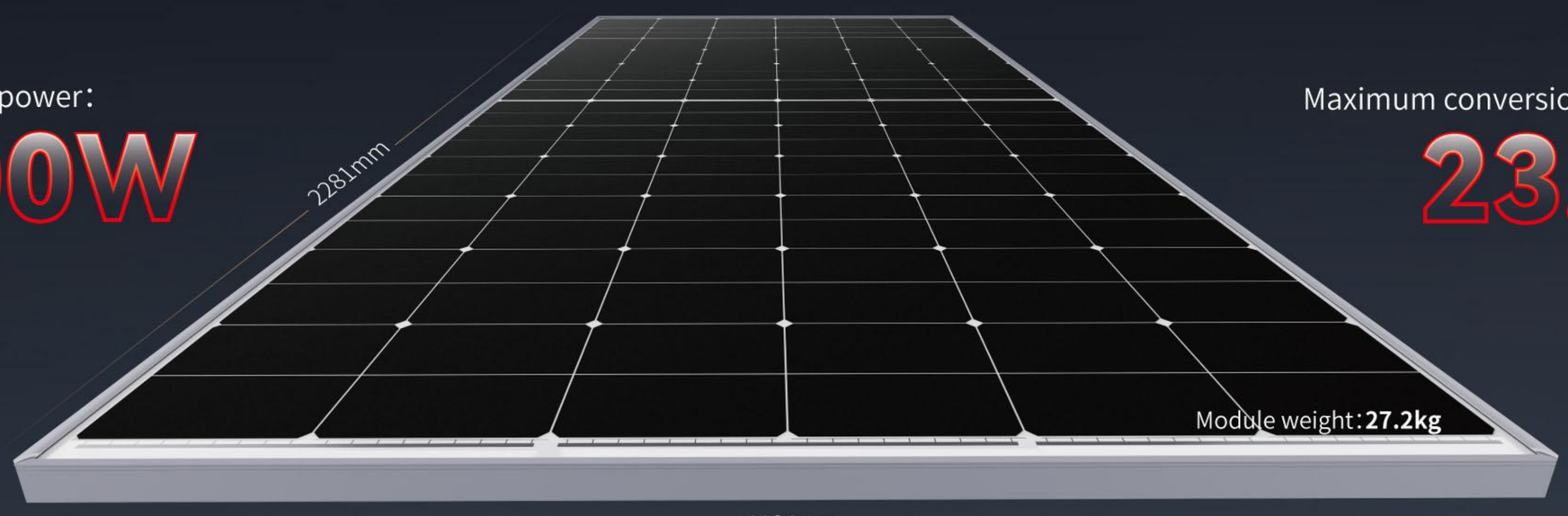
Positive and negative connections on the back side

Ensure stable current transmission

Hi-MO X6 Guardian Anti-Dust

More than high power generation, sustained high power generation

Maximum power:
600W



Maximum conversion efficiency:
23.2%

Anti-Dust Design
The short side without the A-side,
efficient Anti-Dust accumulation
Reduce the impact of dust accumulation
and increase power generation revenue

Efficient Performance
HPBC high-efficiency cell
100% light exposure on the front side

Aesthetic Appearance
Follow the trend of minimalism
Define the aesthetics of PV modules

Stable and Reliable
"One line" shape welding technology
Reduce the risk of cracking

Innovative design
Unique craftsmanship
Comprehensive reliability guarantee

Ensure reliable load

Patent frame structure
Guaranteed load capacity

Brand-new patent design of glue container increases the bonding area between the frame and the laminate.

Improve material selection standards
Ensure the reliability of material selection

Whole process standard control of aluminum, silica gel and other materials.

Improve packaging reliability

New gluing process
No shortage of glue
No overflow of glue
No foaming

The gluing accuracy is doubled.
Enhance the adhesion of the frame.

Special packaging technology
Prevent water vapor intrusion

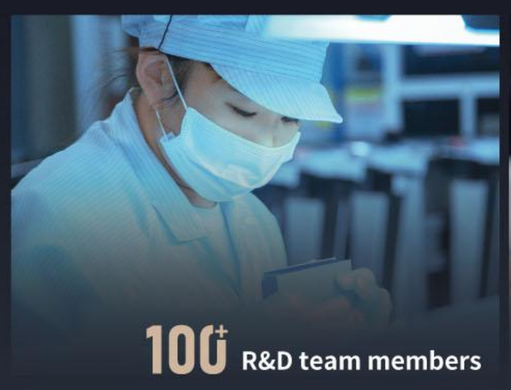
Exclusive packaging technology.
Thousands of tests and verifications.

Industry-disruptive design
Core patent assistance

Hi-MO X6 Guardian Anti-Dust

Relevant patents 120+

Refine on research and development
Adhere to stability and reliability



Reliable encapsulation

The precision of the new gluing process is doubled to ensure the bonding force and prevent water vapor intrusion

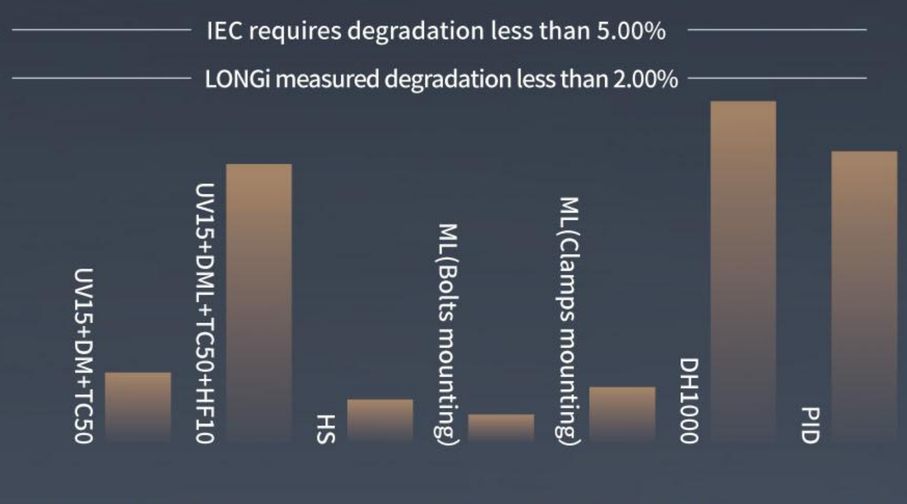
Reliable load

The internal and external tightening test load meets the requirements of **5400Pa** on the front and **2400Pa** on the back

Reliable function

The same height between the glass and the short side, which is unlikely to form mud

Severe test conditions
Stable and reliable operation



Module degradation well below 5% of IEC standard under severe test conditions

TÜV SÜD — Technischer überwachungs-Verein

PV MODULE INDEX REPORT 2023 HIGHEST ACHIEVER RETC — Renewable Energy Test Center (RETC)

Hail impact simulation

Hail weather simulation
Diameter:25,35,45mm
Falling at 83km/h-111km/h

Thermal cycle test

High and low temperature environment simulation
85°C - 40°C 200 runs

Salt spray test

Coastal environment simulation
1000 hours of operation at 5% saturation and 35°C

Dynamic load test

Storm simulation 1000 cycles
The maximum pressure is ±1000pa

Lower degradation Ultra-long warranty

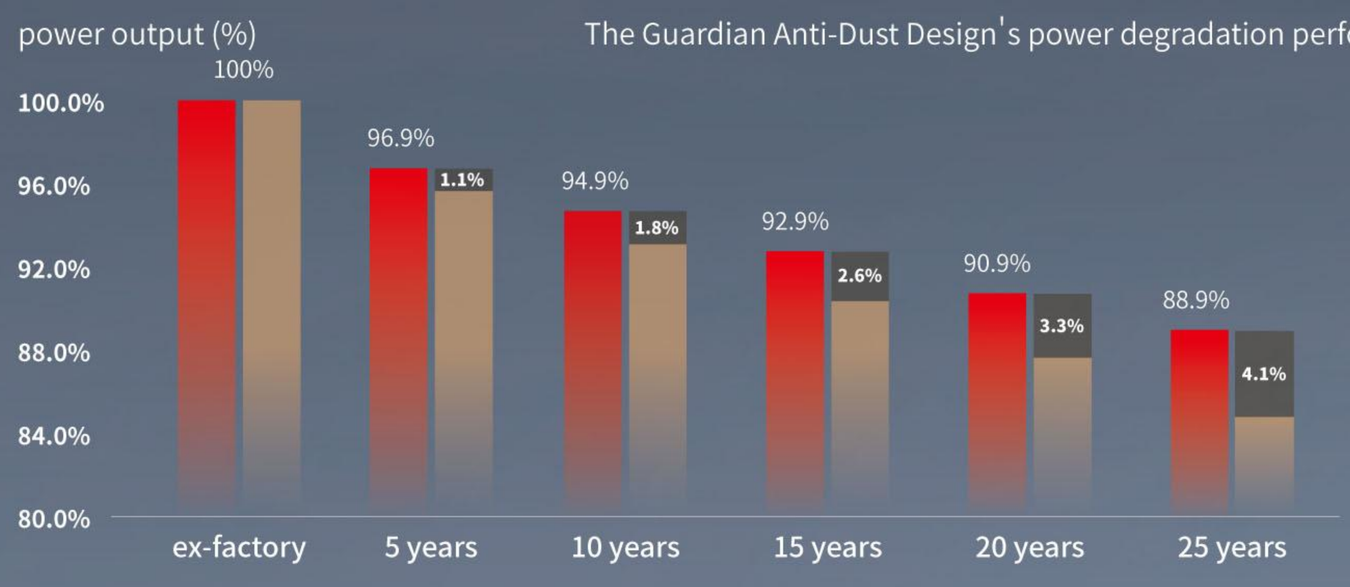
Lower power degradation

First-year power degradation 1.5%

Year 2-25 power degradation 0.4%

Hi-MO X6 Guardian Anti-Dust

PERC product



The Guardian Anti-Dust Design's power degradation performance

Ultra-long warranty

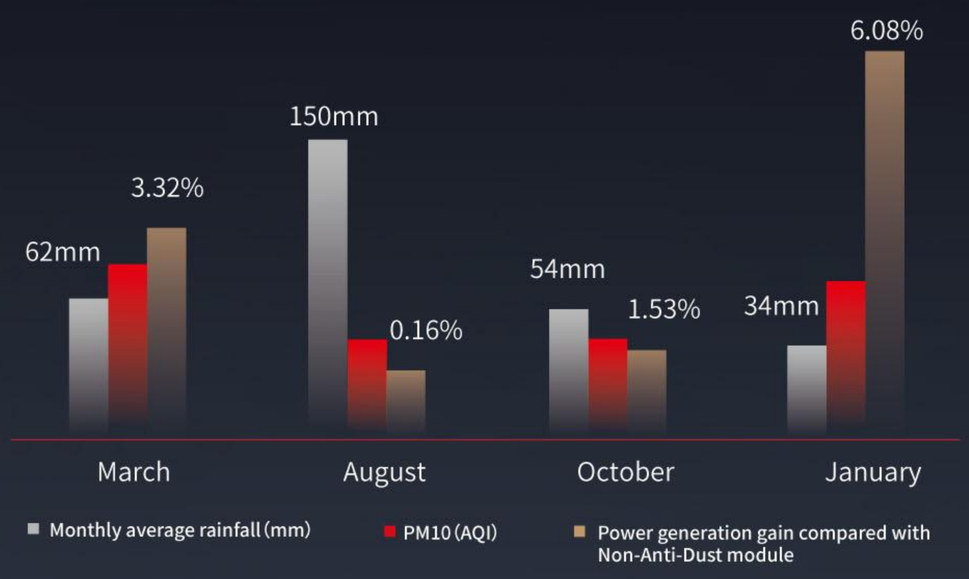
The Guardian Anti-Dust Design

Provide a **15-year** material warranty

The Guardian Anti-Dust Design

Provide a **25-year** power warranty
The 25th year guaranteed 88.9% output power

Empirical project of long-term outdoor power generation
The maximum power generation gain is 6.08%



Compared to conventional modules of the same version, the Anti-Dust Design module's power generation gain can to in a single month

6.08%

*Due to seasonal changes, the Anti-Dust Design module's power generation gain fluctuates greatly in a single month.

Measured location	Comparison module	Installation angle	Grid-connected or not
Jiangsu China	Non-Anti-Dust module	5°	Connected to the grid

* Data sources: National Meteorological Website、Taizhou Jiangsu China Demonstration Power Station.

Reduce cleaning frequency
Reduce operation and maintenance costs

Module cleaning is seasonally and environmentally appropriate

1 MW	0.002 $/W	204.99 $	2,459.86 $	61,496.41 $
Project total installed capacity	Manual cleaning cost	Single cleaning cost	Annual cleaning cost	Life cycle cost

Hi-MO X6 Guardian Anti-Dust Cleaning can be **reduced by at least four times a year**

Save 819.96 $ every year. **Save 20,505.81 $** in the whole life cycle.

Low-carbon transformation of energy-intensive enterprises
Anti-Dust Design accelerate "Green Manufacturing"

The Anti-Dust design can effectively reduce the impact of ash, decrease the cleaning frequency, and ensure the high energy consumption demand of the factory building. Inject green momentum into industrial production and guarantee high-efficiency benefits in the whole life cycle.

Project background

Located in Tianjin Jingbin Industrial Park, belonging to the metal smelting and calendering industry, and the overall energy consumption of the plant is high.

Project pain point

Affected by the local climate and production environment, photovoltaic modules had serious dust accumulation, power generation was greatly reduced, and dust cleaning was difficult and costly.

Solution

The design scheme of the project was adjusted, and LONGi Anti-Dust Modules were adopted, with a total installed capacity of about 2MW.

Demonstration

The owner's demonstration shows that compared with conventional modules, the Anti-Dust Module doesn't accumulate water or produce dust sedimentation, which effectively reduces the impact of dust and decreases the cleaning frequency.

LONGi Sustainable Development Concept System

With "Solar for Solar", LONGi officially joined Global Initiatives RE100, EV100, EP100 and will keep building towards achieving 100% in clean energy consumption.

LONGi always has sustainable management as a core criterion for business decision-making, including continuous investments in innovation and research, advocating an open corporate culture, and promoting scientific institutional research.

At the same time, LONGi has been leading continuous changes in electric power and energy, promoting the sustainable development of the planet and mankind.

RE100

Committed to 70% renewable electricity by 2027.
Committed to 100% renewable electricity by 2028.

- In 2022, the proportion of green power use reached **47.18%** and the use of green power will increase by **38.21%** compared with 2021.
- In 2022, the proportion of green power use of Baoshan LONGi reached **99.09%**, and energy-saving technology improvement projects are steadily progressing.

EV100

Committed to installing charging infrastructure at all production and operational sites by 2030.

- Organized group-wide centralized procurement of charging piles, involving **7** provinces, **13** cities, and **23** business sites, and the first charging piles planned for "EV 100" are expected to be put into use in 2023.

EP100

Committed to completing the installment of energy management systems (enms) by 2025 and improving energy efficiency by **35%** compared to the baseline year of 2015.

- By 2022, a total of eight production bases have completed the construction of the energy management information system.
- **1** new production site was added in 2022.
- **66.64%** improvement in overall group-wide energy use efficiency in 2022 compared to 2015.
- Construction of a 'Zero Carbon Theme Park' in the factory, greening and beautifying the factory, raising the awareness and participation of all employees in green and low carbon.

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Committed to setting a greenhouse gas (GHG) emission reduction target, aligned with the global 1.5°C temperature increase goal.

- LONGi is the first company in China's PV industry to complete the SBTi audit.
- Group-wide greenhouse gas reduction of **2.01%** compared with 2021.
- LONGi launched the 'Supply Chain Green Partner Empowerment Program' and provided carbon empowerment to over **480** suppliers.

LONGi
www.longi.com

2024.01