

## Solar Energy South Africa

# Dust prevention for LONGi photovoltaic panels



## Overview

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Can anti-dust technology improve the performance of solar panels?

The “ 2022 LONGi Global Customer Satisfaction Survey Report ” shows that 80.13% of residential and C&I scenarios are troubled by module dust accumulation. Anti-dust innovation for solar panels would not only boost baseline PV system performance, but also reduce the frequency of module cleaning, saving on O&M costs.

How to prevent dust in PV panels?

Ultimately, a detailed strategy for dust prevention in PV panels is proposed, involving real-time monitoring, assessment of dust deposition, mathematical modeling for predicting performance losses, and informed decision-making regarding optimal cleaning measures to enhance panel efficiency. 2. Methodology.

Does dust affect the performance of PV panels and cleaning methods?

Many researchers have reviewed the effects of dust on the performance of PV panels and cleaning methods, but their coverage is narrow and lacks more in-depth summarization, comparison, and critique of key quantitative results.

Does dust accumulation affect the thermal performance of photovoltaic (PV) systems?

The impact of dust accumulation on the thermal performance of photovoltaic (PV) systems primarily manifests in the alteration of PV module temperature.

How does dust affect photovoltaic power generation?

Photovoltaic (PV) power generation has become one of the key technologies to reach energy-saving and carbon reduction targets. However, dust accumulation will significantly affect the electrical, optical, and thermal performance of PV panels and cause some energy loss.

Does dust accumulate on the surface of PV modules reduce electrical parameters?

The results showed that dust accumulation on the surface of the PV modules significantly reduced the electrical parameters. The tilt angles of the PV modules in Sites 1, 2, 3, 4, and 5 were 13°, 17°, 9°, 8°, and 5°, respectively, leading to reductions in maximum power of 1.3 %, 5.9 %, 20.1 %, 14 %, and 1.5 %, respectively.

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### Hi-MO X6 Max Guardian Anti-Dust Range

Featuring a unique anti-dust design, these panels reduce dirt accumulation and maintenance costs while maximizing energy efficiency. With rigorous testing for extreme durability and extended warranties, the Hi-MO X6 Guardian is the ...

### Hi-MO X6 Guardian (anti-dust design)

Core Advantages. Enable dust on the module to naturally slide off under the influence of gravity and rainfall. Noticeable gain in power generation, reducing the frequency and cost of cleaning. Prevent obstruction of incident light, ensuring ...



### **LONGi Solar Australia Unveils Solar PV Module: Hi-MO ...**

The highly anticipated Hi-MO X6 Guardian Anti-Dust module promises to revolutionise the solar industry with its groundbreaking design aimed at addressing the persistent issue of dirt accumulation on solar panels.

### **LONGi Hi-MO 4 Solar Module Review , Solar Analytica.**

A staple of the LONGi range, the LONGi Hi-MO 4 is LONGi's most diverse module offering in 2022,

and with that, the most voluminous. From well-researched residential module purchasers through to industry-scale ...

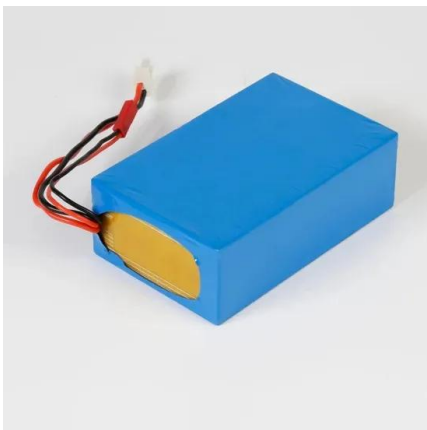


## Longi launches anti-dust solar module for C& I segment

Longi is not the only company in the Australian market with an anti-dust module based on a lowered frame design. DAH Solar has been supplying its Full Screen module in the country since October 2023 through ...

## Impact of dust accumulation on photovoltaic panels: ...

In addition, the structural design of PV panels can affect the accumulation of dust and the potential degradation in performance, it was found that frameless PV panels experience uniform distribution of dust, while the distribution of dust in ...



## Longi's Innovative Launch of Anti-Dust Solar Module ...

Longi, the Chinese solar manufacturer that forefronts solar technology, recently unveiled the new "anti-dust" modules that are applicable for the commercial and industrial (C& I) market. The most expected Hi-MO X6 ...

## How dust accumulates on solar panels, and how LONGi ...

Dust impact on PV performance. In LONGi laboratory conditions, 90 mm dust sedimentation is able to cause 23.39% power loss. U.S. Renewable Energy Laboratory data show that dust accumulation can lead to a loss of ...



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