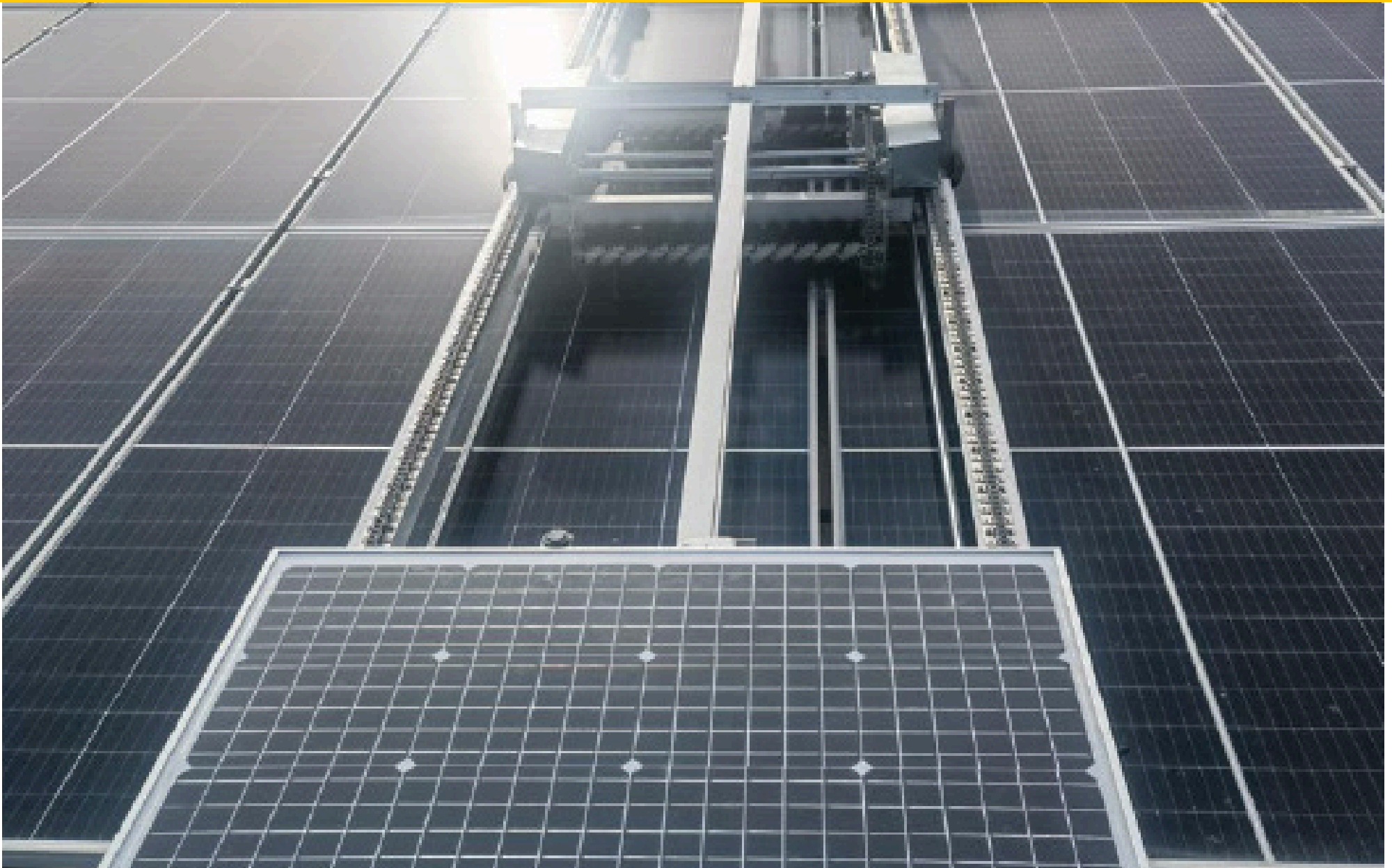




# Groundwork

## APOLLO SOLAR PANEL CLEANER



## APOLLO SOLAR PANEL CLEANER

The importance of cleaning solar power stations cannot be overstated. Statistics show that a majority of the cleaning jobs are still done manually, which can be time-consuming and costly. However, improving the cleaning efficiency and reducing manpower costs is crucial for optimal performance. Solar power stations are often located in areas with high terrain, abundant sunlight, strong winds, and limited water resources, making them susceptible to the accumulation of sand and dirt on the solar panels. If these contaminants are not removed promptly, they can significantly reduce the power generation efficiency by 8% to 30%. Additionally, dust buildup can lead to hot spot problems on the PV panels, further diminishing their performance. Regular and effective cleaning is essential to ensure maximum energy production and maintain the longevity of solar power stations.



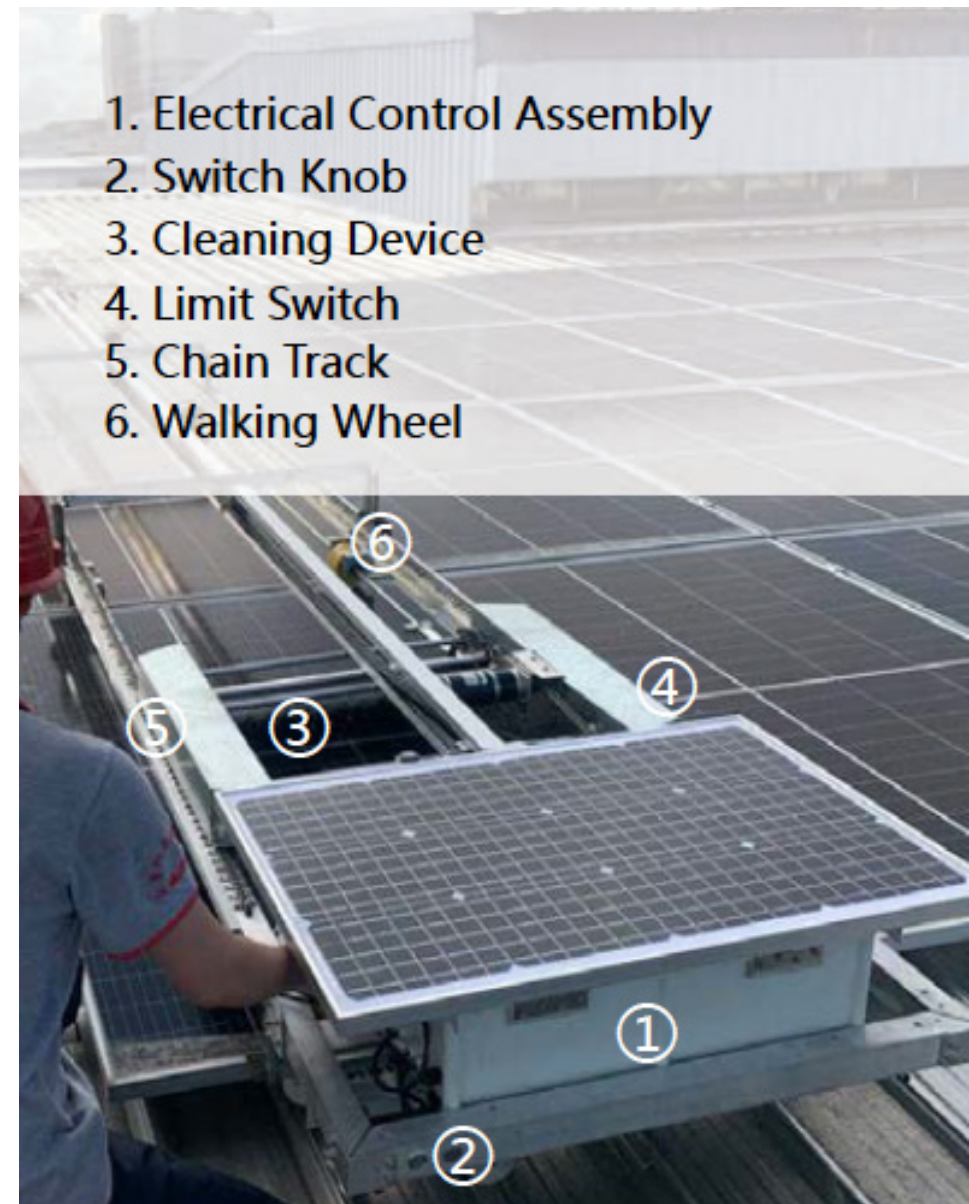
## Product Composition

The cleaning robot is composed of three main parts: the frame part, the cleaning device, and the electrical control part. The frame part of the robot is constructed using aluminum alloy, ensuring durability and stability. A chain track is laid on the frame, providing a pathway for the cleaning device to move along. The cleaning device itself is propelled by a sprocket mechanism, enabling it to traverse the chain track with precision and efficiency. Lastly, the electrical control part of the robot ensures smooth operation and coordination between the different components.

To limit movement, the four guide wheels on the frame are clamping in, with the electric control part being integrated in the electric control box and placed at the end of the rack.

The drag chain connects the cable to the motor on the cleaning device for the up and down cleaning function, which is achieved through control of the motor by way of the cable.

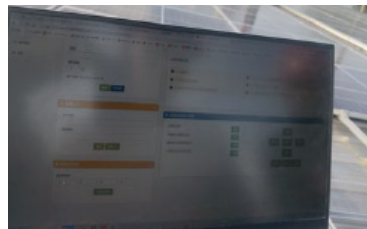
The motor at the tail end controls the left and right functions of the cleaning robot, and identifies the edge position of the photovoltaic panel through the limit switch.







Large photovoltaic array cleaning robots  
Aluminum alloy bracket for stable Movement  
Without manual cleaning



Remote control with independent power supply  
Up & Down Solar Cleaning Robot Applicable ambient temperature  
-10° No condensation ~ 50°



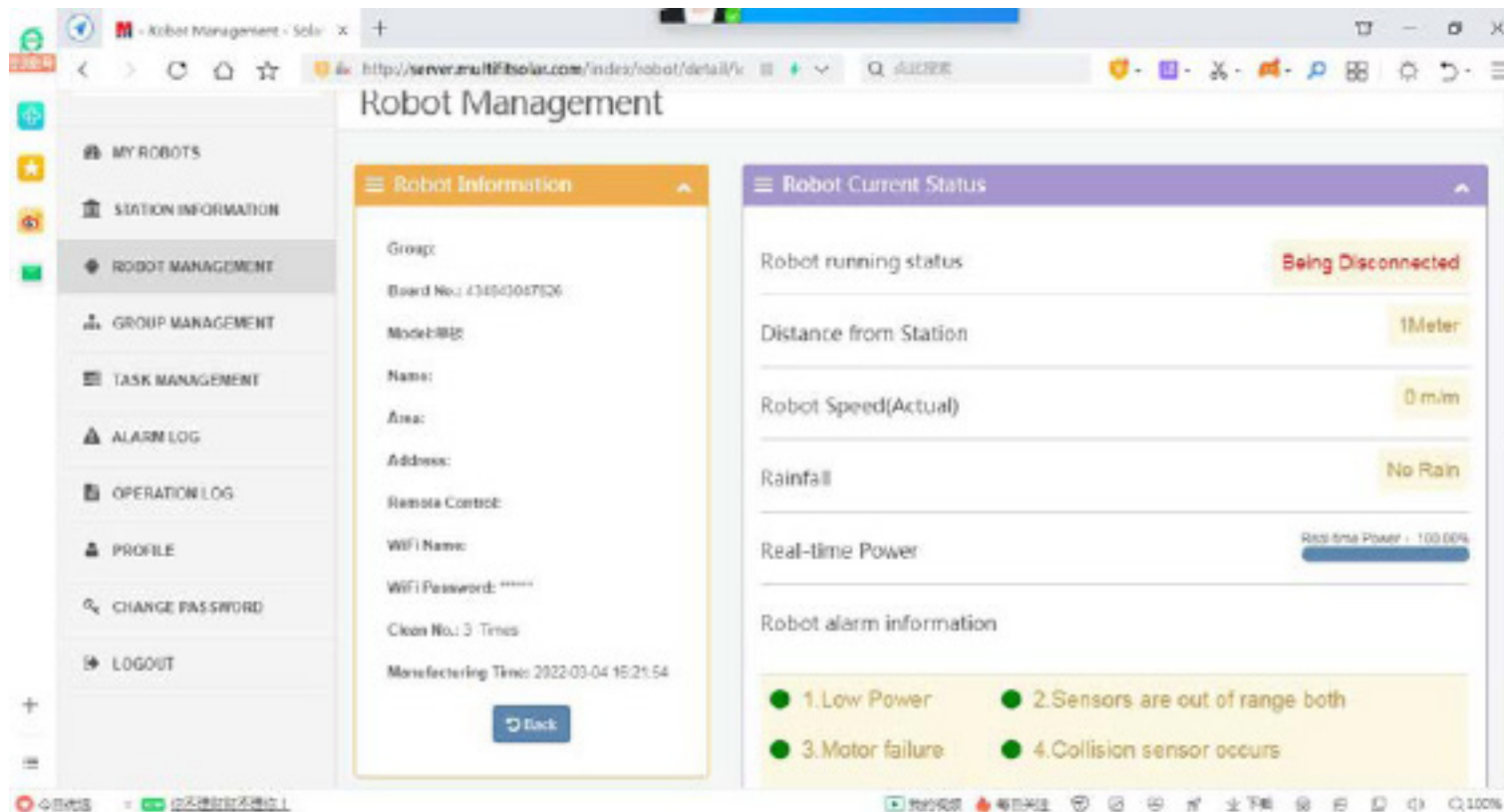
Integrated dry cleaning and water cleaning model .  
Convenient to use in different photovoltaic power station.



Automatic edge perception technology  
Preventing robots from slipping  
Avoiding accidents

# Smart Management Control System

Turn on the intelligently management control system according to your needs, follow up in real time, and keep your solar panels as clean as new.





## PARAMETERS

Model	Apollo
Working Hours	> 4
Working Speed	8-12 m/min
Battery Life V's Distance	> 2000m - 2400m
Working Temperature	-10° - 50° C
Control	Remote Control and Intelligent management control system
Working Mode	The staff activated the remote control for cleaning - no need for manual cleaning
Cleaning Robot Berth	The Parking Spaces on either side of solar panels
Protection Grade	IP65
Postscript	Can be customized based on the size of the solar panels.





## Multi segment assembly

The frame part adopts multi segment splicing (the number of segments is determined according to the number of photovoltaic array panels on site) structure, which is convenient for transportation.



## Multi solar panel cleaning

Large photovoltaic array cleaning robots can adapt to photovoltaic systems with multiple rows of solar panels assembled in an array.