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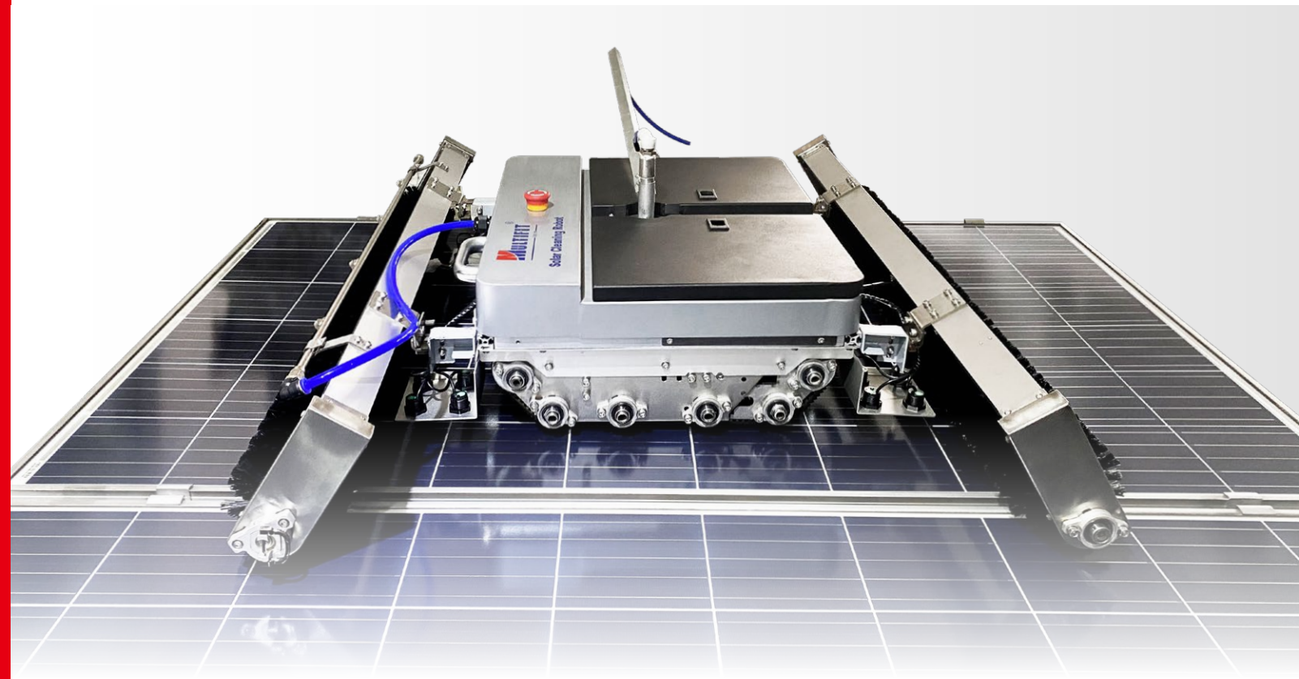


TRACKING SOLAR CLEANING ROBOT

MR-T1

Product Introduction

More Power More Life

http://www.multifitsolar.com

THE IMPORTANCE OF CLEANING SOLAR PANELS

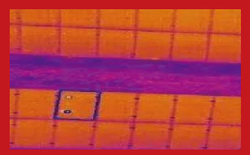
The effect of power generation efficiency.

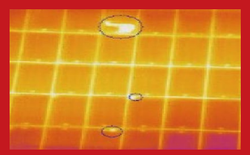
① Pollutant Rust

② Bird Droppings

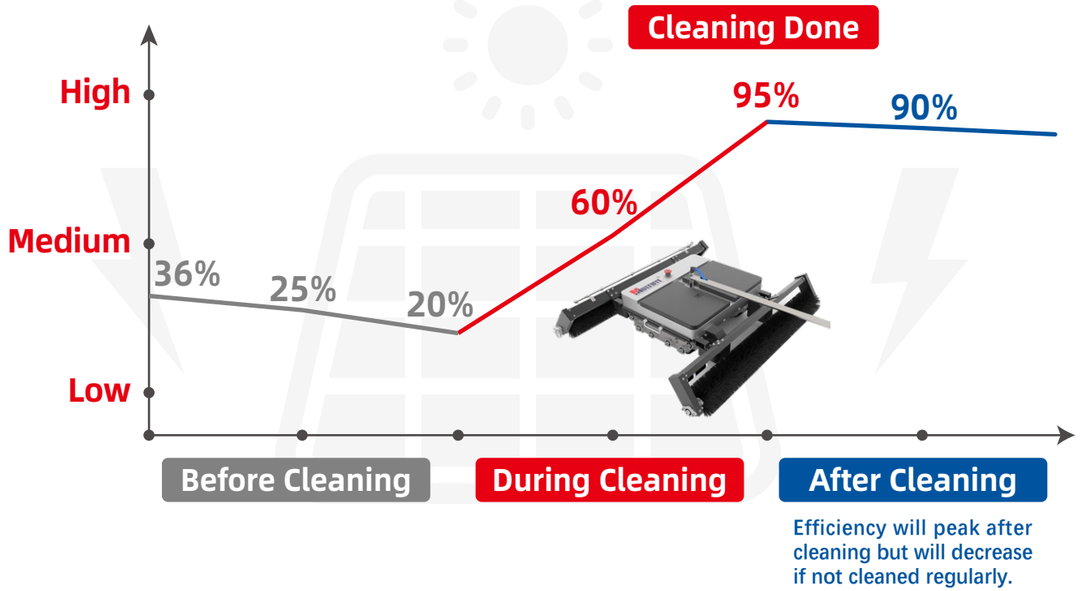
③ Dust

The solar panels covered by pollutant may cause hot spots, which will damage the panel and even make the panel burned.





SOLAR PANEL POWER GENERATION EFFICIENCY



THE ADVANTAGES OF USING SOLAR PANEL CLEANING ROBOT

- Longer Service Life
- Improve Energy Production
- Improve Efficiency

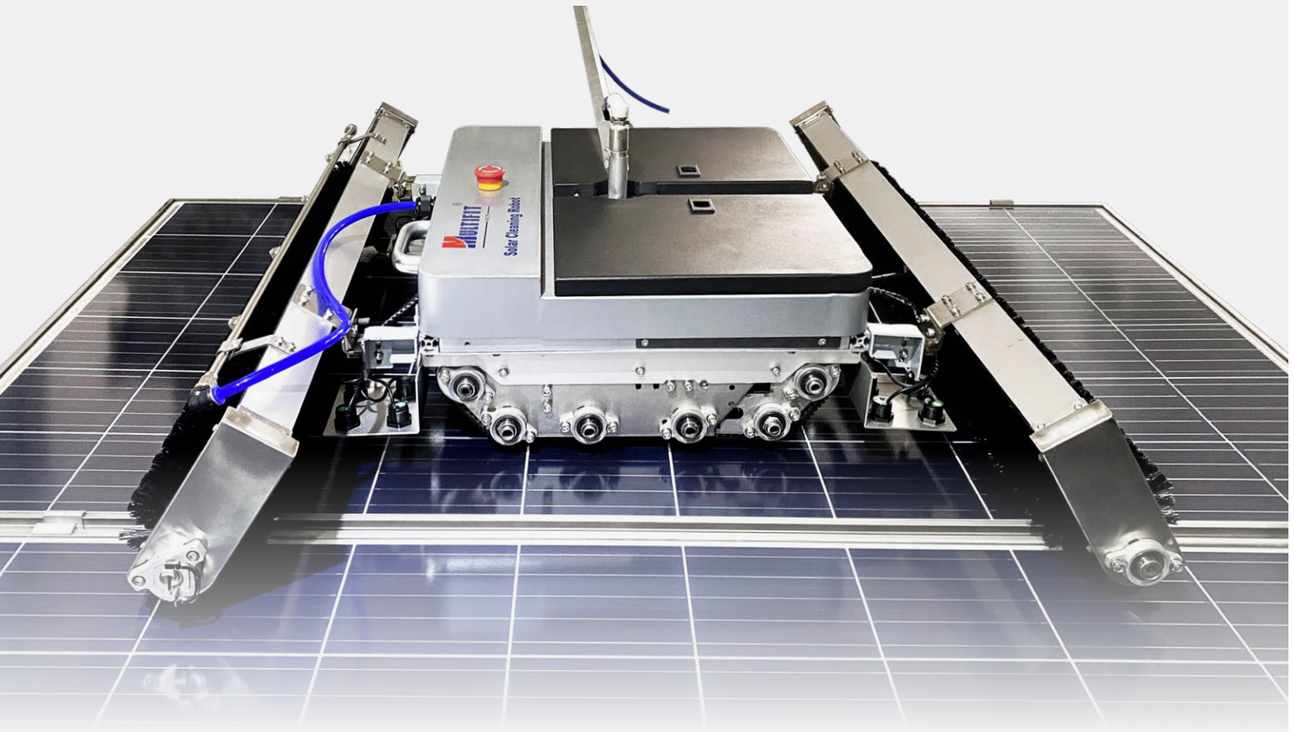
MR-T1 Series

Tracking Solar Cleaning Robot

Product Introduction

The MR-T1 solar panel cleaning robot is compatible with various panel types and arrays, and can achieve multiple uses within a certain range, without the need to customize robots according to the array. It has the characteristics of small size, light weight, and is not limited by the distribution and arrangement of the array.

In the process of intelligent cleaning, robots can automatically detect, track, locate, communicate and control groups, to meet the demands of different kinds of devices control and management.



Product Features ▼

Track Type Chassis

Adopting high grip track design, suitable for complex terrain (such as sandy, muddy, sloping, and rugged ground).

Strong Obstacle Crossing Ability

The climbing angle can reach 8 to 12°.

Lightweight Material

Aluminum alloy or high-strength composite material body, balancing durability and low self weight, avoiding pressure on photovoltaic panels.

Multi Mode Cleaning

Supports dry brush cleaning (sand and dust), wet cleaning (spray+roller brush), or a mix of dry and wet modes to adapt to different types of pollution.

Efficient Cleaning Rate

Utilizing a 1-meter roller brush, the system achieves ≥99% cleaning coverage per photovoltaic panel, enhancing power generation efficiency by 10%-30% (depending on contamination levels).

Water-Saving and Eco-Friendly

Compared to traditional manual washing, it significantly reduces water consumption by over 50%, minimizing environmental impact.

Anti Electromagnetic Interference

Designed specifically for photovoltaic fields to avoid interference with electrical equipment in power plants.

Modular Design

Key components such as brushes and batteries can be quickly replaced, reducing maintenance costs.

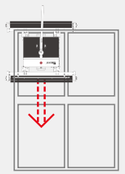
Remote Control

Supports manual remote operation with a range of up to 400 meters, allowing operators to perform cleaning tasks from a safe location.

Anti-Fall Design

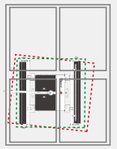
Equipped with laser sensors to intelligently detect photovoltaic panel edges and prevent falls. Integrated with a self-check function that verifies laser sensor operation before startup, ensuring reliability.

Function Description



Excellent Obstacle Climbing Ability

MR-T1 is capable of handling complex terrains and easily crossing gaps of over 60mm, allowing the robot to move smoothly in different environments, making it particularly suitable for large-scale photovoltaic power plants and ground photovoltaic fields. Even when encountering uneven ground or obstacles, MR-T1 can ensure continuous operation, ensuring that each photovoltaic panel is thoroughly cleaned.



Automatic Posture Correction

Equipped with an image recognition system, MR-T1 can monitor the robot's posture in real-time, automatically adjust direction, and prevent deviation or jamming during the cleaning process. This mechanism ensures that the robot can maintain the correct working posture even on complex terrain or uneven surfaces, thereby improving cleaning accuracy and efficiency.

Edge Detection & Automatic Hazard Avoidance

Equipped with advanced edge perception technology, MR-T1 can monitor its surrounding environment in real-time and identify hazardous areas close to the edge. When the robot approaches the edge of the photovoltaic panel, the system will automatically activate the avoidance mechanism to prevent the robot from slipping or colliding. In addition, the system can also identify other potential hazardous areas and adjust the route in a timely manner to ensure that the robot always operates within a safe area.

Quick Brush Replacement

Adopting modular design, the brush of MR-T1 can be quickly replaced within 1 minute. This design greatly reduces equipment maintenance time and improves work efficiency. Users only need a simple operation to quickly replace the brush, ensuring that the equipment is always in the best cleaning condition and avoiding prolonged downtime.

Dry and Wet Cleaning Integration

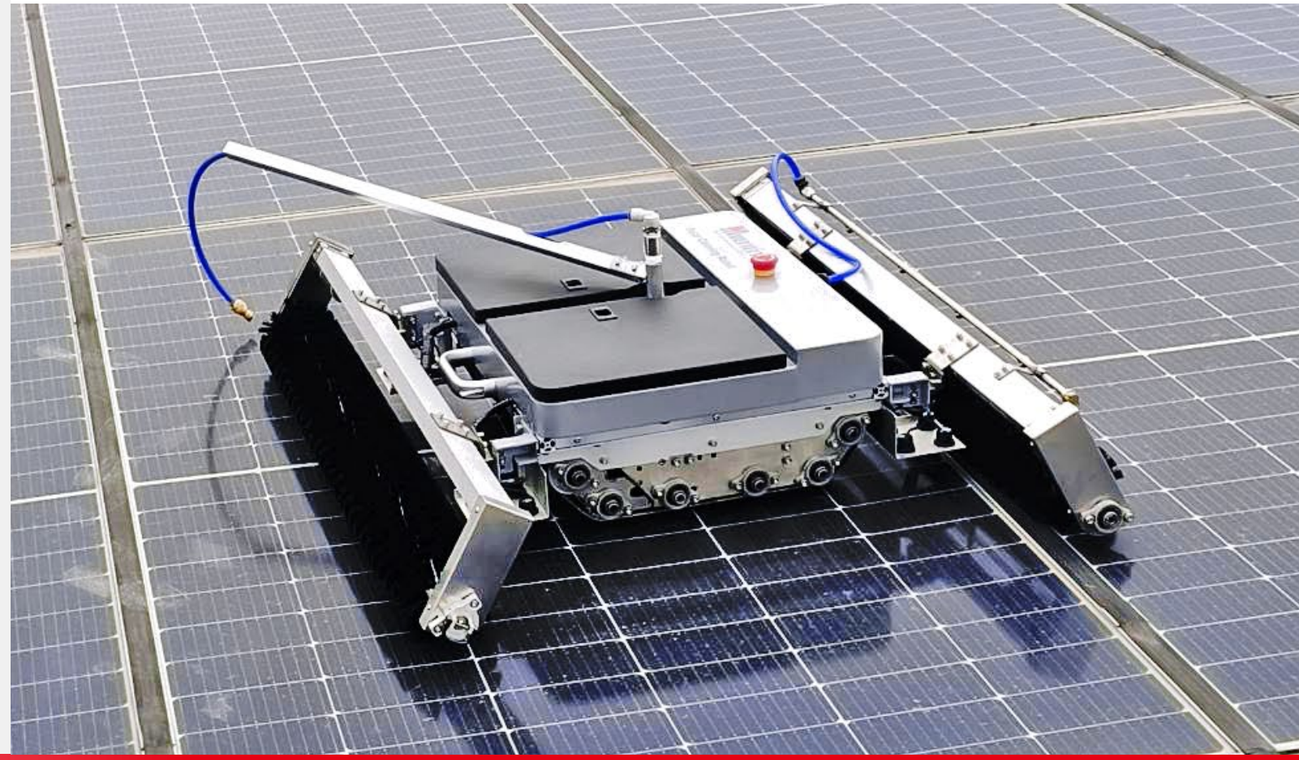
According to different environmental requirements, MR-T1 can switch between dry cleaning and wet washing modes. The dry cleaning mode is suitable for photovoltaic panels with less dust or light surface pollution, and can quickly remove accumulated dust; The wet washing mode is suitable for stubborn stains and can thoroughly clean the surface of photovoltaic panels through water washing. The combination of two modes provides users with flexible and diverse cleaning solutions.

Lightweight Design

Most of the structure of the whole machine is made of aluminum alloy material, which reduces the overall weight of the equipment while meeting the strength requirements for use, and meets the requirements for portable handling and mobility.

Cost-Effective

Compared to traditional manual cleaning or mechanical equipment, MR-T1 has lower initial investment and operating costs. Its efficient cleaning capability greatly improves the power generation efficiency of the power station, thereby accelerating investment returns. Robots reduce labor and maintenance costs, provide a high return on investment (ROI), and make long-term operations more economical.



Product Advantages

◆ The MR - T1 series of fully automatic cleaning robots has more advantages than other robots on the market in terms of performance, product design, and intelligent control. For example, it is easy to carry, has a long service life, and is equipped with an intelligent remote control. Moreover, its rolling brushes are easy to disassemble, install, adjust, and maintain.

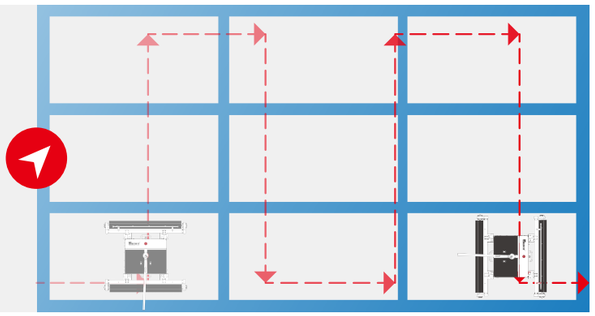
◆ The robot can completely accomplish high-precision tasks such as the point-to-point navigation and regional coverage in complex photovoltaic module scenarios. Our robot can achieve 100% coverage at one time to achieve clean photovoltaic panels without the dead ends. Through this way, it can effectively increase the power generation.

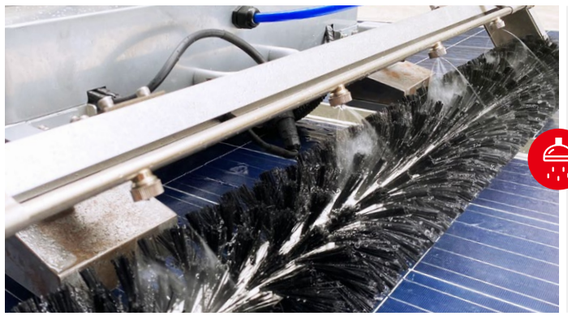
Two Cleaning Models

Dry Cleaning and Water Cleaning.
Even the dry cleaning model without the water has the prominent efficiency.

Path Planning Algorithm

It conducts intelligent path planning to ensure that every inch of photovoltaic panels can be thoroughly cleaned, effectively increasing the power generation.

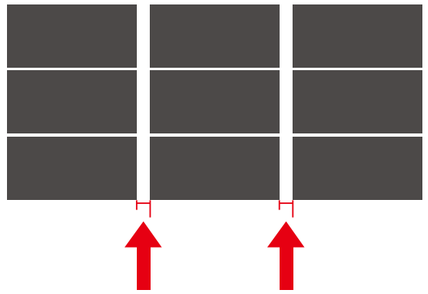




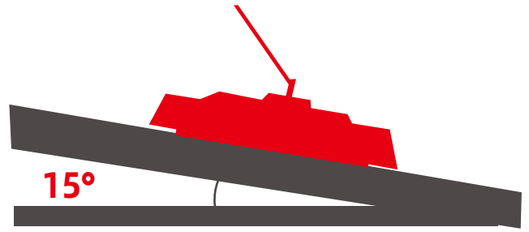
Four Water Outlet Nozzles

The spray-type water outlet can evenly cover the photovoltaic panels, improving the cleaning efficiency. It is water-saving and environmentally friendly.

Scene Selection ▼



The gap between the panels ≤ 60mm



Suitable for solar panel arrays with inclination angles up to 15°

Remote Control ▼

◆ Start at any time, stop at any time, scrub repeatedly。
◆ The remote control is equipped with an "Automatic Mode" button. Simply press it, and the solar cleaning robot will enter the full-automatic working state.
◆ The remote control has strong remote control capabilities, with an effective control distance of up to 400 meters.

Remote Control Screen Display ▼

Technical Specifications

Model	MR-T1	MR-T1 AUT
Mechanical parameters		
Control mode	Manual remote control operation	Automatic operation
Travel route	Remote control selection	Set path planning
Water consumption	180L/H	
Robot size (excluding roller brush)	685mm×617mm×320mm	
Roller Brush Size	Length: 1 meter; Diameter: 130mm	
Package size	Main body wooden box: 820×705×480mm; Brush roller wooden box: 1250×340×350mm	
Weight	Main body: 29kg; Brush roller: 10.5kg	
Number of brush rollers	2	
Body material	Aluminum alloy	
Protection grade	IP65	
Anti corrosion grade	C4	
Brush lifespan	2-3 Years	
Electrical parameters		
Motor attributes	Brushless motor	
Power input	24VDC	
Battery capacity	10AH	
Working time	4-6H	
Charging time	3-4H	
Operating parameters		
Cleaning width	1m（Acceptable customized length）	
Applicable angle	0-15°	
Obstacle surmounting ability	Slab joint 60mm	
Cleaning method	Dry cleaning/Water cleaning	
Sweeping speed	15-25m/min	

Function Description

Intelligent management platform webpage (remote) (customization required)

Remote Control (Local)

Direction control/speed control

The rotation speed control of the brush roller

The control of the transverse movement distance

Accessory

Remote control, lithium battery, lithium battery charger,

instruction manual, Wrench (M4 * 1, M5 * 1, M6 * 1), TYPE-C data cable

Brush roller (Standard length: 1m; Customizable length: 1-1.4 meters)

Quality Standards and Certification

Compliance Standards：ISO 9001

Certifications：CE

Reliability and Durability

Lifespan：Key components over 10 years old

Working humidity：0-95%（No condensation）

Working temperature: -20 ° C (non freezing) to 70 ° C

Storage temperature: -25 ° C to 75 ° C

Windproof level: Level 6 wind during operation (15m/s)；

Transportation and Storage Requirements

Shipping Requirements：Shockproof packaging, wooden box reinforcement

Storage Conditions：Temperature during storage: 10-25 ℃; Humidity requirement: 50% -70%；

Warranty Period：24 months

Application Scenario

- Centralized photovoltaic power station
- Distributed photovoltaic power station
- Large scale ground photovoltaic power station
- Fishery photovoltaic complementary power station
- Agricultural photovoltaic complementary power station
- Industrial and commercial rooftop photovoltaic power stations
- Other applicable photovoltaic power stations

Customize the cleaning solution and maintain the photovoltaic system to ensure normal daily power supply.