



REINZER[™]

Solar Panel
AUTO CLEANER

**Keep Panels
always Clean**

EASY

QUICK

**SECURE
CLEANING**

TECHNICAL DETAILS:

- Automatic timer operated cleaning system.
- Dry cleaning system with modular rotation brushes which do not affect the surface of the photovoltaic panels.
- Uses high quality brushless motors.
- Operational at high temperatures.
- Hybrid PV-battery power system.
- Increased reliability and using only high quality components.
- Approximate time for cleaning 10 PV each 360watt: 5min.
- Travel distance, up to 50 m. (distance can be increased by using solar PV panel in combination with battery).
- Early morning operation can be done so that before sun rises, panel can be cleaned. Moreover the brushes can have longer life.



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AUTO CLEANER



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For more information
watch the video

Need of automatic SOLAR PANEL CLEANING MACHINE

In order to maintain the efficiency of electric power generated by solar panels, those need to be cleaned regularly. This cleaning, if done manually, has its own limitations in the form of uncertainties related to labour force. It becomes extremely difficult to access the installation area, which again would be full of dust and other unwanted particles. Thus; we require to develop a means of cleaning photovoltaic panels (PV panels) or solar panels autonomously in order to maximize the efficiency and energy output from these panels. This device will prevent the loss of electricity generated by the solar panel by keeping it clean.

Working of automatic SOLAR PANEL CLEANING MACHINE

There is a resting area for Robotic machine on both the side of solar panel array. The machine then travel on panel in the direction set in program. It reaches from one resting area to the other resting area at end of other side of solar panel array and vice versa. There is a rotating brush on machine which removes the dust from panel. There is a timer which enables the supply daily to machine at a preset time.

ADVANTAGES OF AUTO CLEANER

- Dry-type cleaning system (no water).
- Less space and No extra power consumption.
- Does not require installation of water pipes, water tanks, electrical cables to power/charge the robot; it is energy independent.
- Daily cleaning improves production of the solar PV plants, by removing the dust from panels.
- Is suitable for arid areas where water is difficult and desert areas, where due to dust or sandstorms, energy is generated and lost to high extent.
- The most cost effective way of having clean solar PV plants comparing against manual cleaning.
- Is simple, strong, reliable, using high quality components and equipment. The PV cleaning robot can be customized and starts from a system with manual operation to a fully independent and controlled.
- Depending on the particular PV plants, it is easily customizable to work with minimal or no changes

to the supporting structure of the solar PV panels and the panels themselves;

- Possibility of programming the operating parameters according to customer demand (start time, speed, direction of travel, starting conditions depending on the weather factors etc.);
- Does not use chemical cleaning agents or other products that might harm the environment and solar panels ;
- Does not require human intervention during cleaning, removing all uncertainties related to labour force.
- For large solar PV plants, a fleet of cleaning robots are used, working synchronized, connected to a local SCADA and locally or remotely controlled.

