



Power Meter Monitor

DIRT BUSTER VEHICLE MOUNT PV PANEL CLEANING

Data Sheet



COPYRIGHT NOTICE

The information in this document is subject to change without prior notice to improve reliability, design, and function and does not represent a commitment on the part of the manufacturer.

In no event will the manufacturer be liable for direct, indirect, special, incidental, or consequential damage arising out of the use or inability to use the product or documentation, even if advised of the possibility of such damages.

This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic, or other means in any form without prior written permission of the manufacturer.

TRADEMARKS

All registered trademarks and product names mentioned herein are used for identification purposes only and may be trademarks and/or registered trademarks of their respective owners.

AMI is a trademark of American Megatrends Inc.

Intel & Atom are trademarks of Intel Corporation

IBM, PC/AT, PS/2&VGA are trademarks of International Business Machines Corporation
Microsoft Windows is a trademark of Microsoft Corp. RTL is the trademark of Realtek Semiconductor Co., Ltd.

DECLARATION OF CONFORMITY

This restriction is subject to protect the operational process of the system in the business environment, which will produce, use, and transmit radiofrequency energy. Harmful interference to radio communication could result if instructions to the correct installation and usage were not applied. The interference prevention cannot be guaranteed even with proper installation according to the manual. If the device causes a bad effect on the radio / TV signal. The user could preclude that by turning the device on/off.

When this device produces some harmful interference, the user can use the following measure to solve the interference problem:

1-Setting the receiving antenna's direction or location to increase the distance between this device and receiver.

2-Plug in the device's power connector into different circuits of the power outlet with the receiver.

3-If any technical support is needed, the dealer or experienced radio/TV technical personnel must be informed.

TECHNICAL SUPPORT AND SERVICE

Visit Pmm-usa.us to browse FAQs and get further details.

User should collect the following information before submitting technical support and service requests:

- Product name, model and serial number.
- Installed software (operating system, OS version, installed applications and so on).
- Full description of the problem
- Detailed information about every error.

SAFETY INSTRUCTIONS

- Only trained and qualified personnel can install, operate, or maintain the device.
- Before starting the installation, all safety precautions must be read and warning labels affixed to the device must be observed. Doing so protects the device from damage and ensures your safety.
- Safety precautions provided in this document may not cover all safety aspects, note to always remain mindful of safety.
- PMM is not liable for any consequence that results from violation of regulations pertaining to safe operations or safety codes pertaining to design, production, and equipment usage.
- DO NOT use liquids or decontamination spray to clean the device surface and assure that it is totally disconnected while cleaning.
- Take all measures to prevent device drop before or during installation.
- Prior to connecting the device to power source, ensure the source and device voltage and power are 100% matched.
- Keep the cables in a suitable covered place.
- If the device is not used for a long time, shut off the power to avoid the damages by transient overvoltage.
- DO NOT allow any liquid flow into the device; to avoid fire or short circuit.
- The recommended storage temperature range should NOT be less than 30°C OR higher than 85°C.



Warning:

- Read the power source and device inlet carefully.
- Handle device with both hands.
- Clean and maintain the device using recommended, safe and suitable methods.



Caution:

If any unauthorized changes of settings or repairs are done without PMM approval; then user's rights of controlling this device will be canceled.



Contents	Page
DESCRIPTION.....	4
KEY FEATURES	4
TECHNICAL SPECIFICATIONS	5
CONTACT INFORMATION:.....	5

DESCRIPTION

The DirtBuster is PMM's tailored washing system mount solution designed to clean the ground-mount photo-voltaic solar panel arrays for medium and large PV Solar farms.

The system mechanism is equipped with strong, powerful low-water consumption water jet nozzles. The UV-resistant brush, which is made of special material that is soft and gentle on the PV Solar panel surface prevents abrasions to the surface of the panels, but strong on dirt to get it cleaned.

The system mechanism features a 4.5m (177.16") wide brush that can turn at speed from 90 – 160 RPM, and it will automatically adjust the brush to maintain a safe distance between the brush and the PV Solar panel.

The UV-resistant brush is made of soft material that cleans well and prevents abrasions to the surface of the panels and can be easily swung to the side of the vehicle while driving between the solar panels which increases the efficiency of the process.

KEY FEATURES

- A compact-sized and sturdy Tractor model.
- Equipped with a strong, powerful, low-water consumption water jet nozzle.
- UV-resistant brush automatic adjusted of it to maintain a safe distance from the PV solar panel.
- Sturdy hydraulic system with safe and high precision hydraulic arm positioning capabilities.
- Fast and requires minimal manpower.

It is designed to be compact in size and have the following features:

POWER:

Dirt Buster's design is all about power, through its Brush and Nozzles that are strong on dirt, yet gentle on the PV panel surface. The UV-resistant brush enables using power in the right way through its characteristics that prevent abrasions and scratches to the surface of the panel.

PRECISION:

DirtBuster is mainly a precision-oriented solution that fits the critical nature of the PV solar panels perfectly, through safe and high-precision arm positioning supported by joystick control.

PROTECTION:

DirtBuster represents the type of investments that are economical, cost-effective and affordable with a high long-term value due to its ability to optimize the capability of PV solar cells, hence the financial returns. It also requires low O&M cost, one manpower operator which all results in high return of investment.

PRODUCTIVITY:

DirtBuster's hydraulic system ensures productivity at its best, through its high performance, sturdy, effective, safe and precise arm positioning. It is simple, requires easy attachment, provides ease of operation and versatility with efficient performance.

PERFORMANCE:

DirtBuster as a whole solution, functions to provide a high-quality, effective, forceful, fast and easy execution to ensure the optimum performance of the PV solar farm.

TECHNICAL SPECIFICATIONS

Brush System

Brush / Filament Material	Special made UV-resistant, high durable material
Brush System Control Panel	Joystick control.
Brush Rotating Angle	0° - 100°
Brush Length	4.5 m
Brush Diameter	45 cm
Brush weight	160 Kg
Material	Plastic with core plastic
Leveling	Mechanical level
Certificates /Approvals	Royal Scientific Society (RSS) Electroluminescence Test

Hydraulic System

Hydraulic Unit	45 l/m at approx. 180 bars.
Oil Tank Capacity	120 L
Control Unit	12 VDC
Hydraulic Oil	Synthetic hydraulic oil

Water System

Water Pump	Belt driven mechanical water pump
Water Filtration	2 stage filtration unit
Water Tank	640 Liters / 2000 Liters (optional)
Water Spray Nozzles	Double multi-jets on both brush sides
Water Pump Pressure	10 - 20 bars adjustable
Additional Parts	2 water hoses for manual cleaning when needed

System Information

Net Weight	600 KG with the brush length of 4.5m. Additional weight added for the tractor stability
washing Speed	6 km/h
Operating Temperature	5°C to 50°C, system customization applied to harsh environments
Safety	Brush distance sensor

CONTACT INFORMATION:

- For direct inquiries, contact us on sales@pmm-usa.us