

FREQUENTLY ASKED QUESTIONS

- Q: What types of batteries can I charge?
- A: You can trickle charge all types of 12V batteries with the Battery Doctor's® 5 watt Trickle Charger/Maintainer (Model #23143), including lead-acid automotive batteries, deep cycle (transaction type) batteries, gel-cell batteries and heavy-duty (stationary type) batteries.
- Q: How long will it take for the Battery Doctor's® 5 watt Trickle Charger/Maintainer (Model #23143) to charge a battery?
- A: The Battery Doctor's® 5 watt Trickle Charger/Maintainer (Model #23143) is designed to trickle charge batteries. It compensates for natural voltage losses and key-off small instrumentation drain by replenishing your battery. This solar panel can generate 5 Watts of power per hour, which is equal to 420mA of current under ideal conditions. For example, under ideal conditions, the panel will generate 5 Watts x 7 hours per week for a total of 245 Watts of power.
- Q: Do I need a charge controller with the Battery Doctor's® 5 watt Trickle Charger/Maintainer (Model #23143)?
- A: No, a charge controller is not required for the Battery Doctor's® 5 watt Trickle Charger/Maintainer (Model #23143) because it is not powerful enough to overcharge your battery.
- Q: Can the Battery Doctor's® 5 watt Trickle Charger/Maintainer (Model #23143) drain my battery at night?
- A: No. Battery Doctor's® 5 watt solar panels are equipped with a built-in diode that prevents any reverse current.
- Q: Can the Battery Doctor's® 5 watt Trickle Charger/Maintainer (Model #23143) be left outdoors without protective covering?
- A: Yes, the Battery Doctor's® 5 watt Trickle Charger/Maintainer (Model #23143) has been weather protected and can be mounted outdoors. It is weather-proofed, and can withstand small hail, up to 180° F heat, and operate under 3 inches of snow (on sunny days).
- Q: Can I mount the Battery Doctor's® 5 watt Trickle Charger/Maintainer (Model #23143) directly to a surface or do I need to use some sort of bracket?
- A: Battery Doctor's® 5 watt solar panels can be installed directly to a flat surface, using the brackets and screws provided.
- Q: Can I extend the wire?
- A: Without loss of power or voltage, the 8' 8" wire may be extended to a maximum length of 25' with 16 gauge wire. Ensure proper connections.
- Q: Can I start/drive my vehicle with the Battery Doctor's® Model #23143 connected to the cigarette lighter socket (12 volt lighter adapter) or battery?
- A: No. For safety reasons please make sure the panel is not in use while you are driving your vehicle.
- Q: How do I know if the panel is working?
- A: Use a voltmeter to measure the voltage of the panel. The voltage reading should be between 16 and 25 Volts in full sun. This number will continually fluctuate as the strength of the sun is constantly changing.

TROUBLESHOOTING

Problem: My panel is not functioning.

Ensure that the distance of the wires is not longer than 25' and all connections are secure.

Ensure battery is operational.

Warranty

This product is covered by a five year limited warranty. WirthCo Engineering, Inc. warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of one year from date of purchase. Power output is warranted to be 80% of the original output for five years from date of purchase.

To obtain warranty service please contact WirthCo Engineering, Inc., at 1 (800) 959-0879 or email sales@wirthco.com. Proof of purchase including date, and an explanation of complaint is required for warranty service.

For information or technical support 1 (800) 959-0879

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Instruction Manual

1.8 Watt Maintainer and 5 Watt Trickle Charger/Maintainer SOLAR PANEL KITS



1.8 Watt Maintainer
(Model #23140)



5 Watt Trickle Charger/Maintainer
(Model #23143)

IMPORTANT!

Please read the instructions before operating and before and during the use of this product.

- It is important to observe and follow industry standard and manufacturer's safety procedures when working around batteries and other electrical equipment. Again, when working around batteries and other electrical equipment, please observe industry standard and manufacturer's safety procedures.
- To reduce the risk of electrical sparking when installing these solar chargers, please use a thick fabric to cover the panels, ensuring the panels are producing very little charge, or do the installation in low light conditions.
- Ensure that you are making connections in a well-ventilated area free from flammable gases or vapors.
- These panels are designed for 12 Volt battery configurations only.
- For 12 V systems, ALL connections should be in PARALLEL: Positive (+) to Positive (+), Negative (-) to Negative (-).
- DO NOT attempt to recharge NON-RECHARGEABLE batteries, as an example NiMH batteries.
- When disconnecting your solar panel, DISCONNECT the battery LAST.

General Product Description

Battery Doctor's® Model #23140 and Model #23143 capture the energy of the sun to generate power that can charge a 12 Volt battery for small power applications such as lighting systems or any small appliance.

Battery Doctor's® 1.8 watt Maintainer (Model #23140)

Specifications and included items:

Power Rating: Up to 1.8 Watts

Current: Up to 150 mAmps @ 12 Volts.

Includes: Alligator Clamps, 12 Volt DC Plug, 8' 8" Wire, Tilting Rods, Voltage Indicator

Installation

Installation through 12 Volt DC Plug:

Plug the included 12VDC Plug into the 12 Volt DC socket (example: portable power pack). Make sure both ends are secure and aligned correctly. For optimal power, ensure the panel (solar cell up) is directly facing the sun.

Installation to Battery with Alligator Clamps:

Connect the included alligator clamps correctly by matching the red clamp which is Positive (+) to the Positive (+) terminal on your battery. Connect the black Clamp which is Negative (-) to the Negative (-) Terminal on your battery.

WARNING: Follow this carefully to not cause any bodily harm. Wrong connections may cause sparking or explosion.

For optimal power, ensure the panel (with the solar cell facing up) is directly facing the sun.

FREQUENTLY ASKED QUESTIONS

- Q: Will the Battery Doctor's® 1.8 watt Model #23140 keep my vehicle battery maintained?
- A: The Battery Doctor's® 1.8 watt Model #23140 compensates for natural voltage losses and key-off small instrumentation drain by replenishing and maintaining your battery up to a maximum rate of 150 milliamperes in full sunlight.
- Q: What types of batteries can I maintain?
- A: You can maintain all types of rechargeable 12V batteries including automotive batteries, deep cycle (traction) batteries, gel-cell batteries, and heavy-duty (stationary) batteries.
- Q: Can the Battery Doctor's® 1.8 watt Model #23140 drain my battery at night?
- A: No. Battery Doctor's® 1.8 watt Model #23140 solar panels are equipped with a built-in diode, which prevents reverse current.
- Q: Can I overcharge my battery with the Battery Doctor's® 1.8 watt Model #23140?
- A: The Battery Doctor's® 1.8 watt Model #23140 will not overcharge a battery.
- Q: Can the Battery Doctor's® 1.8 watt Model #23140 be left outdoors?
- A: No. This solar panel is not weatherproof. If this solar panel is weathered the warranty will become void.
- Q: Will the Battery Doctor's® 1.8 watt Model #23140 maintain the battery through the cigarette lighter socket (12 volt lighter adapter)?
- A: In some vehicle models, the cigarette lighter socket (12 volt lighter adapter) is inactive while the vehicle is off. Please consult your car owner's manual. In the event that your car presents this limitation, use the battery clamps provided with the unit in order to connect it directly to your battery.
- Q: How do I know if the panel is working?
- A: Use a voltmeter to measure the voltage of the panel. The voltage reading should be between 16 and 25 Volts in full sun.
- Q: The blue LED does not light up when the voltage indicator is plugged in to check the panel?
- A: If the blue LED is not lit, it may mean that you are not exposing the unit to enough daylight. Please position the solar panel to maximize its exposure to the sun.
- Q: Do I need a charge controller?
- A: No, a solar battery charge controller is only needed for our solar panels of 9 Watts or greater.

Battery Doctor's® 5 watt Trickle Charger/Maintainer (Model #23143)

Specifications and Included Items:

Power Rating: Up to 5 Watts

Current: Up to 420mAmps @ 12 Volts

Includes: Solar Panel, 12 Volt DC Plug, Alligator Battery Clamps, 8' 8" Wire, (4) Steel Mounting Brackets, Tilting Rods, Voltage Indicator

Installation

Securely place the solar panel in the sun. Included mounting brackets and screws can be used if necessary for permanent installation. Tilting rods are also supplied positioning the solar panel at an angle.

Installation Through 12 Volt DC Plug:

Plug the included 12VDC Plug into the 12 Volt DC socket (example: portable power pack). For optimal power, ensure the panel (solar cell facing up) is directly facing the sun.

Installation to Battery with Alligator Clamps:

Connect the included alligator clamps correctly by matching the red clamp which is Positive (+) to the Positive (+) terminal on your battery. Connect the black Clamp which is Negative (-) to the Negative (-) Terminal on your battery.

WARNING Follow this carefully to not cause any bodily harm. Wrong connections may cause sparking or explosion.

For optimal power, ensure the panel (with the solar cell facing up) is directly facing the sun.

NOTE:

This solar panel has a built in blocking diode to prevent reverse discharge. Please do not use this panel while vehicle is in use. When operating your vehicle it is best to secure the solar panel in the glove box or in another secure location.

BRACKET INSTALLATION

To install the mounting brackets, please follow the below instructions.

Step 1

Remove the screws from the silver bracket on the back side of the solar panel as shown in the picture. This will require a small Phillips head screwdriver. The screws that are removed will not be needed to fasten the bracket.



Step 2

Line up the bracket's two holes over the solar panel bracket's holes and use the supplied Flush Head screws to secure the bracket to the panel.



Step 3

Repeat these steps for the other three remaining brackets if required.



