

Owner's Manual & Safety Instructions

Save This Manual Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

17d

THUNDERBOLT[®] solar MAGNUM

68684

6-Piece Solar Power Connection Cable Kit



Visit our website at: <http://www.harborfreight.com>
Email our technical support at: productsupport@harborfreight.com

When unpacking, make sure that the product is intact and undamaged. If any parts are missing or broken, please call 1-888-866-5797 as soon as possible.

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No portion of this manual or any artwork contained herein may be reproduced in any shape or form without the express written consent of Harbor Freight Tools. Diagrams within this manual may not be drawn proportionally. Due to continuing improvements, actual product may differ slightly from the product described herein.

Tools required for assembly and service may not be included.

⚠ WARNING

**Read this material before using this product.
Failure to do so can result in serious injury.
SAVE THIS MANUAL.**

IMPORTANT SAFETY INFORMATION

In this manual, on the labeling, and all other information provided with this product:



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

CAUTION

CAUTION, without the safety alert symbol, is used to address practices not related to personal injury.



WARNING Read all safety warnings and instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Safety Precautions

1. Wear ANSI-approved safety goggles and heavy-duty work gloves during installation. Do not wear jewelry or metal watches when working near solar panels, wiring or batteries.

2. Keep installation area clean and well lit.
3. Install out of reach of children.
4. Keep bystanders out of the area during installation.
5. Do not install when tired or when under the influence of drugs or medication.
6. Use in 12 VDC systems only. Do not use to make connections exceeding 300 volts or 4 amps.



SAVE THESE INSTRUCTIONS.

Operation

IMPORTANT! Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product:

Note: For additional information regarding the parts listed in the following pages, refer to the Parts List near the end of this manual.

Making Connections

1. When using the Battery Clamp (1), the Red (positive) clamp should be connected to the positive battery terminal and the Black (negative) clamp should be connected to the negative battery terminal.
2. Please note that “+” stands for positive pole and “-” stands for the negative terminal. **WARNING!** Follow indicated polarity for all connections and verify all connections are secure before use.
3. When disconnecting Battery Clamp, disconnect the positive connection before disconnecting the negative connection. **WARNING!** Do not disconnect battery before disconnecting solar panel.
4. The Dual Extension Connector (2) can be used in case the lead wire of your Solar Panel or product is not long enough. Connect the Extension to the lead wire and the solar product. **NOTE:** A longer lead wire may reduce the amount of electricity coming from the Solar Panel to the being charged.

NOTICE: Only use Dual Extension Connector to connect a single 12V product to a Solar Panel. Do not use as a 12V extension cable or adapter.

5. The Lighter Plugs (3,4) and 12V Adapter (5) can be used to connect the solar products to various charge controller terminals.
6. The Charge Indicator (6) is used to determine if the solar charger/solar power kit is functioning (has sufficient electricity) or not. Attach the Charge Indicator to the solar product's lead wire. The LED light will blink if there is sufficient power. **NOTE:**

Solar chargers/solar power kits will function only when exposed under direct sunlight.

c. **Disconnect all batteries after use.**

Wiring

Note: Only a licensed electrician and a licensed building contractor can safely design and implement a grid tie-in system. Any grid tie-in system must meet all applicable building and electrical codes, and must meet standards established by the area power company.

1. Run wires from panels, through weatherproof grommets and into enclosure where charge controller/regulator is located. Use wires of the proper size and rating and use twist connectors (not included) to connect wires.
2. Secure all connections using terminals, or solder all wire splices to ensure good connections.
3. Weatherproof all connections and route the wire in a way that it will not be torn loose from the panel.



TO PREVENT SERIOUS INJURY FROM ELECTRIC SHOCK OR CUTS:
Do not use damaged adapters.
If wiring insulation is damaged or weathered, solar panel glass is cracked, or housing is opened, have the problem corrected before further use.

Cleaning

Clean and inspect all adapters and the Solar Power system used with these adapters **MONTHLY**, or more frequently to maintain peak efficiency.

1. **Wear electrically insulated gloves and ANSI-approved safety goggles.**
2. Inspect the general condition of the Solar Power System, including panel, batteries, controllers, and mounting connections. Check for loose hardware, wiring insulation damage or weathering, cracked glass, open housing, cracked or broken parts, loose or corroded contacts, and any other condition that may affect its safe operation.
3. Inspect and maintain batteries according to supplier's instructions.

Servicing



Procedures not specifically explained in this manual must be performed by a qualified technician.

⚠️WARNING

TO PREVENT SERIOUS INJURY FROM ELECTRIC SHOCK:

Before service, maintenance or cleaning:

- a. **Dry outdoor wiring thoroughly while wearing electrically insulated gloves.**
- b. **Disconnect solar panel after use.**

90 Day Warranty

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

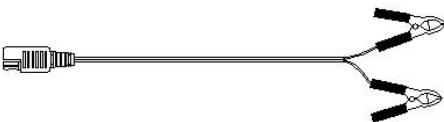





To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

Parts List and Diagrams

Part	Description		Qty.
1	Battery Clamps		1
2	Dual Extension Connector		1
3	Male Cigarette Lighter Plug		1
4	Female Cigarette Lighter Plug		1
5	12V Adapter		1
6	LED Charge Indicator		1

Record Product's Serial Number Here: _____

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

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