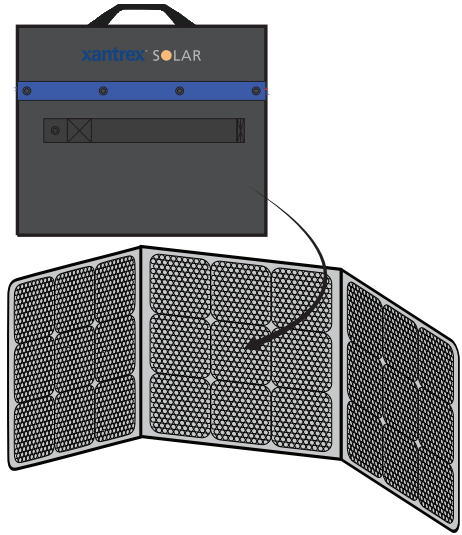
xantrex™
A MISSION CRITICAL ELECTRONICS BRAND



[100W Xantrex Solar Portable Flex Kit shown]

xantrex™ SOLAR

100W Xantrex Solar Portable Flex Kit

Model Number: 783-0100-01

100W Xantrex Solar Portable Kit

Model Number: 782-0100-01

160W Xantrex Solar Portable Kit

Model Number: 782-0160-01

NOTE: Actual product may be different from what is shown.

Owner's Guide

Exclusion for Documentation

UNLESS SPECIFICALLY AGREED TO IN WRITING, SELLER

(A) MAKES NO WARRANTY AS TO THE ACCURACY, SUFFICIENCY OR SUITABILITY OF ANY TECHNICAL OR OTHER INFORMATION PROVIDED IN ITS MANUALS OR OTHER DOCUMENTATION;

(B) ASSUMES NO RESPONSIBILITY OR LIABILITY FOR LOSSES, DAMAGES, COSTS OR EXPENSES, WHETHER SPECIAL, DIRECT, INDIRECT, CONSEQUENTIAL OR INCIDENTAL, WHICH MIGHT ARISE OUT OF THE USE OF SUCH INFORMATION. THE USE OF ANY SUCH INFORMATION WILL BE ENTIRELY AT THE USER'S RISK; AND

(C) REMINDS YOU THAT IF THIS MANUAL IS IN ANY LANGUAGE OTHER THAN ENGLISH, ALTHOUGH STEPS HAVE BEEN TAKEN TO MAINTAIN THE ACCURACY OF THE TRANSLATION, THE ACCURACY CANNOT BE GUARANTEED. APPROVED CONTENT IS CONTAINED WITH THE ENGLISH LANGUAGE VERSION WHICH IS POSTED AT http://www.xantrex.com.

Contact Information

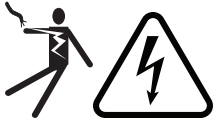
Telephone:	+1-800-670-0707 / +1-408-987-6030
Email:	customerservice@xantrex.com, http://www.xantrex.com/power-products-support/
Web:	http://www.xantrex.com

Safety Information

Important Information

READ AND SAVE THIS OWNER'S GUIDE FOR FUTURE REFERENCE.

Read these instructions carefully and look at the equipment to become familiar with the device before installing, operating, configuring, maintaining, and troubleshooting it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of either symbol to a "Danger" or "Warning" safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

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.

Product Safety Information

1. Before using the solar portable kit, read all instructions and cautionary markings on the solar portable kit's components, the batteries, and all appropriate sections of this guide.
2. Use of accessories not recommended or sold by the manufacturer may result in injury to persons, a risk of electric shock, or a risk of fire.
3. The solar portable kit is designed to be connected to your DC electrical systems. The manufacturer recommends that all wiring be done by a certified PV technician or electrician to ensure adherence to the local and national electrical codes applicable in your jurisdiction.
4. To avoid a risk of fire and electric shock, make sure that existing wiring is in good condition and that wire is not undersized. Do not operate the solar portable kit with damaged or substandard wiring.
5. Do not operate the solar portable kit if it has been damaged in any way.
6. This solar portable kit does not have any user-serviceable parts. Do not disassemble the solar portable kit except where noted for connecting wiring and cabling. See your warranty for instructions on obtaining service. Attempting to service the solar portable kit yourself may result in a risk of electrical shock or fire.
7. To reduce the risk of electrical shock, disconnect all DC power sources from the solar portable kit before attempting any maintenance or cleaning or working on any components connected to the solar portable kit.
8. Do not expose the solar charge controller to rain, snow, or liquids of any type. This product is designed for dry-locations-use only. Damp environments will significantly shorten the life of this product and corrosion caused by dampness will not be covered by the product warranty.
9. To reduce the chance of short-circuits, always use insulated tools when installing or working with this equipment.
10. Remove personal metal items such as rings, bracelets, necklaces, and watches when working with electrical equipment.

⚠WARNING

ELECTRIC SHOCK AND FIRE HAZARD

- Do not use the charge controller included with this portable kit with any other products.
- Use only the supplied PV panel configuration. Do not connect any other panels in series or parallel.
- Do not ground any PV conductors. The portable kit has a common positive design.
- Portable use only. Do not permanently install on RVs or mobile homes.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

⚠WARNING

ELECTRIC SHOCK AND FIRE HAZARD

- Do not install the portable kit on top of an RV roof or any vehicle roof.
- Do not install the portable kit on top of a residential structure.
- Do not connect the portable kit's charge controller to a residential electrical system.
- Never use Lithium Ion type batteries, as this product is not designed for use with these battery types and doing so could result in an explosion.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

⚠WARNING

BATTERY TYPE HAZARD

Charge only properly rated 12 VDC lead-acid (Sealed (AGM), Gel, Flooded) rechargeable batteries because other battery types, such as lithium ion, may explode.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

FCC Information

This equipment (the charge controller) has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

⚠CAUTION

Unauthorized changes or modifications to the equipment could void the user's authority to operate the equipment.

This device (the charge controller) complies with (ISED Canada) Industry Canada EMC standard(s), pursuant to ICES-003, Class B. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

End of Life Disposal

The Xantrex Solar Portable Kit is designed with environmental awareness and sustainability in mind. At the end of its useful life, the portable kit can be decommissioned and disassembled. Components which can be recycled must be recycled and those that cannot be recycled must be disposed of according to local, regional, or national environmental regulations.

Many of the electrical components used in the Xantrex Solar Portable Kit are made of recyclable material like steel, copper, aluminum, and other alloys. These materials can be auctioned off to traditional scrap metal recycling companies who resell reusable scraps.

Electronic equipment such as the circuit boards, connectors, and fuses can be broken down and recycled by specialized recycling companies whose goal is to avoid having these components end up in the landfill.

For more information on disposal, contact Xantrex.

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Contents

Introduction

Thank you for purchasing the Xantrex Solar Portable Kit. The Xantrex Solar Portable Kit is a high quality, carbon emissions-free, and sustainable power source. In conjunction with the included solar charge controller, it is designed to harvest solar energy using the portable solar panels, quietly produce power for your DC portable power packs and your vehicle's DC appliances, and store energy to a battery during daylight hours. The portable kit has added convenience of portability and easy handling.

To get the most out of your Xantrex Solar Portable Kit, carefully read and follow the instructions in this guide. These instructions include safety instructions that must be observed during transporting and handling of the solar panels and setting up for collecting solar energy.

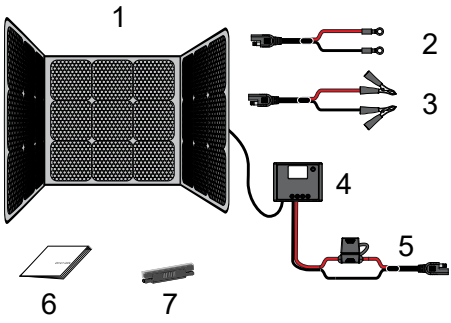
The portable kit is equipped with the following features:

- compact, lightweight, foldable solar panel with built-in support legs for tilting
- easy-to-connect battery extension cables with ring terminals and alligator clips
- the charge controller protects the battery from being over-charged
- the charge controller in this kit employs a 3-stage pulse width modulation (PWM) charging algorithm optimized for charging 12 VDC nominal rated lead-acid (Sealed (AGM), Gel, or Flooded) rechargeable batteries

NOTE: The charge controller has additional features not required in the utilization of the portable kit for charging batteries. See the charge controller's separate guide for these features.

Materials List

The portable kit base package includes the following items:



1	one portable solar panel (3-panel Flex-type shown)
2	one 2-ft. battery adapter cable with ring terminals and SAE connector
3	one 2-ft. battery adapter cable with alligator clips and SAE connector
4	one pre-wired charge controller
5	one 11 ft (Portable Flex) or 12 ft (Portable) pre-wired battery extension cable with SAE connector and a built-in fuse
6	one Owner's Guide
7	one SAE reverse-polarity Adapter Connector

NOTE: If any of the accessories and other items are missing, contact Xantrex or any authorized Xantrex dealer for replacement. See *Contact Information on page 1*.

Installation

Please read this section for safety information regarding assembling and connecting your portable kit.

Read this entire section so you can plan the assemblyfrom beginning to end.

Tools and Materials

You may, depending on the battery, need the following tools to connect the supplied ring terminated battery adapter cable to the battery:

- Screwdriver set
- Wrench set

NOTICE
REVERSE POLARITY • Check polarity at all terminals before making the final DC connection. Pos(+) (red) must connect to pos(+) (red); Neg(–) (black) must connect to neg(–) (black) • Reversing the pos(+) (red) and neg(–) (black) battery cables may blow the fuse. **Failure to follow these instructions can result in equipment damage.**

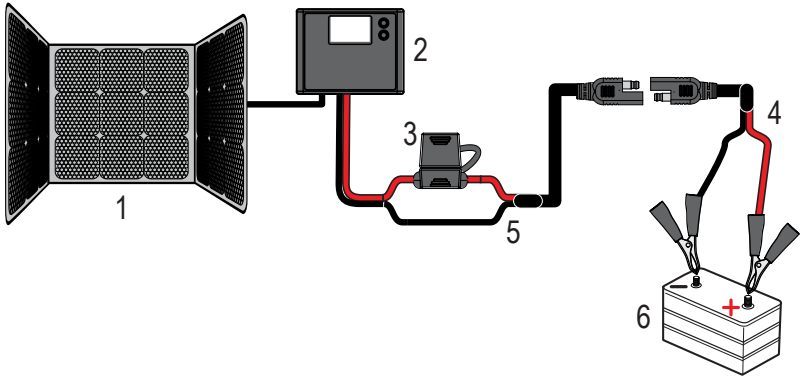
Basic Connection Steps

1. Depending on your power needs and installation type, you may select from a number of solar panel kits available below.

Type[a]	100 W	160 W
Rigid	✓	✓
Flex	✓	

Figure 1 Cable connection diagram

NOTE: For illustration purposes only. Not to scale.

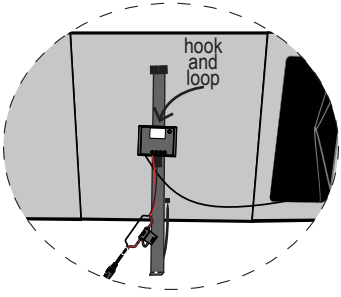


1	Solar panel (Flex)	3	DC fuse	5	Extension cable
2	Charge controller	4	Adapter battery cable	6	Battery

[a]The Xantrex Solar Portable Kits are designed to be easily handled, transported, and assembled from location to location.

2. If you have the Flex-type portable kit:

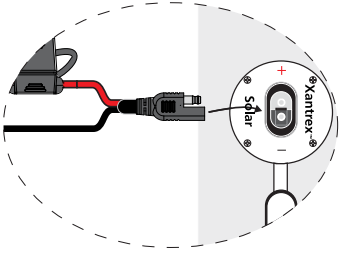
Figure 2 Unpack the accessories



a. Take out the charge controller with the extension cable from the side pouch.
b. Attach the charge controller unit to the hook-and-loop fastener on the panel's tilting leg.
c. Take out the adapter battery cables from the side pouch.

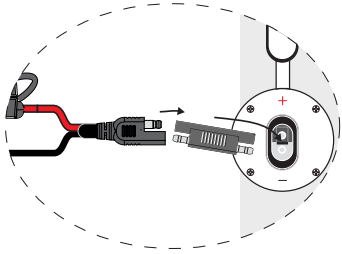
3. If you have the Rigid-type portable kit:
   a. Open the solar panel case and take out the adapter battery cables.
   b. Keep the solar panel case open with the solar cells facing the ground.
4. Connect the adapter battery cables to the battery.

Figure 3 Connecting to a Xantrex-branded RV sidewall SAE port



a. If your RV is equipped with a Xantrex-branded sidewall SAE port, you can connect the 11 ft (Flex Portable) or 12 ft (Portable) pre-wired battery extension cable's SAE connector to the sidewall SAE port.

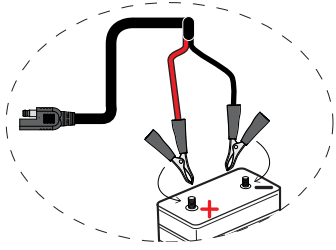
Figure 4 Connecting to a non-Xantrex-branded sidewall SAE port



b. If your RV is equipped with a non-Xantrex-branded sidewall SAE port, check the polarity of the sidewall port first.

c. If the polarity of the non-Xantrex-branded sidewall SAE port is reversed from the 11 ft (Flex Portable) or 12 ft (Portable) pre-wired battery extension cable's SAE connector, then attach the SAE reverse-polarity Adapter Connector to it and then connect it to the sidewall SAE port.

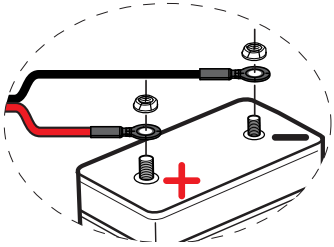
Figure 5 Connecting alligator clips



d. If you are using the supplied adapter battery cable with alligator clip:
   - attach the red pos (+) alligator clip to the pos (+) battery terminal
   - attach the black neg (–) alligator clip to the neg (–) battery terminal

NOTE: See *NOTICE* regarding reverse polarity.

Figure 6 Connecting ring terminals

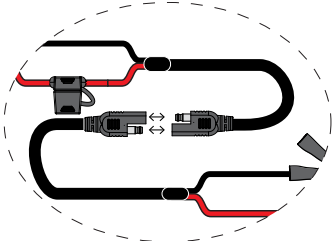


e. If you are using the supplied adapter battery cable with ring terminals, prepare the tools specified under *Installation*.
   - attach the red pos (+) ring terminal to the pos (+) battery terminal and secure with a battery terminal nut (not supplied)
   - attach the black neg (–) ring terminal to the neg (–) battery terminal and secure with a battery terminal nut (not supplied)

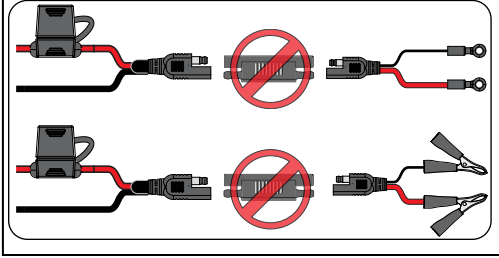
NOTE: See *NOTICE* regarding reverse polarity.

5. Attach the connector of the extension cable to the connector of the adapter battery cable. The connector is designed to maintain the correct connection polarity.

Figure 7 Connecting the SAE connectors



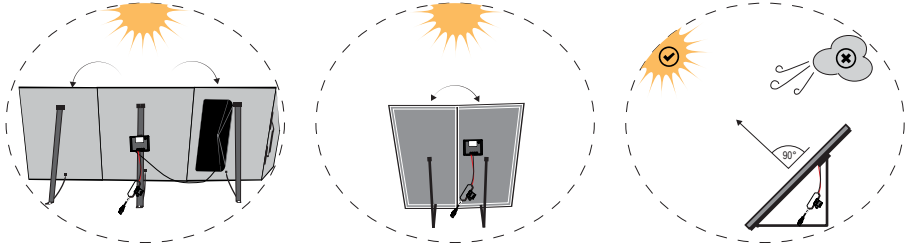
NOTE: Do not use the SAE reverse-polarity Adapter Connector as shown.



6. Unfold the portable kit and position the portable kit in a safe, well lit, and unobstructed area for maximum sun exposure. The placement location must be free from walk-ways and other potential trip hazards.
   a. Use the built-in support legs to prop up the solar panel in place. Alternatively, you may lay the solar panel flat on any surface. See *CAUTION* regarding personal injury or property damage.
   b. Point the solar panel surface towards direct sunlight and manually adjust accordingly as sunlight moves about during the day.

c. Check the LCD display of the charge controller for indications of power.
NOTE: The charge controller has no power switch and the LCD display turns on immediately when power is detected.

Figure 8 Positioning the solar panels



⚠CAUTION

PERSONAL INJURY OR PROPERTY DAMAGE

- Anchor the Flex-type portable solar panel using the built-in eyelets around the edges and on the support legs of the panel using pegs (not supplied).
- Do not use the portable solar panel in excessive windy conditions.
- Pack away and store after each use. Do not leave out, when not in use -- for safety and to maximize the life of the product.

Failure to follow these instructions can result in personal injury or equipment damage.

7. Using the solar charge controller panel, select the battery type. For operating instructions, see the separate charge controller Owner's Guide.

Troubleshooting

⚠WARNING

ELECTRICAL SHOCK HAZARD

- Do not disassemble the charge controller unit. It does not contain any user-serviceable parts. Attempting to service the unit yourself could result in an electrical shock or burn.
- If the in-line fuse on the positive (+) battery cable blows, replace only with exactly the same rating and type of fuse. For reference, see *Specifications on page 19*.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

NOTE: To obtain service go to *Contact Information on page 1*.

Common Issues

Problem	Possible Cause	Solution
Battery does not get charged even when sunlight is present.	Solar panel is partially shaded or there is insufficient sunlight.	Move the solar panel to a different location so that it faces the sun directly at noon position.
	Loose or no DC cable connections.	Connect DC cables to the battery and solar panel and tighten terminal connections.
	Fuse is blown.	Check the DC blade fuse on the battery cable and replace the fuse with the same type and rating as the old fuse.
The charge controller is indicating an event condition.	Battery over-discharge or over-voltage event condition.	See the charge controller's Owner's Guide for more further instructions.

Specifications

NOTE: Specifications are subject to change without prior notice.

Torque Specifications for Fasteners	
10A charge controller terminal screws	4.4 lb-in (0.5 N-m)

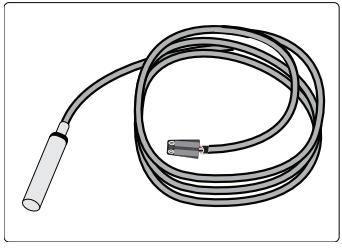
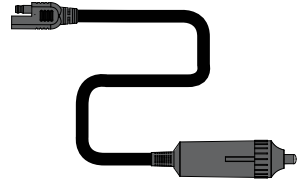
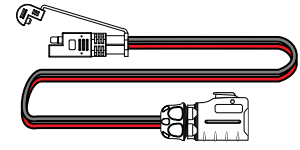
Solar Panel Specifications

100W Xantrex Solar Portable Flex Kit

Physical dimension (folded)	520 × 435 × 20 mm
Physical dimensions (expanded)	1515 × 520 × 5 mm
Unit weight	4.45 kg
Operating temperature	-40° –85°C (-40° –185°F)
Total rated power	100 W
Max power voltage	19.1 V
Max power current	5.24 A
Open circuit voltage	22.9 V
Short circuit current	5.66 A
Battery cable in-line fuse	ATO/ATC blade-type fuse 7.5A

Solar Panel Specifications	
100W Xantrex Solar Portable Kit	
Physical dimension (folded)	460 × 670 × 70 mm
Physical dimensions (expanded)	920 × 670 × 35 mm
Unit weight	8.5 kg
Operating temperature	-40° –85°C (-40° –185°F)
Total rated power	100 W
Max power voltage	21.4 V
Max power current	4.68 A
Open circuit voltage	21.4 V
Short circuit current	4.96 A
Battery cable in-line fuse	ATO/ATC blade-type fuse 10A
160W Xantrex Solar Portable Kit	
Physical dimension (folded)	710 × 670 × 70 mm
Physical dimensions (expanded)	1420 × 670 × 35 mm
Unit weight	12.5 kg
Operating temperature	-40° –85°C (-40° –185°F)
Rated power	160 W
Max power voltage	19.2 V
Max power current	8.34 A
Open circuit voltage	23 V
Short circuit current	8.7 A
Battery cable in-line fuse	ATO/ATC blade-type fuse 10A

Accessory List

Accessories (Sold Separately). Contact a Xantrex authorized dealer to order.		
Remote Battery Temperature Sensor (PN: 708-0080)	PV Adapter Cable DC Plug (PN:708-0110)	2PIN Connector Battery Adapter Cable (PN: 708-0120)
		

Solar Portable Kit List

Model Number	782-0100-01	782-0160-01	783-0100-01
Rating	100 W	160 W	100 W
Type	Rigid		Flex
Portable solar panel	✓	✓	✓
10A Charge Controller	✓	✓	✓
11 ft pre-wired battery extension cable with SAE connector and a built-in fuse			✓
12 ft pre-wired battery extension cable with SAE connector and a built-in fuse	✓	✓	
one 2-ft. battery adapter cable with ring terminals and SAE connector	✓	✓	✓
one 2-ft. battery adapter cable with alligator clips and SAE connector	✓	✓	✓

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