The Truecharge2 12V 10A Battery Charger ships with the following items:

- owner's guide,
- the leader in high-frequency inverter design and battery chargers.

Preparing for Installation

WARNING

PHYSICAL INJURY HAZARD

- Do not expose the battery charger to rain, snow, or salty water.
- Do not operate the battery charger if it has received a sharp blow, been dropped, been activated or in the enclosure, if it is otherwise damaged.
- Do not disassemble the battery charger. There are no user-serviceable parts inside.
- Do not use the battery charger if it has been dropped, has cracks or openings in the enclosure, or is otherwise damaged. If in doubt, consult your local distributor or manufacturer.
- Do not use the battery charger if it is not working as intended. If the battery charger does not operate as expected, consult your local distributor or manufacturer.
- Do not store the battery charger in a damp or humid environment.
- Do not store the battery charger near heat sources or in direct sunlight.
- Do not store the battery charger in a location where it is exposed to extreme temperatures.
- Do not store the battery charger in an environment with high humidity.
- Do not store the battery charger in a location where it is exposed to high levels of dust or debris.
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1. Mount the charger in position. The charger should be mounted in a location that is accessible and easy to access for the user. This location should be secure and well-ventilated. Failure to follow these instructions will result in death or serious injury.

DC Wiring Examples Based on ABYC

1. Choose a location for the battery charger that is dry, clean, cool, ventilated, safe, not accessible to unauthorized persons, and has a free flow of air around the unit to ensure proper cooling. Failure to follow these instructions will result in death or serious injury.

2. Place the battery charger on a flat deck (A) or wall (B) and ensure that it is securely fastened to prevent it from becoming loose. Failure to follow these instructions will result in death or serious injury.

3. Connect the DC ground from the ground terminal to the ground bus. The DC ground is required to prevent electrical shock and to ensure the safety of the user. Failure to follow these instructions will result in death or serious injury.

4. Connect the DC chassis ground (earth) from the ground terminal to the ground bus. The DC chassis ground is required to prevent electrical shock and to ensure the safety of the user. Failure to follow these instructions will result in death or serious injury.

5. Plan the route that the DC wires will follow, keeping it as short as possible. Measure and record the length of the DC wires. Failure to follow these instructions will result in death or serious injury.

6. Identify the positive wires, by using color-coded wire, or by marking both ends of the DC wires with colored tape. Failure to follow these instructions will result in death or serious injury.

7. Install a DC circuit breaker or fused disconnect in each positive cable that is closest to the battery terminal positive as possible. Failure to follow these instructions will result in death or serious injury.

8. Connect the positive cable from the positive terminal on the negative ground bar or bus to the positive terminal on the charging device. Failure to follow these instructions will result in death or serious injury.

9. Connect the negative cable from the negative terminal on the negative ground bar or bus to the negative terminal on the charging device. Failure to follow these instructions will result in death or serious injury.

10. Connect the AC supply wiring from the charger to the AC panel feeding the charger. Failure to follow these instructions will result in death or serious injury.

11. Connect the AC supply wiring to the AC panel feeding the charger. Failure to follow these instructions will result in death or serious injury.

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34. Connect the AC supply wiring to the AC panel feeding the charger. Failure to follow these instructions will result in death or serious injury.
Battery Installation

Battery installation should always be treated like a brand new installation. This means that all safety and precautionary guidelines that were followed prior to and during the installation of the battery charger, must again be followed to avoid risks of electrical shock, injury, or death.

DANGER

To replace the old battery:
1. Turn off the AC source by disconnecting the AC source disconnect.
2. Switch off all devices operating from currently installed batteries.
3. Disconnect the batteries from the old charger.

NOTE: For Negative chasing systems, disconnect the negative cable first, then the positive cable.

For Positive chasing systems, disconnect the positive cable first, then the negative cable.

Inspect all AC and DC cables for damage and repair, if necessary.

NOTE: For Negative chasing systems, disconnect the negative cable first, then the positive cable.

To replace an old battery:
1. If possible, disconnect any heavy loads on the batteries being charged, by opening disconnect switches or by switching the loads off.
2. Wait approximately 20 seconds or until all lights on the charger have gone out.
3. Turn on AC. The charger will then perform a battery detection.

NOTE: Always be aware of the temperature of the battery and the environment.

IMPORTANT: The new battery must be charged to the same charge rate as the old battery; temperature or otherwise, before testing the battery performance. See “Setting the Battery Type” and “Configuring the Battery Type”.

Multi-Stage Charging

The Truecharge2 Battery Charger has two outputs that share the full rated current enabling it to charge two different batteries or battery banks that either have the same chemistry or can tolerate the same charge sequence and thresholds. The Truecharge2 Battery Charger provides operational three-stage charging (Bulk, Absorption, and Float).

IMPORTANT: The battery charger will not charge unless the input voltage is sufficiently greater than the battery’s voltage. Battery voltage will “gasp” (produce hydrogen and oxygen) when its voltage exceeds the “gassing” voltage.

The charger will “gas” when its voltage exceeds the “gassing” voltage. The charger will also automatically turn off if the voltage drops below 12.5 V for 15 minutes. After 7 days, the charger will automatically restart the charging cycle in the Bulk stage if lowest battery voltage of the battery banks drops below 12.5 V for 15 minutes.

Time

1. Press and hold the Battery Temp. Select button for three seconds to advance to the next temperature setting.
2. Select the proper battery type.

The LEDs will indicate which of the four types is being selected: Flooded (default), Gel, Lead Calc., and AGM.

To reduce the battery’s temperature, the charger will automatically reduce the charging current by 25%.

Charging Battery Temperature

CAUTION

Setting the Battery Temperature

Do not set a battery temperature that is lower than the actual temperature as this can cause the battery to be overcharged. Similarly, do not set a battery temperature that is higher than the actual temperature as this may cause the battery to be undercharged.

Failure to follow these instructions can damage the unit and/or damage other equipment.

NOTE: Always be aware of the temperature setting, observe the battery’s actual temperature and adjust the Battery Temperature setting accordingly. For varying conditions, use the Battery setting.

To configure the battery temperature:

NOTE: By default, the battery type is set to Warm.

1. Press and hold the Battery Temp. Select button for three seconds to advance to the next setting.
2. Select the appropriate battery temperature setting.

The LEDs will indicate which of the three types is being selected: Cold, Hot, or Cold.

NOTE: By default, the battery temperature setting is set to Cold.

Configuring the Battery Bank Type

NOTE: By default, the battery type is set to Flooded.

1. Press and hold the Battery Type Select button for three seconds to advance to the next type.
2. Select the proper battery type.

The LEDs will indicate which of the four types is being selected: Flooded (default), Gel, Lead Calc., and AGM.

Charging Battery Sets

The Truecharge2 Battery Charger charging process is designed to make the battery or battery banks reach the maximum voltage of the voltage sets.

Charging Maximum Voltages

Battery Type

Voltage

Flooded

Gel

Lead Calc.

AGM

14.2

14.3

14.4

15.5

Charging Temperature

-5°C to 60°C

-5°C to 60°C

-5°C to 60°C

-5°C to 60°C

Charging Experience

The Truecharge2 Battery Charger will allow you to configure your battery charger settings to suit your particular needs.

Charge

ABSORPTION

FLOAT

THE CHARGER TO ON, STANDBY, OR DISABLED

To turn ON the Truecharge2 Battery Charger:

1. Disconnect AC power at the source and disconnect all DC batteries.

To put the Truecharge2 Battery Charger into standby (See danger warning below): Disconnect AC power at the source (i.e., only the batteries are connected).

Furnace or Warning Condition versus Charging Output

The Furnace Output is in addition to the Charging Output (%). The icons at the top of the Onboard Display panel represent up to four different types of fault and warning conditions.

Failure to follow these instructions will result in death or serious injury.

NOTE: This is the only state where the battery charger is completely de-energized.

ELECTRICAL SHOCK HAZARD

Do not disconnect the battery charger. Internal capacitors remain charged for five minutes after AC power is disconnected. Disconnect both AC and DC power from the battery charger before attempting any maintenance or cleaning or working on any circuits connected to the battery charger. See note below.

To turn OFF (Disable) the Truecharge2 Battery Charger:

1. Disconnect the AC power at the source and disconnect all DC batteries.

WARNING: This is the only state where the battery charger is completely de-energized.

DANGER

Furnace or Warning Condition

If any of the LEDs

- High Charger Temp.
- Excessive Battery Temp.
- Excessive Battery Temp.
- Excessive Battery Temp.
- Excessive Battery Temp.

float (>65°C) LED flashing
- High Battery Temp.
- Low Battery Temp.
- Low Battery Temp.
- Low Battery Temp.
- Low Battery Temp.
- Low Battery Temp.

Fault (>40°C) LED flashing
- Reverse Polarity
- Reverse Polarity
- Reverse Polarity
- Reverse Polarity
- Reverse Polarity
- Reverse Polarity

Furnace (>15.5 volts) LED flashing
- Fuse fault
- Fuse fault
- Fuse fault
- Fuse fault
- Fuse fault
- Fuse fault

Disconnect AC and DC sources before replacing the fuse(s) on the battery charger. See “Replacing a Furnace Filter”.

The Truecharge2 Battery Charger provides a load of information about the status of the charger and the batteries. Ensure that all indicator LEDs on the Onboard Display panel will be illuminated at all times when the AC or DC power is applied to the Truecharge2 Battery Charger. This “power on” test indicates that the charger is now receiving AC power, and all LEDs on the charger are functioning properly.

When the Fault LED is red and the Battery LED is flashing, a fault condition is indicated. However, charging will continue during warning conditions.

The Truecharge2 Battery Charger will recover from fault conditions automatically when the cause of the fault has been diagnosed and corrected. Under fault conditions, the charging process and battery equalization process will continue while some fault conditions are indicated.

The Furnace/Warning Condition LED’s will normally illuminate as a solid red light for when there is a fault or a warning condition occurring in the battery charger. If any of the LEDs turn off intermittently at the same time that the Fault LED is either solid or flashing, a fault or warning condition has occurred.

IMPORTANT: A warning condition notifies the user of an impending problem and will not stop the charger from charging, while a fault condition will stop the charger from charging.
**Troubleshooting**

In the event that you have a problem with your Truecharge2 Battery Charger, the following tables will help you to identify the problem and offer possible solutions to the problem.

**Problem: The battery charger's output display panels do not turn on.**

**Possible cause**  
- Battery charging/Operation  
- AC feed disrupted  
- Power supply not connected to the charger.

**Remedy**
- Make sure power is present at the charger.
- Make sure battery charger is turned on.

**Problem: The battery charger completes a charging cycle but the battery voltage remains low.**

**Possible cause**  
- Battery has a damaged cell or has reached the end of its useful life.
- Battery has a shorted cell. Disconnect AC from the charger and check the battery or batteries.

**Remedy**
- Replace the battery.

**Problem: The battery charger appears to be taking too long to charge the battery.**

**Possible cause**  
- Battery capacity is too high for the battery charger.

**Remedy**
- Use a lower capacity battery charger.

**Problem: The battery charger's onboard display panel LEDs do not turn on.**

**Possible cause**  
- Battery charger over-temperature protection and automatic shut-down.

**Remedy**
- Place the charger in a cool location.

**Problem: The battery charger's output fuse is blown out.**

**Possible cause**  
- Batteries are not properly connected to the charger.

**Remedy**
- Ensure that the batteries are properly connected.

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**Specifications**

**Note:** Specifications are subject to change without notice.

<table>
<thead>
<tr>
<th><strong>Feature</strong></th>
<th><strong>Value</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input voltage</strong></td>
<td>120 VAC ± 10%</td>
</tr>
<tr>
<td><strong>Input frequency</strong></td>
<td>47–63 Hz</td>
</tr>
<tr>
<td><strong>Output voltage</strong></td>
<td>14.4 ± 0.3 VDC @ 25 °C (77 °F)</td>
</tr>
<tr>
<td><strong>Output current</strong></td>
<td>10 A</td>
</tr>
<tr>
<td><strong>Battery charging</strong></td>
<td>10 A</td>
</tr>
<tr>
<td><strong>DC output current</strong></td>
<td>10 A</td>
</tr>
<tr>
<td><strong>Power supply</strong></td>
<td>120 VAC ± 10%</td>
</tr>
</tbody>
</table>

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**Warranty and Return Information**

**What does this warranty cover?**

This Limited Warranty is provided by Xantrex Technology Inc. (Canada) or Xantrex Technology Inc. (USA) (collectively referred to as the "Warranty Period"). The Warranty Period for the Truecharge2 Battery Charger is two years from the date of purchase of the part or unit to which it relates.

**What does this warranty not cover?**

The Warranty Period is not transferable to subsequent owners only for the duration of the Warranty Period. The Warranty is limited to the original product or unit purchased as described in the "What proof of purchase?" section.

**What to do if Xantrex receives a warranty claim?**

During the Warranty Period, Xantrex will, at its option, repair or replace the product or unit, or refund the purchase price to the extent permitted by law. To obtain warranty service, contact your Xantrex Customer Service Representative.

**What if Xantrex does not replace a product or unit?**

Xantrex reserve the right to repair or replace products or units at its discretion. When a product or unit is repaired or replaced, its remaining warranty period is transferred to the new product or unit. Xantrex reserves the right to repair or replace products or units with new or reconditioned products or units.

**What is not covered by this warranty?**

The following items are not covered by this warranty:

- Batteries
- Batteries that have been replaced or refurbished
- Batteries that are not repairable
- Batteries that are not compatible with the Truecharge2 Battery Charger

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**Customer Service**

If your product requires troubleshooting or warranty service, contact your nearest authorized Xantrex reseller or contact Xantrex Customer Service at 877-347-4673 or 641-347-4673.

**Out of Warranty Service**

If the warranty period for your Truecharge2 Battery Charger has expired, the product may be returned to Xantrex for additional support at a fee. Please contact your authorized Xantrex reseller for details.

**Return Material Authorization Policy**

Before sending your product to Xantrex for repair, fill out a Return Material Authorization (RMA) form available at http://www.xantrex.com/support. You will be provided with a Return Material Authorization (RMA) number and return instructions. You must include the RMA number on your package.

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**Regulatory and safety**

**EMC**  

**FCC**  

**Protection features**

- Charger over-temperature protection and automatic shut-down
- Battery under-temperature protection
- Battery over-temperature protection
- Battery over-temperature protection
- Battery over-temperature protection
- Battery over-temperature protection

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**Null**

**Null**