

Xantrex Battery 36VDC Trolling Motor and Isolated Charger User Application Note

DANGER

HAZARD OF FIRE, ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

This Xantrex Battery 36VDC Trolling Motor and Isolated Charger User Application Note is in addition to, and incorporates by reference, the relevant product manuals for each product in the power system. After reviewing this guide you must read the relevant product manuals. Unless specified, information on safety, specifications, installation, and operation is as shown in the primary documentation received with the product. Ensure you are familiar with that information before proceeding.

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


DANGER

HAZARD OF FIRE, ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Always wear proper PPE (safety glasses and clothing) when working on the Li-ion battery and follow safe electrical work practices according to local codes.
- Do not wear metallic items such as watches or bracelets when working on the battery. Use insulated tools to prevent accidental short circuit.
- Do not install the Li-ion battery module adjacent to any heat source. Keep away from sources of ignition.
- Do not install or operate any of the system devices in a compartment containing flammable materials or in locations that require ignition-protected equipment.
- Do not use in vital, medical, or life-support applications.

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

Application

 Do not charge the battery system with a 36VDC battery charger. Do not charge a battery with a battery charger rated for a higher voltage than the nominal voltage of the battery. Failure to follow this instruction may damage the equipment.

Xantrex has specifically verified scenarios where three Xantrex 105Ah 12V Battery sets or three Xantrex 125Ah 12V Battery sets can be placed in series to operate higher voltage trolling motors. Specifically approved trolling motors must include variable speed control devices between the batteries and the thrust motor.

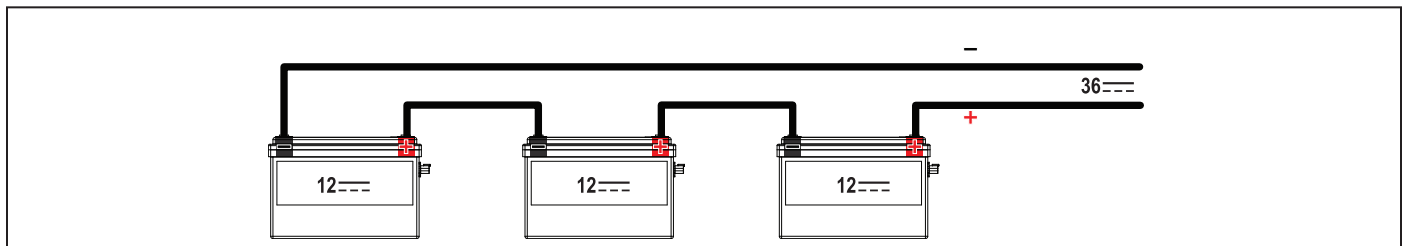
CAUTION

EQUIPMENT DAMAGE

Do not mix battery ampere-hour ratings or chemistries. The three must be either 105Ah|12V or 125Ah|12V lithium-ion Xantrex battery sets.

Failure to follow these instructions may damage equipment.

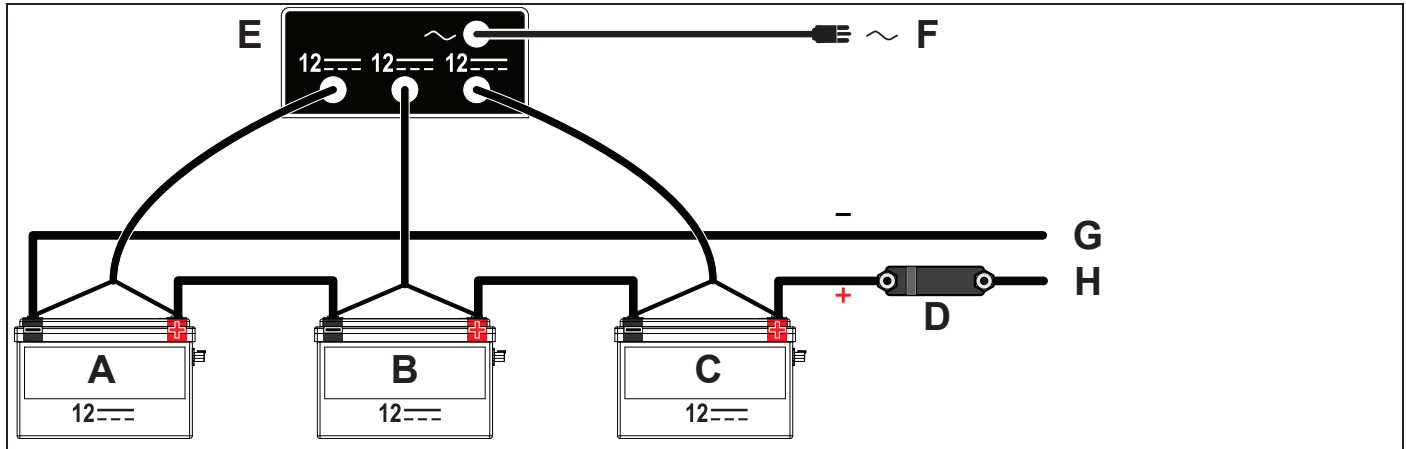
Figure 1 Xantrex Batteries in Series



You must follow the specifications below on how to connect the system while also following the motor manufacturer's and the Isolated Battery Charger's specifications.

NOTE: An over-current protection device (DC circuit breaker) is required to be sized correctly, having considered all the interconnected battery cables as well as power requirements from the trolling motor in the system as shown below.

Figure 2 Wiring Diagram: Xantrex Batteries in Series with an Isolated Battery Charger



A	12V Battery 1	IMPORTANT: Only Isolated Battery Chargers with 12VDC output(s) are compatible with Xantrex Lithium-Ion batteries (LiFePO4) in a series stacking scenario. DO NOT USE single-output 36VDC Battery Chargers with Xantrex Lithium-Ion Batteries.
B	12V Battery 2	
C	12V Battery 3	
D	DC Circuit Breaker	IMPORTANT: When a Xantrex Lithium-Ion battery becomes discharged to a very low state, it may need to be re-charged by an external power source. Some Isolated Battery Chargers may provide this feature.
E	Isolated Battery Charger	
F	AC Source	⚠ If another battery is used as the power source, its voltage must be higher than the measured voltage of the battery being re-charged. You must verify that the measured voltage difference between the two batteries does not exceed 1.0V or else an excessively large current may result.
G	NEG(-) bus	
H	POS(+) terminal	

Installation

⚠ Do not use the remote port on the battery. This will cause a battery failure and will void the warranty of the battery.

Three 12VDC Xantrex Lithium-Ion batteries are required. These batteries must be wired in series, only as shown in *Figure 2* above, to provide 36VDC.

1. Ensure all the batteries are turned off by pressing the button on the battery until the LED has turned off.
2. Ensure the Isolated Battery Charger is unplugged from the AC outlet and that all the LEDs on the unit have turned off
3. Connect the negative terminal of each independent charger output to the negative terminal of the battery and then the positive terminal.
 - ⚠ Ensure that the pairs are connected to the same battery. Ensure that all connections are torqued to the Xantrex battery manual's torque specifications.
4. Double check all connections for correct polarity.
5. Turn the batteries on.
6. Plug the Isolated Battery Charger into its power source and ensure that the battery type setting on the battery charger is Lithium-ion or Custom battery type setting.

NOTE: Ensure you operate the Isolated Battery Charger only when the trolling motor has been electrically disconnected from the battery using an over current protection device such as a DC circuit breaker.

⚠ Do not operate the trolling motor and the Isolated Battery Charger at the same time. Failure to follow this instruction may damage connected equipment.

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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>