



3000W

12VDC | 110-120VAC

PRODUCT MANUAL



Pure Sine Wave Inverter Charger

www.litime.com





UNITED STATES

- ◀ Register Warranty
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IMPORTANT SAFETY INSTRUCTIONS

Please read the following safety instructions carefully and perform installation and connection operations under the guidance of professionals. This manual contains important safety, installation, and operating instructions for the inverter charger.

General

- **Read all the instructions** and cautions in the manual before the installation.
- Installation and wiring must comply with the Local and National Electric Codes (NEC) and must be performed by a certified technician.
- There are no user-serviceable parts inside this product. **DO NOT** disassemble or attempt to repair the inverter charger.
- **ONLY 12V Battery Banks** are suitable for the inverter charger.
- The product is used with a permanent power source (battery and grid power). Input and/or output terminals may still be dangerously energized, even when the product is switched off. **ALWAYS** make sure the inverter charger is **in the OFF position** and **disconnect all AC and DC connections** before carrying out maintenance or servicing the product.
- Consult the battery manufacturer's information to ensure that the product is intended for use with the battery. Carefully check the specific requirements of the batteries used in the system and always follow the battery manufacturer's safety instructions.
- Never use the product where there is a risk of gas or dust explosions.

Installation

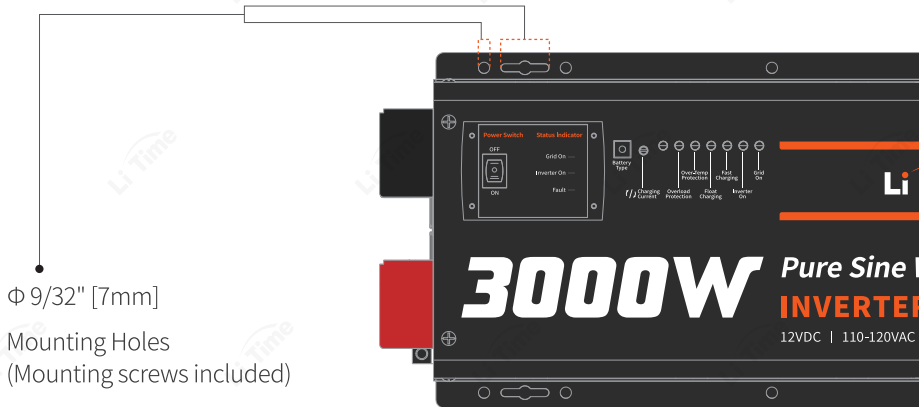
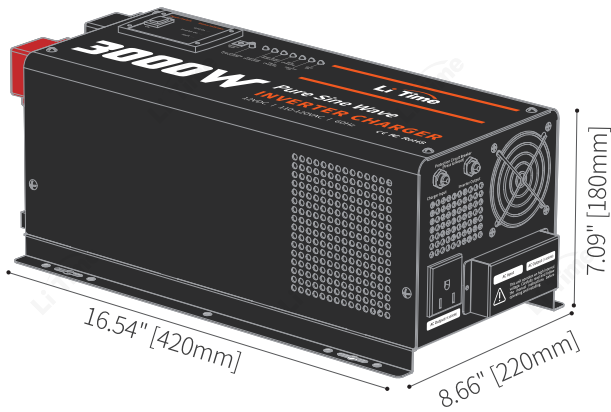
- It is recommended that the DC and AC input cables be fused and fitted with circuit breakers.
- NEVER connect the AC output of the product directly to an Electrical Breaker Panel/ Load Center which is also powered by the utility power/generator.
- Before applying power, ensure that the available power source matches the product configuration settings described in the manual.
- **DO NOT** connect the battery in reverse polarity, which can and will destroy the product and other electrical equipment.
- Keep the product away from sources of strong electromagnetic interference such as motors and strong magnetic fields.
- After installation, check whether all wiring connections are tight and reliable to avoid the danger of heat accumulation due to loose connections.

If you have any questions or need any help, please feel free to contact us (and leave your contact phone number) at service@litime.com, we will offer phone or email support in 12hrs.

PRODUCT OVERVIEW

LiTime 3000W Pure Sine Wave Inverter Charger

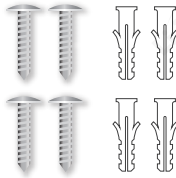
Rated Output Power	3000W
DC Input Voltage	10.5V to 16V
AC Input / Output Voltage	110V±10%
Charging Current	5A to 45A
Default Battery Type	LiFePO4



$\Phi 9/32"$ [7mm]
Mounting Holes
(Mounting screws included)

PRODUCT OVERVIEW

Additional components are included in the package.

Accessoriescode	Size	Image
Remote Control Panel*1	6.69 * 3.94 * 1.5in 17 * 10 * 3.8cm	
Remote Control Cable*1	23FT [7m]	
Remote Control Mounting Screws*4 / Plastic Anchors*4	Mounting Screws: Φ1/8" [3mm]*L25/32" [20mm] Plastic Anchors: Φ5/32" [4mm]*L63/64" [25mm]	
Inverter Mounting Screws*6	Φ15/64" [6mm]*L1.97" [50mm] (Drill a Φ19/64" [7.5mm] mounting hole)	
Slotted Screwdriver*1	/	
Copper Wire Connector*6	/	
Heat Shrink Tubing*6	/	



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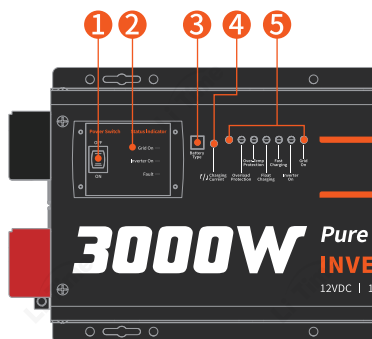
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IDENTIFICATION OF PARTS

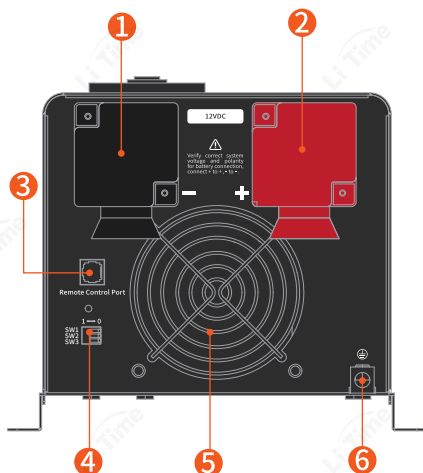
Top

No.	Item
1	Power Switch
2	Status Indicator
3	Battery Type Selection Knob
4	Charging Current Adjusting Knob
5	Detailed Status Indicator



DC Side

No.	Item
1	Battery Negative Terminal
2	Battery Positive Terminal
3	Remote Control Port
4	Setting Dip Switch
5	Cooling Fan
6	Ground Terminal



AC Side



No. Item

- | | |
|---|--|
| 1 | Charger Input Protection Circuit Breaker |
| 2 | Inverter Output Protection Circuit Breaker |
| 3 | Cooling Fan |
| 4 | AC Outlet
(Continuous Output Power $\leq 1000\text{W}$, 110-120VAC, 60Hz) |
| 5 | AC Terminal Block Cover |
| 6 | AC Input Terminal Block |
| 7 | AC Output Terminal Block
(Continuous Output Power $\leq 3000\text{W}$, 110-120VAC, 60Hz) |

INSTALLATION

1. The product should be installed by a qualified electrician.
2. Make sure the inverter charger is in the off position before connecting anything.

Choosing Location

Make sure the installation complies with the following guidelines.

○ In a well-ventilated, cool, and dry environment.

The product must be installed in an area protected from direct sunlight, high temperatures, and water. Make sure there is sufficient room for wiring and ventilation clearance from the DC and AC sides of the product. Clearance should be at least 12 inches [30cm].

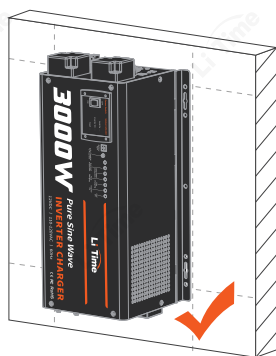
○ As close to the battery as possible.

Keep the product and battery as close as possible to minimize cable voltage loss and choose a proper wire size to connect the product and battery.

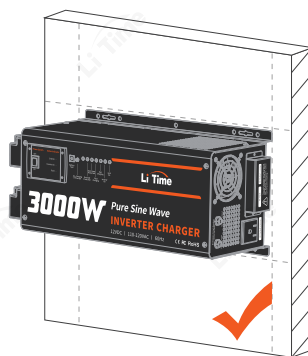
Securely placed or mounted.

- This product could be stand-alone or wall-mounted both horizontally and vertically. Horizontal mounting is preferred for optimum cooling.

Never place the inverter charger vertically on a vertical surface since this could block the fan opening, which is essential for the inverter charger's cooling.



VERTICAL



HORIZONTAL

☆ (Recommended)

Sizing a Battery Bank

The selection of the battery bank can be calculated to reach a suitable conclusion.

Data To Be Confirmed	The rated power(W) of the load ^① to be run.
	Expected runtime(Hrs) of the load.
	The nominal voltage of the selected battery type and voltage.
Reference Calculation Formula	$\text{Energy(Wh)} = \text{Load Power(W)} * \text{Runtime(Hrs)} / \text{Inverter Efficiency}^{\textcircled{2}}$
	$\text{Capacity(Ah)} = \text{Energy(Wh)} / \text{Battery Nominal Voltage(V)}$

①The rated power(W) of the load should be less than the continuous power supported by the inverter (**3000W** for this product).

②Inverter Efficiency=Inverter Output Power/Inverter Input Power, 85% is the usual conversion efficiency of the product under normal conditions.

For LiTime lithium batteries and this inverter charger, the battery bank will be 12 volts direct current (12 VDC) with 12.8V nominal voltage.

Example	
○ 1000W Load(s)	$1000\text{W} * 3\text{Hrs} / 85\% \approx 3529\text{Wh}$ $3529\text{Wh} / 12.8\text{V} \approx 276\text{Ah}$
○ 3Hrs runtime/day	
○ 12.8V lithium battery	

To use the 1000W load(s) for 3 hours per day, at least a 12V (12.8V) 276Ah lithium battery should be selected on an everyday battery fully charged basis.

If there are different requirements for the time to fully charge the battery, the calculation method will be more complicated. Please feel free to contact us at service@litime.com for a free recommendation of a customized solution.

Connecting

Grounding on DC side

Recommended Wire Gauge	12AWG
------------------------	-------

A grounding lug is included with the product for properly grounding to earth or another designated ground (for example, a metal frame of an RV). Ground connections must be tight and against bare metal. Grounding is highly recommended whether the inverter charger is used in a mobile application, such as an RV, or in a building.

Users and/or installers should consult the Local and National Electric Codes (NEC) for more specific grounding regulations and suggestions, as they can vary depending on the scenario.

DC Wiring

1. This product is **ONLY** suitable for a **12V battery bank**. Failure to comply with the proper DC voltage will cause irreversible damage to the product.
2. Avoid direct contact between the terminals of the positive and negative wires connected to the battery, and do not reverse the positive and negative connections. Damage to the LiTime inverter charger and battery due to reverse polarity is NOT covered by warranty.

Recommended Cable Sizing

Terminal	Recommended Cable Length		Cable Size
Battery	1.6-2 ft	50-60 cm	1/0 AWG
AC Input/Output	3-16 ft	1-5 m	10 AWG

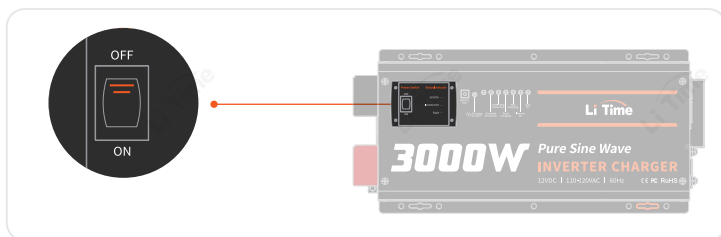
Recommended Fusing (Rated Current: 280A)

350A to 400A

(1.2 to 1.5 times the maximum continuous current)

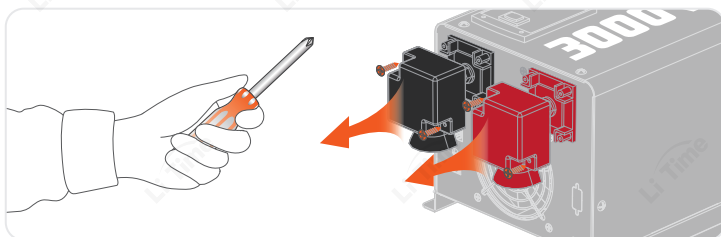
Step
1

Make sure the Power Switch is in the OFF position.



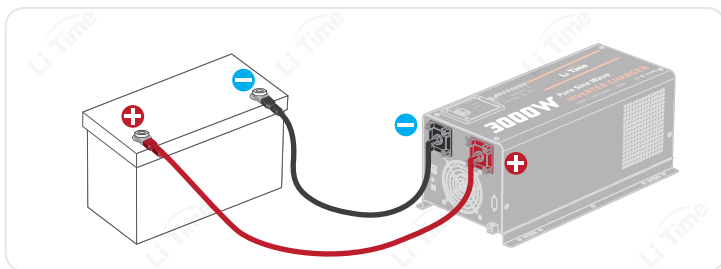
Step
2

Unscrew the terminal cover.



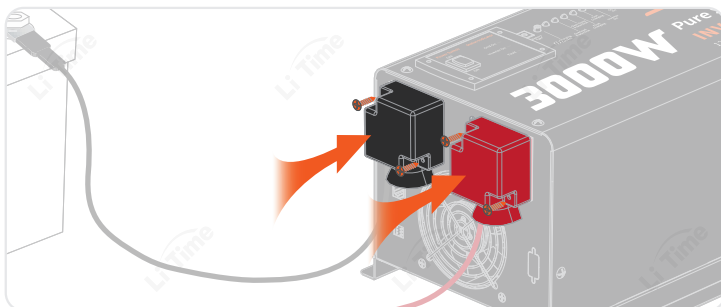
Step
3

Connect the battery to the inverter charger, **+** to **+**, **-** to **-**.



Step
4

Fix the terminal cover.



AC Wiring

1. Make sure the inverter is in the OFF position before connecting loads (electronic devices) to the AC outlets.
2. Avoid switching on the inverter with the load already turned on. This may trigger an overload since some electronic devices have an initial high power surge to start.
3. Be sure to turn off all loads first before switching off the inverter. Even if the inverter is turned off, the capacitors will still have a charge, so the DC and AC terminals must be disconnected if altering the circuitry.

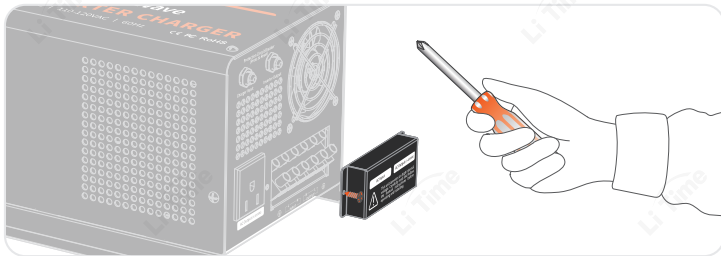
Step
1

Use the provided wire connectors and heat shrink tubing to prepare the cables for connection to the AC input and output terminal blocks.



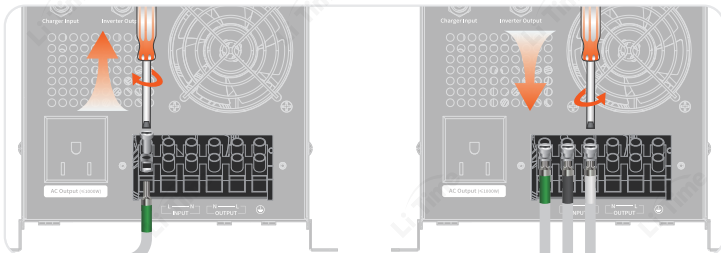
Step
2

Remove the AC terminal block cover.



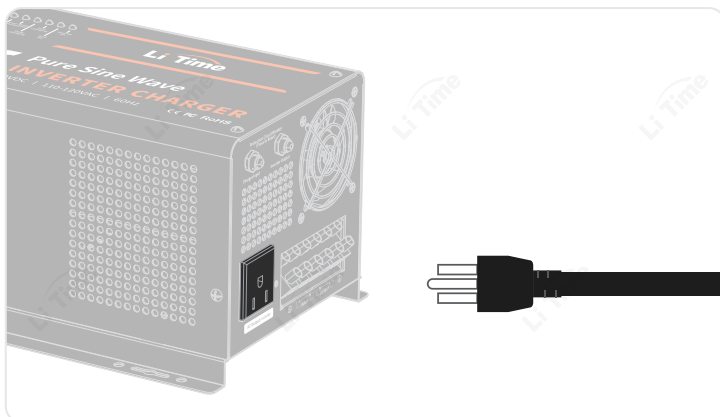
Step
3

Connect the AC input terminals from left to right (Ground→Live→Neutral), and the AC output terminals from right to left (Ground→Live→Neutral) with the provided slotted screwdriver.



Step 4

Connect the AC outlet when the continuous AC output power $\leq 1000W$.



Step 5

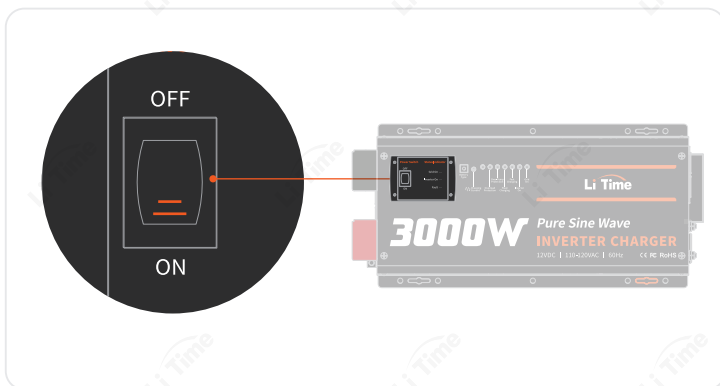
Complete the setup by referring to page 09.

○ Default Setting

Battery Type	LiFePO4		
Charging Current	Maximum		
Dip Switch (All Set to 0)	Grid/Inverter Priority	AC Input Range	N/A
	Grid First	110 to 127VAC	/

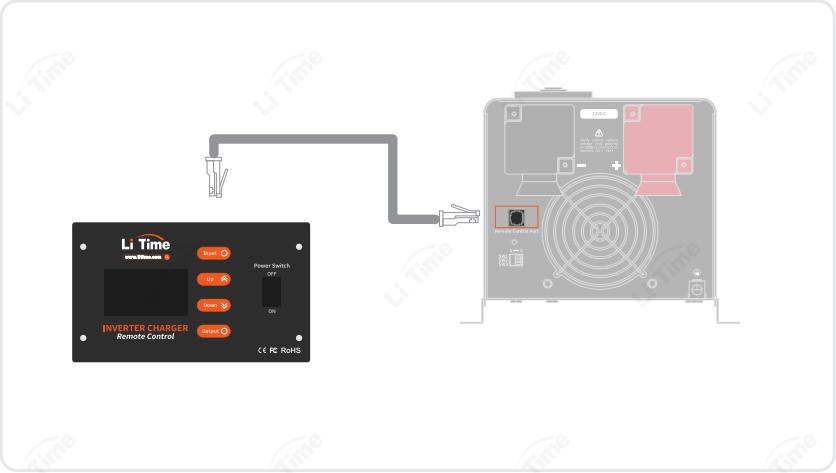
Step 6

Flip the Power Switch to ON to turn on the inverter.



Connecting to Remote Control

Connect the remote control cable to the panel and the remote control port.



Setting

Select Battery Type (Optional)

Use the provided slotted screwdriver to adjust the arrow to point to the code that corresponds to the battery type.

Adjust Charging Current (Optional)

Using either your hand or the provided slotted screwdriver, rotate the knob to modify the charging current. Turning clockwise decreases the current while turning counterclockwise increases it.

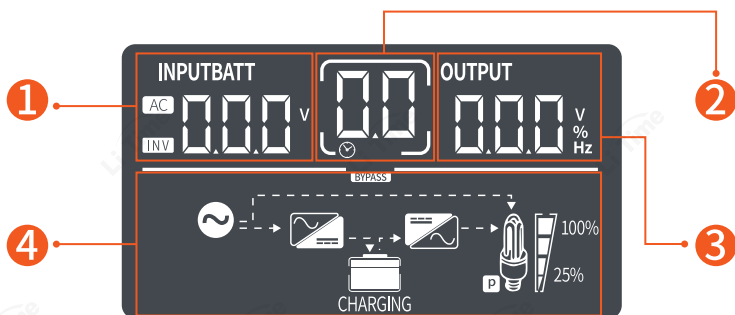
Set Dip Switch (Optional)

Flip the dip switch to 1 or 0 as needed.

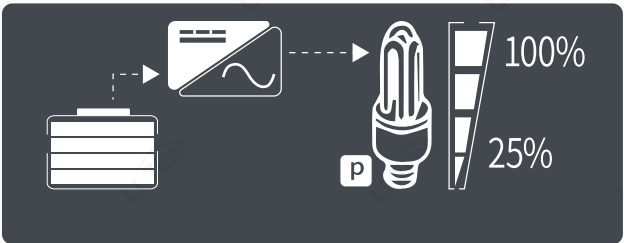
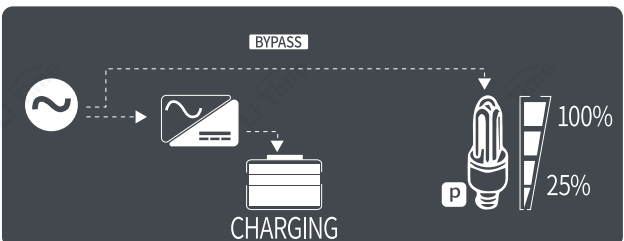
Switch	Feature	Set to 0	Set to 1
1	Grid / Inverter Priority	Grid First	Inverter (/Battery) First
2	AC Input Range	100-127VAC	90-135VAC
3	N/A	/	/

REMOTE CONTROL

LCD Screen



Icon	Function Description
1 Input Information	
	Indicates AC input and battery voltage.
2 Timer	
	Timer for no operation. If no operation is performed after 60 seconds, the screen will automatically turn off to save power.
3 Output Information	
	Indicates output voltage, output frequency, and load percentage.

Icon	Function Description
4 Mode Operation/Battery/Load Information	
	The product is connected to grid power.
BYPASS	The load is supplied by grid power.
	The grid power circuit is working.
	The inverter (/battery) circuit is working.
	Battery capacity percentage (Each block represents 25% of the battery power)
	Load level (Each block represents 25% of the load level)
Working Status	
	Inverter (/Battery) On
	Grid On

Operation

Short press “ **Input** ” or “ **Output** ” button and then short press “ **Up** ” or “ **Down** ” to cycle through different input/output information.

SPECIFICATIONS

Parameter	Value
Inverter	
Rated Output Power	3000W
Surge Power (10 seconds)	9000W
AC Output Voltage Range	110V±10%
AC Output Frequency	60Hz±0.3Hz
Output Wave Form	Pure Sine Wave
DC Input Voltage Range	10.5V to 16.0V
Optimal Efficiency	>88% Peak
No Load Power Consumption	<38W
Charger	
AC Input Voltage	110V±10%
AC Input Frequency	60Hz±0.3Hz
Optimal Efficiency	>88% Peak
Output Current	5A to 45A
General	
Battery Type	LiFePO4, AGM, SLA, Gel U.S.A, Gel European, Open Lead Acid, Calcium(Open), De Sulphation Cycle
Battery Terminal	M8
Operating Temperature Range	14°F to 104°F/-10°C to 40°C
Storage Temperature	14°F to 122°F/-10°C to 50°C
Dimension	16.54 * 8.66 * 7.09 inch / 420 * 220 * 180 mm
Weight	52lbs / 23.6kg

TROUBLESHOOTING

Problem	Possible Cause	Solutions
The inverter is not on after the initial power-up.	Batteries are not connected/Loose connection on the battery side /Low battery voltage.	Check the batteries and cable connections or DC fuse and breaker./ Charge the battery.
No AC output voltage and indicator lights are off.	Inverter has been manually switched to OFF position.	Turn the power switch to ON position.
AC output voltage is low, and the inverter turns loads off in a short time.	Low battery	Check the condition of the batteries and recharge if possible.
The charger does not work and the unit does not accept AC power.	AC voltage has exceeded the tolerance range.	Check the AC voltage for proper voltage and frequency.
Charger turns OFF while charging from a generator.	High AC input voltages from the generator.	Turn the generator output voltage down.



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