



OWNER'S MANUAL:

BASECAMP TRAILER V3



Owners/operators must read and comprehend the instructions in this Owner's Manual before using the Addax Outdoors Trailer, as it contains instructions that if not followed could result in death or serious injury. Reach out to Customerservice@addaxoutdoors.com for any questions.

TABLE OF CONTENTS

1. Introduction to the Owner's Manual
2. Purchase Content
3. Breaking in a New Trailer
4. Accessories
 - 4.1 Side Panel Functions
 - 4.2 Features
5. Common Hazards
 - 5.1 Jackknifing
 - 5.2 Loss of Control
6. Maintenance
 - 6.1 Jacking for Maintenance
 - 6.2 Washing
 - 6.3 Inspecting Frame Members and Fasteners
 - 6.4 Inspecting Welds
 - 6.5 Maintaining the Hitch and Coupler
 - 6.6 Maintaining the Jacks
 - 6.7 Maintaining Lights and signals
 - 6.8 Maintaining Wheel Rims
 - 6.9 Maintaining Wheel Bearings
 - 6.10 Maintaining Lug nuts or bolts
 - 6.11 Maintaining Tires
7. Tire Safety Information
 - 7.1 Tire labeling
 - 7.2 Tire care
 - 7.3 Recommended tire inflation pressure
 - 7.4 Terminology
8. Vehicle Load Limits
 - 8.1 Determining Your Trailer's Correct Load Limit
 - 8.2 Distributing Weight in Your Trailer
 - 8.3 Determining Your Tow Vehicle's Correct Load Limit
9. Hitch and coupling setup
 - 9.2 Coupling your trailer to the tow vehicle
 - 9.3 Uncoupling your trailer from the tow vehicle
 - 9.4 Achieving a Safe Tongue Weight
 - 9.5 Adjusting The Hitch Height
10. Reporting Safety Defects / Issues
11. External Documentation
 - 11.1 Centori Outdoors Roof Top Tent
 - 11.2 Expion 360 DC to DC Charger
 - 11.3 Explorer Bear Electric Fridge
 - 11.4 HardKorr Lightbars
 - 11.5 OVS Nomatic 270 Degree Awning
 - 11.6 Inverter

1. Introduction to the Owner's Manual

Well it's about time, dude. We can't wait to help you unpack your adventure.

But first, a word on safety.

Given the numerous applications and conditions this product could be used in, it is not possible to cover all specific risks. Always operate the trailer consciously. Owners must read and comprehend this Manual *before* use. Following the instructions in this Owner's Manual is just a part of the safety precautions. Users must always be alert to individual situations arising during use.

If the Owner's Manual does not address a specific question, please contact your dealer for assistance. ADDAX Outdoors is not responsible for damage to property or person resulting from misuse of any kind.

This Owner's Manual identifies a potential danger and its related risk by the following signal words:



NOTICE - Indicates information needed to prevent a situation that could result in damage to the equipment or other property.



CAUTION - Indicates information needed to prevent a hazardous situation, which, if not avoided, could result in minor or moderate injury.



WARNING - Indicates information needed to prevent a hazardous situation, which, if not avoided, could result in death or serious injury.

2. Purchase Content

Verify Contents

Take everything out before your first trip and confirm you have it all. Contact your dealer if anything is missing.

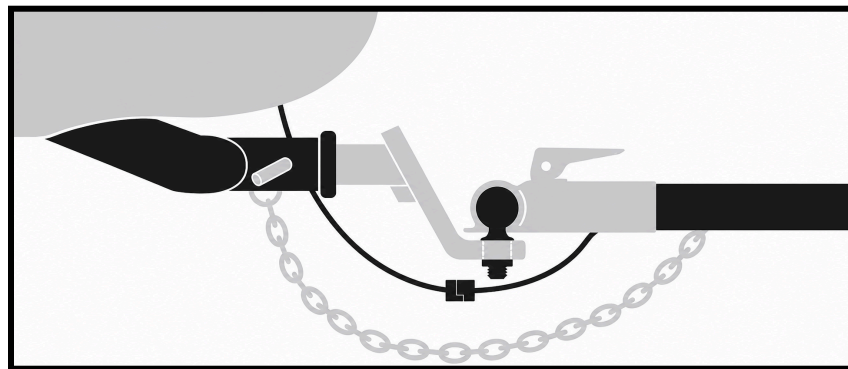
- Safety chains (x2)
- Hitch coupler — fits a 2" ball, fully assembled
- Awning hardware — Bag #1: ropes & stakes · Bag #2: extra leg poles · Bag #3: straps & protective foam
- Roof top tent hardware box
- Collapsible kitchen sink

Verify Operations

- Turn on the power switch and verify the fridge turns on and operates.
- Ensure any other accessories on the trailer operate as intended.
- If there are any issues with these steps, contact your dealer.

3. Breaking in a New Trailer

Coupling Reference:



First time use checklist:

- Hitch the trailer (more details on coupling in 9.2)
 - Level the trailer, ensuring at least two jack legs are dropped for support.
 - Install the tongue of the trailer into the front hitch receiver. There is a hitch pin, bolt, and flange nut used to install the removable tongue. Install them into the tongue under the trailer in the corresponding aligned holes. Ensure the trailer tongue is securely fastened to the trailer.
 - Ensure the tow vehicle has a **2" ball hitch** receiver securely fastened to the vehicle.
 - Ensure the trailer coupler is securely bolted to the end of the trailer tongue.

- Use the jack on the trailer tongue to raise/lower the hitch coupler to the correct height in order to connect the coupler to the receiver.
- Connect the 7 pin plug to the trailer. Connect the other end to the tow vehicle's trailer lights port.
- Connect emergency chains to the tow vehicle, being sure to cross the chains such that they cross sides below the tongue.
- Examine the lugnuts, and ensure they are securely fastened.

If there are any issues with these steps, contact your dealer.

When first operating your ADDAX Outdoors Trailer, you must check the Wheel lug nuts after the first 10, 25, and 50 miles of driving. Additionally, check the pins and bolts that hold the trailer tow components in place, and ensure they have not settled or loosened after the first 10, 25, and 50 miles.



Warning - Wheel lugs can shift and settle quickly after being first assembled, and must be checked after the first 10, 25, and 50 miles of driving. Likewise, all hardware between the trailer and tow vehicle are susceptible to the same loosening. Failure to perform this check may result in death or serious injury.

Retighten Lugs after doing any off-road activity. Improper tightening of the lug nuts or bolts voids the axle warranty. Refer to **Section 6.10 Maintaining Lug nuts or bolts** for the complete torque specifications, installation procedure, and re-torque schedule.

Note: Failure to follow the proper procedure, including using a calibrated torque wrench and tightening in progressive stages, will void the axle warranty.



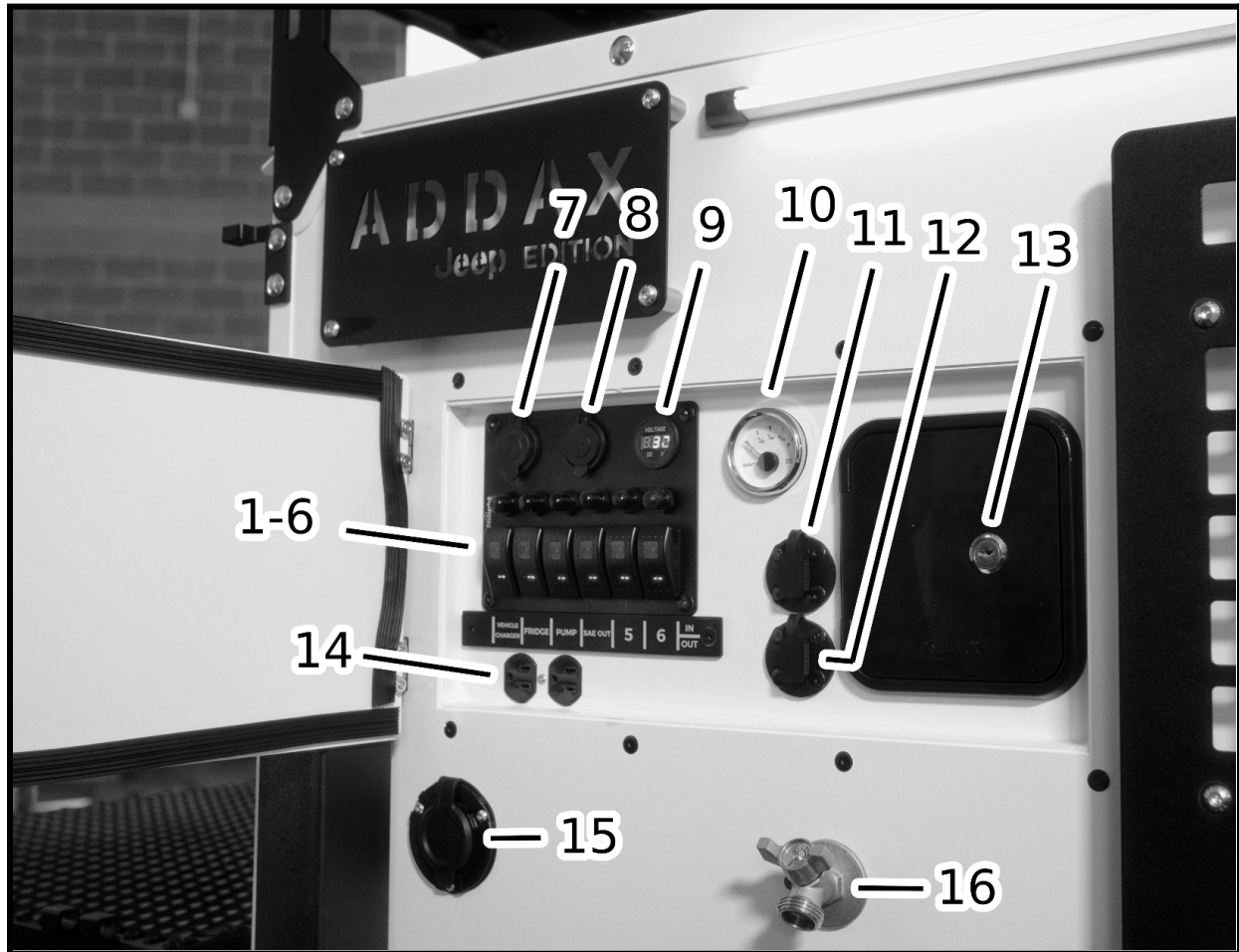
Warning - Users must inspect the hardware and connections between the trailer and the tow vehicle before and after EVERY trip. The regular motion of the trailer will loosen these components over time.

4. Accessories



Notice - This section provides some basic information for the safe operation of features and accessories. **You must read and follow these instructions before using the accessory** to avoid damaging it. Contact your dealer for further questions.

4.1 Side Panel Functions



- 1-6 - Switch Board
 - **Vehicle Charger** - When active this will pull energy from the tow vehicle to top off the trailer battery.
 - **Fridge** - This circuit controls the fridge.
 - **Pump** - This circuit will turn on and off the water pump.
 - **SAE Out** - This circuit will control the SAE Out port (12)
 - **5** - a customizable circuit of up to 12 amps
 - **6** - a customizable circuit of up to 12 amps

- 7 - Two USB Charging Outlets (5 volts, 1 amp, and 5 volts, 2.1 amps)
- 8 - A 12-Volt Cigaret-style Outlet
- 9 - The Battery Voltmeter - Monitor the voltage of your trailer's battery.
- 10 - Water level gauge
- 11 - Solar Power In - This port is equipped with a solar controller. Just plug your panels in here for off-grid charging! **Set up for a maximum of 200 watt solar panels.**
- 12 - SAE power out port. This is a standard port used to control many camping products.
- 13 - Water Tank Intake - This locking cap and panel protect your freshwater inlet. Fill your water tank here.
- 14 - 110 V outlets
- 15 - Shore Power In - Plug your trailer directly into an external power source to charge.
- 16 - Water Spigot - This standard hookup will be where your water tank leads. Also note what switch on the control panel activates your water pump.

4.2 Features

- **Removable Tongue**

- This feature is designed to allow for easier storage, and increased mobility around the trailer when camping. To remove the tongue, locate the pins and/or bolts below the trailer that hold the tongue in place. Remove these fasteners. The tongue should now slide out of the trailer freely.

- **Rear Hitch Receiver**

- The rear hitch receiver is intended for accessory purposes.



Warning - Never chain multiple trailers of any kind together. This could result in serious injury.

- **Rooftop Tent**

- When deploying your tent, ensure you have ten feet of room around your trailer in any direction to avoid injury or damage.
- Always ensure all four jack legs are making firm contact with the ground before entering the tent.
- Open the locks/latches
- Open the hardshell - Push upwards on the side with latches
- Pull out the ladder, ensure the ladder "clicks" at every joint, to indicate they are locked. Pull back an extra time to ensure this.
- With the aid of the ladder, pull up and out the folded floor section, opening the tent.
- The tent floor now hangs freely in a horizontal position, with all sections unfolded.
- Some models are equipped with an elastic band across the tent to assist in pack-up. Store this band in the groove on the lip of the tent base.
- **Adjust the ladder** - It is very important to adjust the ladder correctly as **it carries some of the weight of the tent.**

- When the ladder is fully extended, **start from the top** of the ladder, adjusting one joint at a time.
- Click each of the two top buttons on the ladder, one with each hand, and lift up the rest of the ladder to collapse the first rung. The top rung should collapse into the next. Repeat this with the next rung, and the next, until the ladder is at about a 15 degree angle from upright and holding some of the weight. This provides easy access, and stability
- The ladder must be fully supported on the top step. The tent must NOT be able to move up and down. Ensure the ladder is holding some weight.
- It is recommended to mount a storm protection strap on the tent from the top step of the ladder and down to the car's wheels, as this secures the tent/ladder.
- Fit the rainfly
 - Use the 2 long rods for the upper rainfly. Bend the rod up against the rainfly and mount the rod on the rainfly. Do not be afraid to bend the rod.
- Window Awning There are two options for setting up the side windows. For everyday use: Roll up the window overhang and fasten with the 2 buckles. In case of rain and wind: Mount the overhang with the short poles , in the same way as the long rainfly poles.
- Flex tent cloth
 - Make sure that the flex fabric where the tent folds in the sides is correctly mounted inside and outside with the small elastic straps from side to side.

● Lithium Battery

- The battery may be kept charged either by the tow vehicle, by an auxiliary charger or by using a solar panel. If the trailer is used daily, it is recommended that the battery be charged after each day's use.



Notice. Note that many tow vehicles will continue to provide power through the tow hitch even AFTER the engine has shut off. It is recommended that you **unplug the ADDAX Outdoors trailer from your tow vehicle when not in tow** to prevent the trailer from draining the vehicle battery.

The accessory battery must be kept in a charged condition during storage. Letting the battery completely die will reduce the lifespan of your battery. Periodically connect the trailer to a power source to prevent this.

- **Master Power Switch:** To power your trailer from the lithium battery, turn the master power switch knob to the on position. This knob is located in the right hand side of the front door frame. Open the front door, and access the switch to your right.
 - Note that the battery will not charge if the temperature falls below 35 degrees.
 - Switch ON – The rocker panel is powered and the trailer is ready to use.
 - Switch OFF – All power is disconnected, including the rocker panel, 110V outlets, and all charging.
 - To charge via shore power or solar, the Main Power Switch must be ON.
 - To charge via your vehicle's 7-pin connector, two things must be ON: the Main Power Switch and the rocker panel switch labeled "Vehicle Charger".
 - When placing the trailer in storage, always turn the Main Power Switch OFF.
- **Setting Up Your Battery App:**

- The XiaoXiangElectric app lets you monitor your battery in real time — charge level, charging status, voltage, and more.
- Download the app:
 - iPhone: App Store — search “XiaoXiangElectric”
 - Android: Google Play — search “XiaoXiangElectric”
- Open the app and pair to your battery via Bluetooth (recommended).
- Android users: Go to the app’s Permission Settings and enable Location and Nearby Devices for Bluetooth to work.
- If Bluetooth doesn’t connect, use the QR code on the battery instead.
- To find the QR code, locate the battery under the kitchen in the rear of the trailer — accessible by removing the kitchen unit or pulling the kitchen shelves off the slides.

● **Water Tank**

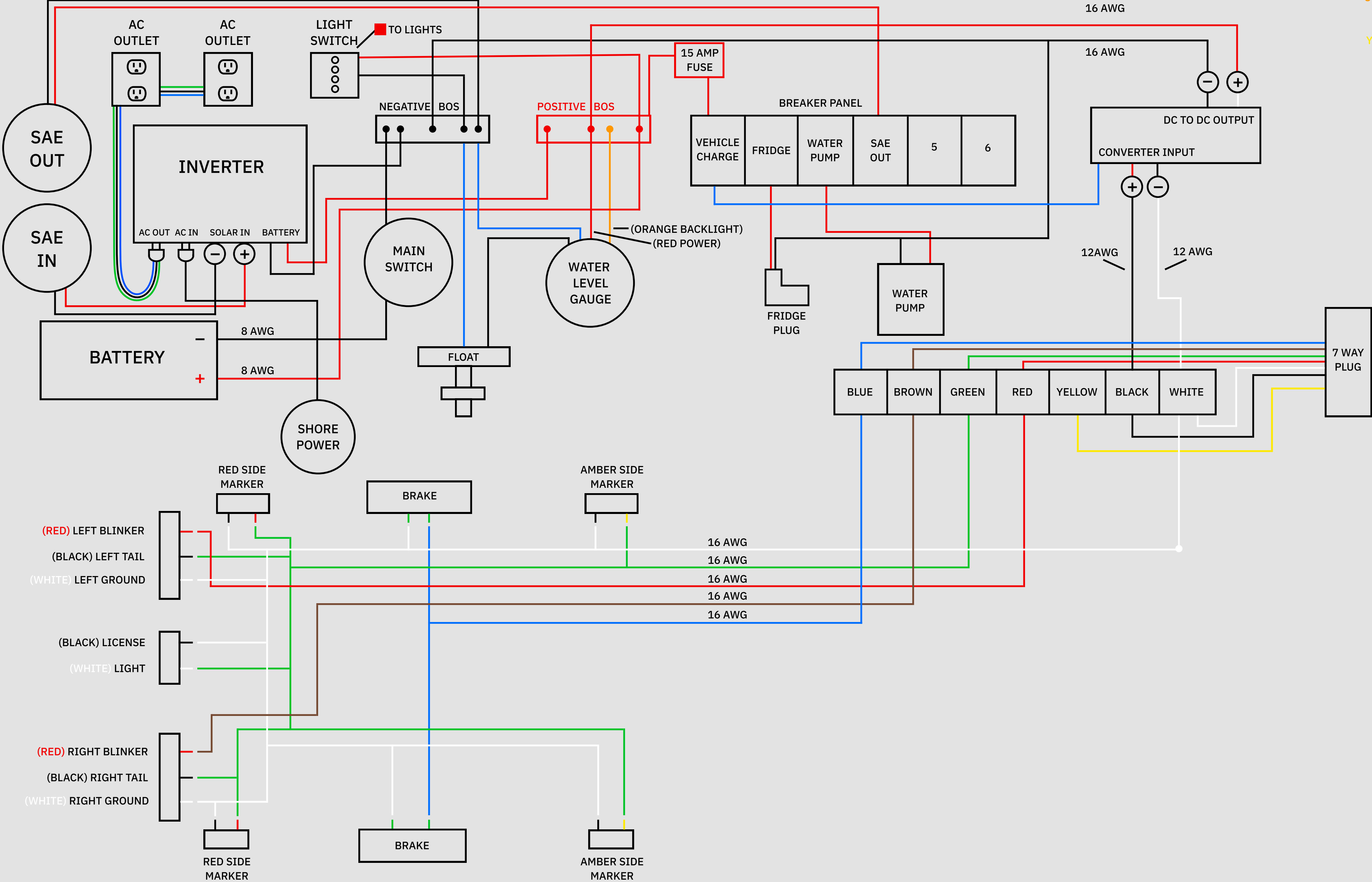
- The water tank can hold 22 gallons of water.
- Do not run the electric pump when the tank is dry.
- **Priming Your Water Pump:**
 - Turn on the water pump (switch on the front of the trailer) and open the spigot. If the battery is low, keep it connected to a charge source during this process.
 - Use a fresh water hose to fill the tank.
 - Once the tank is full, keep the hose running — the small vent hole near the fill neck should start spitting water.
 - With light force, push the hose into the fill neck. With your other hand, place one finger over the vent hole to stop its flow. This forces water through the pump and primes it.
- **Draining the Water Tank:**
 - Do this any time the trailer will sit unused for more than a couple of weeks, before winterizing, or before long-term storage.
 - Drain through the spigot first. Turn on the pump and run the spigot until the tank is almost empty. Shut the pump off before it runs dry.
 - Tilt the trailer. Use the back driver-side corner jack to raise that corner higher than the rest of the trailer — you want it sloping toward the front passenger side, where the drain valve is.
 - Open the drain valve. Located underneath the chassis on the front passenger side. Open it and let the water flow out completely.
 - After draining — don’t skip these steps:
 - Leave the drain valve open for a few hours (or overnight) so any remaining water can evaporate.
 - Leave the spigot open to let the lines air out.
 - Sanitize before next use if it’s been sitting more than a month. Mix ¼ cup of household bleach per 15 gallons, fill the tank, run it through the pump and spigot until you smell bleach, then let it sit for at least 2 hours. Drain completely and refill with fresh water.
 - Close the drain valve before refilling next time (easy to forget).

● **Awning**

- During windy or other weather conditions, use the legs on the awning, and stake tiedown cords from the awning into the ground for additional support. Use judgment to prevent damage to your awning if the weather becomes too harsh.
- **Interior and Exterior Lighting**
 - Located inside the back tailgate on the left hand side of the trailer are two control switches for the interior and exterior lights respectively. Dim and toggle your lights from this control.

ADDAX WIRING DIAGRAM

- WHITE WIRE
- RED WIRE
- GREEN WIRE
- BROWN WIRE
- BLUE WIRE
- ORANGE WIRE
- BLACK WIRE
- YELLOW WIRE



5. Common Hazards

5.1 Jackknifing



NOTICE - Be careful not to allow the trailer to turn too much while steering, because it will hit the rear of the tow vehicle. This error is commonly called '**jackknifing**'. Straighten out by pulling forward, or turning in the opposite direction. Avoid tight spaces where **jackknifing** is prone to happen.

5.2 Loss of Control



Warning - Loss of control of the trailer or trailer/tow vehicle combination can result in death or serious injury. Common causes include:

Improper Sizing of the Trailer to the Tow Vehicle

- Trailers that are too heavy for the towing vehicle can cause stability problems and serious tow vehicle maintenance issues. Never exceed the **maximum towing capacity** of your tow vehicle, as specified in the Owner's Manual.

Driving Too Fast

- The maximum recommended speed for safely towing a trailer is 55 mph. Driving too fast increases the likelihood of trailer sway and tire blowouts.

Failure to Adjust Driving Behavior

- Towing a trailer affects acceleration, stopping distance, and turning radius. The handling of your vehicle will be more sensitive to steering inputs and affected by wind and passing vehicles. Keep these tips in mind:
 - Be alert for slippery conditions.
 - Anticipate trailer sway and respond by easing off the accelerator and making small steering adjustments.
 - Use lower gears on steep or long grades to avoid overheating brakes.
 - Be aware of your trailer's height, especially under bridges and trees.

Improper Loading

- Do not exceed the trailer's Gross Vehicle Weight Rating (GVWR) or the Gross Axle Weight Rating (GAWR). Distribute the load evenly to prevent instability.

Trailer Not Properly Coupled to the Hitch

- Ensure the trailer is securely coupled to the hitch, and safety chains are correctly attached.

Improper Use of Safety Chains

- Safety chains should be fastened to the frame of the tow vehicle or a dedicated chain loop that many vehicles have near the hitch area. When using hooks on the end of your chains, be sure to approach the vehicle from underneath it, so that the opening of the hooks face upward and towards the trailer. Cross the chains underneath the hitch and coupler so the chains hold up the tongue if the trailer comes loose. Have minimal slack to allow turning.

Worn Tires, Loose Wheels, and Lug Nuts

- Inspect trailer tires before each tow and ensure proper tire pressure as indicated on the Certification (VIN) label. Tighten lug nuts to the specified torque.

Weight and Load Distribution

- Distribute the load front to rear to provide proper tongue weight and evenly left to right to avoid tire overload. Keep the center of gravity low.

Shifting Cargo

- Secure your cargo to prevent shifting during transit.

Inappropriate Cargo

- Use the trailer only for intended cargo. Do not transport people, hazardous substances, or flammable materials.

Inoperable Lights or Mirrors

- Check that all trailer lights are functioning before towing. Use mirrors that provide adequate visibility for safe driving.

6. Maintenance



Warning - You must inspect, maintain, and service your trailer regularly to ensure safe and reliable operation. If you cannot or are unsure how to perform the items listed here, contact your dealer. Failing to Maintain your ADDAX Outdoors Trailer could result in injury or death.

6.1 Jacking for Maintenance

To perform many of the inspection and maintenance activities, you must jack up the trailer. Four Corner Jacks and a Tongue Jack come pre-installed on the ADDAX Outdoors Trailer, however, situations may arise where you opt to use an external jack to lift your trailer.

When jacking with external jacks, place them so as to clear suspension parts, cables, and non-frame supports. Place jacks and jack stands under the outer frame rail to which the axles are attached.

6.2 Washing

Wash the trailer as needed with a power washer and a detergent solution. Note that some water intrusion is normal.

6.3 Inspecting Frame Members and Fasteners

Regularly inspect all fasteners and structural frame members for bending and other damage, cracks, or failure. Repair or replace any damaged fastener and repair the frame member. If you have any questions about the condition or method of repair of fasteners or frame members, get the recommendation of, or have the repair done by your dealer.

6.4 Inspecting Welds

All welds can crack or fail when subjected to heavy loads or movement of cargo that was not properly secured. Any time that you know or suspect that the trailer has been subjected to heavy loads or movement of cargo, immediately inspect the welds and fasteners for damage. To prevent severe damage to your trailer, inspect all of the welds for cracks or failure at least once a year. If a weld failure is detected, contact your dealer.

6.5 Maintaining the Hitch and Coupler

Each year or every 500 miles (whatever comes first) coat the moving components of the Hitch and Coupler with a thin layer of automotive bearing grease to reduce wear and ensure proper operation.

6.6 Maintaining the Jacks

If a grease fitting is present, use a grease gun to lubricate the jack mechanism. Grease the gears in the top of hand-cranked jacks once a year, by removing the top of the jack and pumping or hand packing grease into the gears. Use a quality hydraulic grease that is lithium-based.

6.7 Maintaining Lights and signals

Before each tow, check all trailer lights for proper operation. If any electrical connection issues arise, contact your dealer.

6.8 Maintaining Wheel Rims

If the trailer has been struck, or impacted, on or near the wheels, or if the trailer has struck a curb, inspect the rims for damage. Replace any damaged wheel. Inspect the wheels for damage every year, even if no obvious impact has occurred.

6.9 Maintaining Wheel Bearings

Service axle bearings once yearly or every 6k miles (whichever comes first).

To check your bearings, jack up the trailer and secure it on adequate capacity jack stands. Check wheels for side-to-side looseness. If the wheels are loose, or spin with a wobble, the bearings must be serviced or replaced.

6.10 Maintaining Lug nuts or bolts

Wheel Lug Nut Torque & Installation Specifications:

Stud size: 1/2"-20 UNF **Bolt patterns:** 5 on 4.5" or 5 on 5" (refer to your specific trailer model)

Wheel material: Steel **Torque specification:** 90–120 ft-lbs **Target torque:** 100 ft-lbs.

Installation Procedure: Always use a calibrated torque wrench. Never use an impact wrench to final-torque lug nuts.

- 1. Clean the wheel mounting surface, hub face, and lug nut threads. Do not lubricate threads or seats — install dry.
- 2. Start all lug nuts by hand to prevent cross-threading.
- 3. Hand-tighten lug nuts in a star pattern (skip one lug each time, rather than tightening adjacent lugs in sequence).
- 4. Torque in three progressive stages, following the star pattern at each stage: Stage 1: 25 ft-lbs, Stage 2: 60 ft-lbs, Stage 3: 100 ft-lbs (final).

Re-Torque Schedule: Lug nuts must be re-torqued to specification at the following intervals: After the first **10 miles** of travel, After **25 miles** of travel, After **50 miles** of travel, Any time a

wheel is removed and reinstalled, Periodically during regular use (check at least every 1,000 miles or before any long trip).



Warning - Under-torqued lug nuts can cause wheels to loosen during travel, leading to wheel separation and serious injury or death. Over-torqued lug nuts can stretch or break studs and damage hub assemblies. Always use a calibrated torque wrench and follow the specifications above. If you are unsure of your proper torque specification, contact your ADDAX dealer before towing.

6.11 Maintaining Tires

Before each tow, check the tire pressure to make sure it is at the level indicated on the tire sidewall or VIN label. Tires can lose air over time. Tire pressure must be checked while the tire is cold. Do not check tire pressure immediately after towing the trailer. Allow at least three hours for the tires to cool, if the trailer has been towed for as much as one mile.

Replace the tire before towing the trailer if the tire treads have less than 1/16 inch depth or the telltale bands are visible.

A bubble, cut or bulge in a side-wall can result in a tire blowout. Inspect both side-walls of each tire for any bubble, cut or bulge; and replace a damaged tire before towing the trailer.

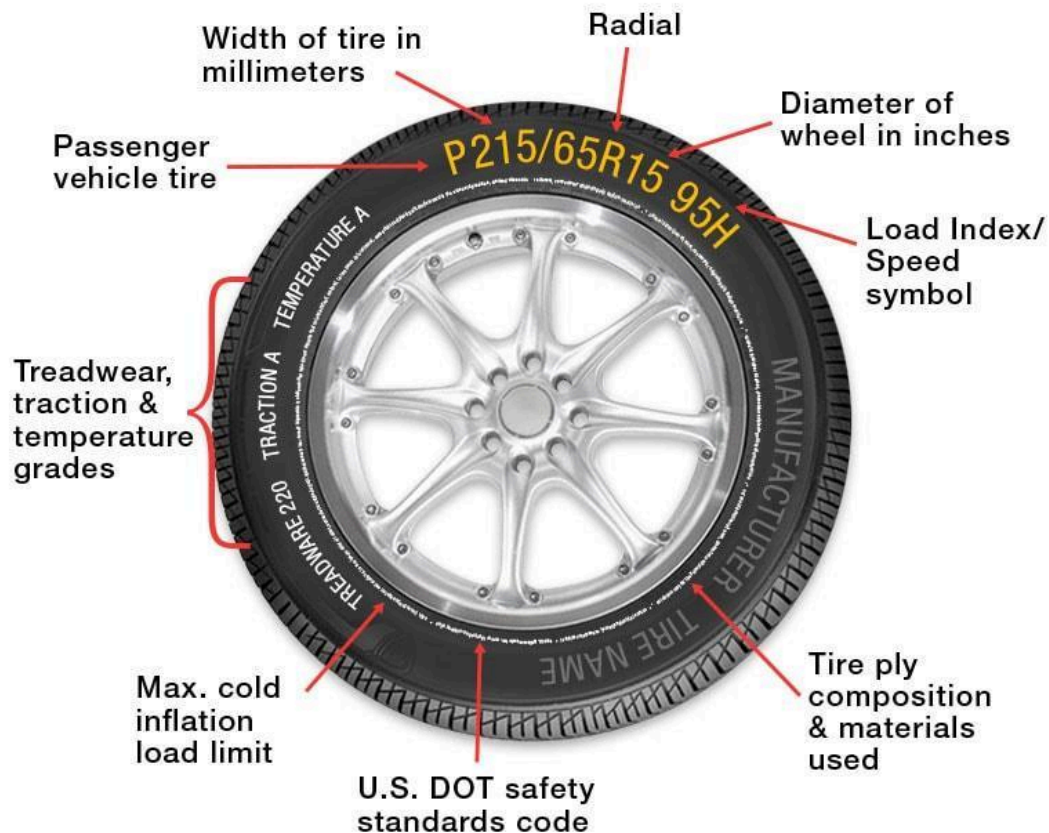
If you are storing your trailer for an extended period, make sure the tires are inflated to the maximum rated pressure indicated on the sidewall or VIN label and that you store them in a cool, dry place such as a garage. Use tire covers to protect the tires from the effects of the sun.

7. Tire Safety Information

In accordance with 49 CFR 575.6, information about the trailer's tire and safety procedure is provided below:

7.1 Tire labeling

Federal law requires tire manufacturers to label standardized information on the sidewall of all tires. This information identifies and describes the fundamental characteristics of the tire and also provides a tire identification number for safety standard certification and in case of a recall.



- **Tire Type**
 - The letter "P" at the beginning of the "Tire Size" tells us the tire is a P-Metric tire, referring to tires made to certain standards within the United States, intended for Passenger vehicles.
- **Speed Rating**
 - Tells you the maximum speed capability of a tire. Often speed ratings are matched to the top speed capability of the vehicle. For example, a tire with an H-speed rating has a maximum speed capability of 130 mph or 210 km/h. Do not exceed legally posted speed limits.

- **Tire Width**
 - Is the width of the tire measured in millimeters from sidewall to sidewall. The first three-digit number in the tire size refers to the tire width. For instance, in a size P215/65 R15 tire, the width is 215 millimeters.
- **DOT Symbol**
 - The letters "DOT" on the sidewall indicate that the tire complies with all applicable Federal Motor Vehicle Safety Standards in the United States.
- **Aspect Ratio**
 - Is the ratio of the height of the tire's cross-section to its width. The two-digit number after the slash mark in a tire size is the aspect ratio. For example, in a size P215/65 R15 tire, the 65 means that the height is equal to 65% of the tire's width. The bigger the aspect ratio, the bigger the tire's sidewall will be.
- **Tire Identification Number**
 - The series of letters and numbers following the letters "DOT." The TIN consists of up to 12 numbers and letters to identify the factory location and the week and year the tire was manufactured. The DOT and TIN markings are on the sidewall of your tire.
- **Construction**
 - The letter "R" in a tire size stands for Radial, which means the layers run radially across the tire.
- **Treadwear, traction and temperature grades**
 - Provides information about the tire treadwear, traction and temperature capabilities.
- **Wheel diameter**
 - Is the size of the wheel measured from one end to the other. It tells us the size of the wheel that the tire is intended to fit. A size P215/65 R15 tire is made for a wheel with a 15" diameter.
- **Tire ply composition and materials used**
 - The number of plies indicates the number of layers of rubber-coated fabric in the tire. In general, the greater the number of plies, the more weight a tire can support. Tire manufacturers also must indicate the materials in the tire, which include steel, nylon, polyester, and others.
- **Load index**
 - Indicates the maximum load that the tire can support when properly inflated. You'll also find the maximum load on the tire sidewall, in both pounds and kilograms.
- **Maximum cold inflation load limit**
 - This number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions.

7.2 Tire care



NOTICE - Properly maintained tires improve the steering, stopping, traction, and load-carrying capability of your vehicle and trailer. To avoid flat tires and other types of tire failure, you should maintain proper tire pressure, observe tire and vehicle load limits, avoid road hazards, and regularly inspect your tires.

Notice - It is important to check your vehicle and trailer's tire pressure at least once a month for the following reasons:

- Many tires naturally lose air over time.
- Tires lose air suddenly if you drive over a pothole or other object or strike the curb when parking.
- With radial tires, it is usually not possible to determine under inflation by visual inspection.

For convenience, purchase a tire pressure gauge to keep in your vehicle. Gauges can be purchased at tire dealerships, auto supply stores, and other retail outlets.

The recommended tire inflation pressure that vehicle manufacturers provide reflects the proper psi when a tire is cold. A cold tire is one that has not been driven on for at least three hours. When you drive, your tires get warmer, causing the air pressure within them to increase. To get an accurate tire pressure reading, you must measure tire pressure when the tires are cold.

7.3 Recommended tire inflation pressure

Your trailer is equipped with a tire label including the recommended cold tire inflation pressure, as the one below. It is located at the ride side of your trailer, by the wheel. Refer to your label for details. Generally tires used in these applications are filled to around 35 PSI.

TIRE AND LOADING INFORMATION				
SEATING CAPACITY		TOTAL	FRONT	REAR
The combined weight of occupants and cargo should never exceed				Kg or Lbs.
TIRE	SIZE	COLD TIRE PRESSURE		SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION FD-327
FRONT				
REAR				
SPARE				

Underinflated tires



WARNING - Driving on tires that are underinflated is very dangerous, being one of the leading causes of tire failure. When tire pressure is low, its surface area touching the road increases. The increased footprint will increase friction, which can cause overheating, premature wear, tread separation, and, eventually, a blowout. Depending on the severity of the blowout, you could lose control of the vehicle, putting you and other drivers in harm's way.

Overinflated tires



CAUTION - In overinflated tires, the sidewalls and tread become harder than normal, and the tire's surface area touching the road decreases. This change in footprint can reduce traction and performance, giving you a bouncy ride and affecting the handling of the car. Over-inflation will also cause uneven wear, thereby decreasing the life of your tires.

Measuring and adjusting air pressure

Use a tire pressure gauge to determine if your tires are within an acceptable pressure range. If it is low, add air, and if it is high, release air. Most common tires have a valve stem with a Schrader valve. Putting pressure upon the central stem within the valve will allow air to escape.

7.4 Terminology

Accessory Weight: The combined weight (in excess of those standard items which may be replaced) of an automatic transmission, power steering, power brakes, power windows, power seats, radio, and heater, to the extent that these items are available as factory-installed equipment (whether installed or not).

Bead: Part of the tire that is made of steel wires, wrapped or reinforced by ply cords and shaped to fit the rim.

Bead Separation: This is the breakdown of the bond between components in the bead.

Bias Ply Tire: A pneumatic tire in which the ply cords that extend to the beads are laid at alternate angles substantially less than 90 degrees to the centerline of the tread.

Carcass: The tire structure, except tread and sidewall rubber which, when inflated, bears the load.

Chunking: The breaking away of pieces of the tread or sidewall.

Cold Inflation Pressure: The pressure in the tire before you drive.

Cord: The strands forming a ply in the tire.

Cord Separation: The parting of cords from adjacent rubber compounds.

Cracking: Any parting within the tread, sidewall, or inner liner of the tire extending to cord material.

CT: A pneumatic tire with an inverted flange tire and rim system in which the rim is designed with rim flanges pointed radially inward and the tire is designed to fit

on the underside of the rim in a manner that encloses the rim flanges inside the air cavity of the tire.

Curb Weight: The weight of a motor vehicle with standard equipment including the maximum capacity of fuel, oil, and coolant, air conditioning and additional engine components.

Extra Load Tire: A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.

Groove: The space between two adjacent tread ribs.

Gross Axle Weight Rating: The maximum weight that any axle can support, as published on the Certification/VIN label on the front left side of the trailer. Actual weight determined by weighing each axle on a public scale, with the trailer attached to the towing vehicle.

Gross Vehicle Weight Rating: The maximum weight of the fully loaded trailer, as published on the Certification/VIN label. Actual weight determined by weighing trailers on a public scale, without being attached to the towing vehicle.

Innerliner: Layer(s) forming inside surface of a tubeless tire that contains the inflating medium within the tire.

Inner Liner Separation: The parting of the inner liner from cord material in the carcass.

Intended Outboard Sidewall: The sidewall that contains a white-wall, bears white lettering or bears manufacturer, brand, and/or model name molding that is

higher or deeper than the same molding on the other sidewall of the tire or the outward facing sidewall of an asymmetrical tire that has a particular side that must always face outward when mounted on a vehicle.

Light Truck (LT) Tire: A tire designated by its manufacturer as primarily intended for use on lightweight trucks or multipurpose passenger vehicles. May be used on trailers.

Load Rating: The maximum load that a tire is rated to carry for a given inflation pressure.

Maximum Load Rating: The load rating for a tire at the maximum permissible inflation pressure for that tire.

Maximum Permissible Inflation

Pressure: Maximum cold inflation pressure to which a tire may be inflated.

Maximum Loaded Vehicle Weight:

The sum of curb weight, accessory weight, vehicle capacity weight, and production options weight.

Measuring Rim: The rim on which a tire is fitted for physical dimension requirements.

Occupant Distribution: The distribution of occupants in a vehicle as specified in the third column of Table I of 49 CFR 571.110.

Open Splice: Any parting at any junction of tread, sidewall, or inner liner that extends to cord material.

Outer Diameter: The overall diameter of an inflated new tire.

Overall Width: The linear distance between the exteriors of the sidewalls of an inflated tire, including elevations due to labeling, decorations, or protective bands or ribs.

Ply: A layer of rubber-coated parallel cords. (plies, plural)

Ply Separation: A parting of rubber compound between adjacent plies.

Pneumatic Tire: A mechanical device made of rubber, chemicals, fabric and steel or other materials that, when mounted on an automotive wheel provides traction and contains gas/fluid that sustains the load.

Production Options Weight: The combined weight of those installed regular production options weighing over 2.3 kilograms (5 lbs.) in excess of those standard items which they replace, not previously considered in curb weight or accessory weight, including heavy duty brakes, ride levelers, roof rack, heavy duty battery, and special trim.

Radial Ply Tire: A pneumatic tire in which the ply cords that extend to the beads are laid 90 degrees to the centerline of the tread.

Recommended Inflation Pressure:

This is the inflation pressure provided by the vehicle manufacturer on the Tire Information label and on the Certification/VIN tag.

Reinforced Tire: A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.

Rim: A metal support for a tire or a tire and tube assembly upon which the tire beads are seated.

Rim Diameter: This means the nominal diameter of the bead seat.

Rim Size Designation: This means the rim diameter and width.

Rim Type Designation: This means the industry of manufacturer's designation for a rim by style or code.

Rim Width: This means the nominal distance between rim flanges.

Section Width: The linear distance between the exteriors of the sidewalls of an inflated tire, excluding elevations due to labeling, decoration, or protective bands.

Sidewall: That portion of a tire between the tread and bead.

Sidewall Separation: The parting of the rubber compound from the cord material in the sidewall.

Special Trailer (ST) Tire: The "ST" is an indication the tire is for trailer use only.

Test Rim: The rim which a tire is fitted for testing, may be any rim listed as appropriate for use with that tire.

Tongue weight: The downward force exerted on the hitch by the trailer coupler.

Tread: That portion of a tire that comes into contact with the road.

Tread Rib: A tread section running circumferentially around a tire.

Tread Separation: Pulling away of the tread from the tire carcass.

Treadwear Indicators (TWI): The projections within the principal grooves designed to give a visual indication of the degrees of wear of the tread.

Vehicle Capacity Weight: The rated cargo and luggage load plus 68 kilograms (150 lbs.) times the vehicle's designated seating capacity.

Vehicle Maximum Load On The

Tire: The load on an individual tire that is

determined by distributing to each axle its share of the maximum loaded vehicle weight and dividing by two.

Vehicle Normal Load On The Tire:

The load on an individual tire that is determined by distributing to each axle its share of the curb weight, accessory weight, and normal occupant weight (distributed in accordance with Table I of CRF 49 571.110) and dividing by 2.

Weather Side: The surface area of the rim not covered by the inflated tire.

Wheel Center Member: In the case of a non-pneumatic tire assembly incorporating a wheel, a mechanical device which attaches, either integrally or separably, to the non-pneumatic rim and provides the connection between the non pneumatic rim and the vehicle; or, in the case of a non-pneumatic tire assembly not incorporating a wheel, a mechanical device which attaches, either integrally or separably, to the non- pneumatic tire and provides the connection between tire and the vehicle.

Wheel-Holding Fixture: The fixture used to hold the wheel and tire assembly securely during testing

8. Vehicle Load Limits

Determining the load limit of a trailer includes more than understanding the load limit of the tires alone. On all trailers there is a Federal Certification/VIN label that is located on the forward half of the left (road) side of the unit. This Certification/VIN label will indicate the trailer's Gross Vehicle Weight Rating (GVWR). This is the most weight the fully loaded trailer can weigh. It will also provide the Gross Axle Weight Rating (GAWR). This is the most a particular axle can carry. If there are multiple axles, the GAWR of each axle will be provided.



Warning - Towing a trailer that exceeds its Gross Vehicle Weight Rating (GVWR) is likely to cause a loss of control, damage to the trailer, injury, or death.

8.1 Determining Your Trailer's Correct Load Limit

There is a placard located inside the front door of the ADDAX Outdoors Basecamp Trailer. This placard provides tire and loading information. In addition, this placard will show a statement regarding maximum cargo capacity. Locate the statement, "The weight of cargo should never exceed XXX kg or XXX lbs.," on your vehicle's placard.

This figure equals the available amount of cargo and luggage load capacity.

Cargo can be added to the trailer, up to the maximum weight specified on the placard. The combined weight of the cargo is provided as a single number. In any case, remember: the total weight of a fully loaded trailer cannot exceed the stated GVWR. The Empty Weight of the trailer plus the maximum cargo weight is the Gross Vehicle Weight Rating (GVWR).

The best way to know the actual weight of the vehicle is to weigh it at a public scale. Talk to your dealer to discuss weighing methods needed to capture the various weights related to the trailer. This would include the weight empty or unloaded, weights per axle, wheel, hitch or king-pin, and total weight.

8.2 Distributing Weight in Your Trailer

When loading your cargo, be sure it is distributed evenly to prevent overloading front to back and side to side. Heavy items should be placed low and as close to the axle positions as reasonable. Too many items on one side may overload a tire. Towing stability also depends on keeping the center of gravity as low as possible. Load heavy items on the floor and over the axles. Always inspect your trailer for issues such as cracks before loading.



WARNING - Shifting cargo can result in the loss of control of the trailer, and can lead to death or serious injury. Tie down all loads with proper sized fasteners, chains, straps, etc.

The load distribution must be such that no component part of the trailer is loaded beyond its rating. You must consider the rating of the trailer body, tires, wheels and axle.



WARNING - Excessive loads, unbalanced loads, or under inflation cause tire overloading. As a result, abnormal tire flexing occurs. This situation can generate an excessive amount of heat within the tire. Excessive heat may lead to tire failure which can result in injury or death.

It is the air pressure that enables a tire to support the load so proper inflation is critical. See section 5.3.

8.3 Determining Your Tow Vehicle's Correct Load Limit

Locate the statement, "The combined weight of cargo should never exceed XXX lbs.," located on the front inside door panel for your vehicle to ensure it is rated to tow the ADDAX Outdoors Basecamp V3 Trailer.

9. Hitch and coupling setup



WARNING - Failure to comply with the following instructions on coupling your trailer to your tow vehicle can cause an accident that could lead to death or serious injury. Please ensure your tow vehicle, hitch, and trailer are within compliance of all posted ratings.



WARNING - If the vehicle and hitch are not properly selected and matched to the Gross Vehicle Weight Rating (GVWR) of your trailer, you can cause an accident that could lead to death or serious injury.



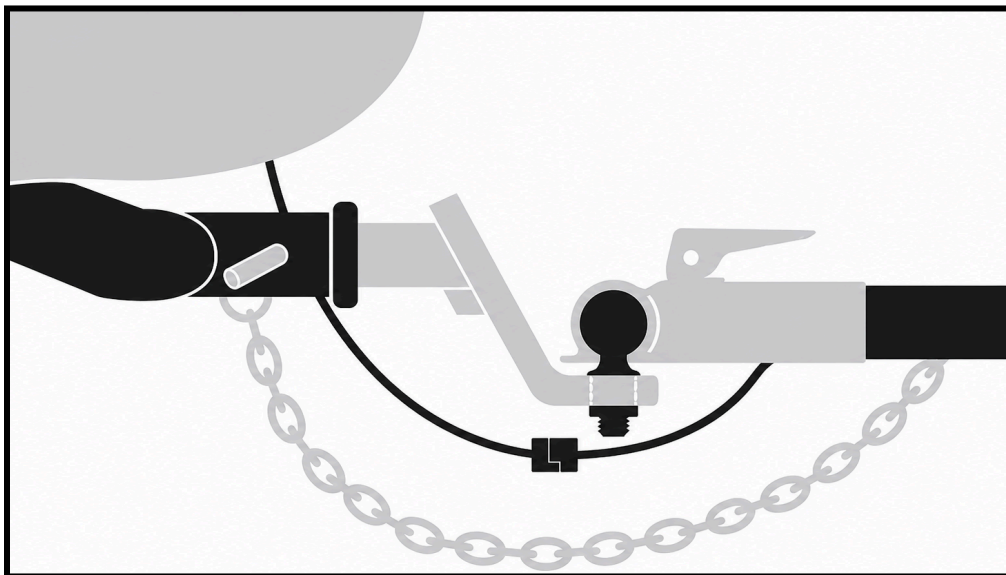
CAUTION - If the vehicle and hitch are not properly selected to hold your loaded trailer level with the ground when towing, you risk damaging your trailer and tow vehicle. This will impact your clearance, and potentially result in injury. See 7.5 for more details.

Ask the dealer of your tow vehicle for advice on how to outfit the tow vehicle to obtain a correct towing height.

Vehicle manufacturers will provide you with the maximum towing capacities of their various models, as well as the GCWR. No amount of aftermarket reinforcement will increase a vehicle's horsepower or towing capacity.

Note there are several aftermarket or upgradable components involved in coupling your trailer to the tow vehicle. This manual cannot possibly cover all possible configurations. Look to the documentation for particular components you use in your assembly.

9.2 Coupling your trailer to the tow vehicle



Before you hitch your trailer:

- Ensure the tow vehicle receiver is securely fastened to the tow vehicle.
- Wipe the inside and outside of the trailer coupler clean and inspect it visually for cracks and deformations.
- Be sure the trailer coupler is tight to the tongue of the trailer.

Steps to engage the hitch:

- Use the jack on the trailer tongue to lift the trailer coupler over the vehicle receiver.
- Lower the coupler onto the ball receiver.
- Ensure the trailer completely lowers, taking weight off the jack.
- Ensure the coupler locks the ball receiver into the coupler. Use a cotter pin to secure the release lever in place.
- Connect safety chains
 - Visually inspect the safety chains and hooks for wear or damage. Replace worn or damaged safety chains and hooks before towing.
 - Safety chains must crisscross under the coupler so that if the trailer uncouples, the safety chains can hold the tongue up above the road.
 - Hook the chains to the loops provided in the hitch system of the tow vehicle. Do not attach them to an interchangeable part of the hitch assembly. Most tow vehicles provide mounting locations directly on the frame.
 - If the tow vehicle does not provide loops to hook the chains to, loop the chains around a frame member of the tow vehicle, attaching the hooks to their own chains such that the hook will not come off.
 - Provide enough slack in chains to permit tight turns, but not be close to the road surface to drag.
- Connect the trailer lights to the tow vehicle's electrical system using trailer electrical cable.
- Check all trailer lights for proper operation. Repair or replace non-working lights/electrical connections before towing.



WARNING - Improper electrical connection between the tow vehicle and the trailer will result in inoperable lights, and can lead to collision. Before each tow, check that all lights and turn signals work.

The ADDAX Outdoors Trailer is set up to charge the battery from the tow vehicle. If the electrical system on your tow vehicle does not provide power to the battery, you must periodically charge the battery via a shore / solar power connector to keep the battery charged.



NOTICE - Some tow vehicles will continue to provide power to trailers via electrical and light connections after the engine is shut off. To prevent draining of your tow vehicle's battery, unplug your trailer when not towing.

9.3 Uncoupling your trailer from the tow vehicle

Steps to disengage the hitch:

- Park the trailer on a firm level surface and block the trailer tires.
- Disconnect the electrical connector.
- Disconnect safety chains from the tow vehicle.
- Make certain the ground surface below the jack pads will support the load of the trailer.
- Rotate the jack handle to extend the jack and transfer the weight of the trailer tongue to the jack.
- Once the weight of the trailer has been removed from the hitch, remove the cotter pin from the coupler pin, and pull the release lever on the coupler.
- Raise the trailer coupler above the tow vehicle hitch.
- Drive the tow vehicle forward.

9.4 Achieving a Safe Tongue Weight



WARNING - Improper tongue weight can cause a loss of control of the trailer leading to serious injury or death. Always be sure to distribute the weight of the trailer to achieve the correct tongue weight.

It is critical to have a portion of the trailer load carried by the tow vehicle. That is, the trailer tongue must exert a downward force on the hitch. This is necessary for two reasons. First, the proper amount of tongue weight is necessary for the tow vehicle to be able to maintain control of the tow vehicle/trailer system. If, for example, the tongue exerts an upward pull on the hitch, instead of pushing down on it (because the trailer is overloaded behind its axle(s)), the rear wheel of the tow vehicle can lose traction or grip and cause loss of control. Even if there is some weight on the tongue, but not enough weight on the tongue, the trailer can become unstable at high speeds. The faster your speed, the more likely the trailer is to sway.

If there is too much tongue weight, the tow vehicle is prone to jack-knife. The front wheels of the tow vehicle can be too lightly loaded and cause loss of steering control and traction, if the front wheels are driving. In addition to tow vehicle control, tongue weight is necessary to insure that the trailer axle(s) do not exceed their Gross Axle Weight Rating (GAWR).

For the ADDAX Outdoors Trailer, the safe amount of tongue weight is:

15% - 20%

of the total weight including cargo.

To check the tongue weight, the tow vehicle and trailer must be on level ground, as they will be when the trailer is being towed.

Take the trailer to a truck stop or grain elevator where there is a "certified" scale. Place the tow vehicle only onto the scale and get the weight. This weight must be less than your tow vehicle's GVWR.

Pull the trailer onto the scale and uncouple it from the tow vehicle, leaving just the trailer on the scale. Get a ticket, which lists the total trailer weight. Reconnect the trailer to your tow vehicle and then drive the tow

vehicle wheels off the scale, just leaving the trailer axles on the scale. Get a “ticket”, which lists the trailer’s axle weight. Simply subtract the axle weight from the total weight to determine the tongue weight.

While you are at the scale, you should weigh the entire combination vehicle. This result should be less than the Gross Combined Weight Rating (GCWR) for your towing vehicle. Some scales allow you to get individual axle weights also. If this is possible, get the tow vehicles front and rear axle weights to make sure they are in the same proportion as the tow vehicle alone, and that the rear axle is not overloaded.

9.5 Adjusting The Hitch Height (If Equipped)



Warning - If the hitch does not hold your loaded trailer level with the ground when towing, you risk damaging your trailer and tow vehicle. This will impact your clearance, and potentially result in injury. See 7.5 for more details.

Many tow vehicle couplers provide hardware to adjust the height of your coupler. If yours does not, ensure you purchase a coupler that holds your trailer at the correct height.

The height of the hitch on the trailer must be adjusted so that the trailer, when loaded to rated capacity, is level while connected to the tow vehicle. Your dealer or a trailer service center can perform this adjustment, or you can use the following steps to adjust the hitch height yourself.

- Connect the trailer to the tow vehicle and load the trailer to rated capacity. See Loading And Unloading.
- Park the tow vehicle and trailer on a firm level surface.
- Stand away from the trailer and visually verify if the trailer is level front-to-rear. If the front of the trailer is higher than the rear, the hitch must be raised. If the front of the trailer is lower than the rear, the hitch must be lowered.
- Uncouple the trailer from the tow vehicle.
- Raise or lower the hitch as necessary.

10. Reporting Safety Defects / Issues

If you believe that your trailer has a defect that could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying: ADDAX Outdoors LLC c/o SKC Law Firm, 311 State Street, Ste. 250, Salt Lake City, UT 84111, CustomerService@addaxoutdoors.com, 385.402.5492

If NHTSA receives complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you and your dealer or ADDAX Outdoors LLC.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); or go to <http://www.safercar.gov>; or write to: Administrator, NHTSA 1200 New Jersey SE Washington, DC 20590. You can also obtain other information about moto

11. External Documentation

Your ADDAX Basecamp Trailer V3 is equipped with several features that operate on hardware made by our partners and vendors. The remainder of this manual will be documentation provided by those vendors.

11.1 - Centori Outdoors Roof Top Tent

11.2 - Expion 360 DC to DC Charger

11.3 - Explorer Bear Electric Fridge

11.4 - HardKorr Lightbars

11.5 - OVS Nomatic 270 Degree Awning

11.6 - Inverter



www.CENTORIOUTDOORS.com

SHARE YOUR PICTURES WITH US

  #CENTORIOUTDOORS

ENJOY ULTIMATE FREEDOM

START HERE! USER MANUAL

VIDEO with installation and user guide can be found under our website



Find our video guides here

<https://centorioutdoors.com/pages/instruction-videos>

CENTORI OUTDOORS Installation guide

1. Preparing the roof tent

- a) Unpack the tent from the transport box.
- ! Obs. The arrows must face upwards when unpacking.
- b) Open the tent slightly and take out the box/bag of mounting parts.



2. Mounting parts:

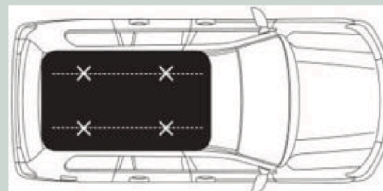
Check that all mounting parts are included in the box.



► Installation guide continued

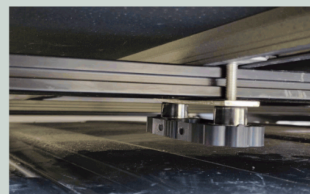
3. Position of the roof tent on the car

- a) Lift the roof tent up on your already mounted cross bars.
[A set of sawhorse can be used as an intermediate station].
- b) Wait to center the roof tent sideways until after point 4.
- c) The mounting points must be a minimum of 7 inches away from the edge



4. Fitting the bracket

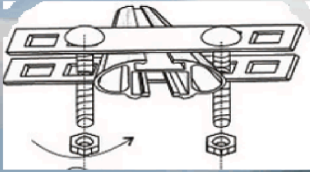
- a) sliding plates with bolts on each aluminum rail from the front.
- b) Lift the roof tent evenly in the front end and push 2 pcs sliding plates into the other side of your roof bar.
[There must be 1 sliding plate with bolt on each side of your roof bars]



11.1 - Centori Outdoors Roof Top Tent

Installation guide continued

- c) Mount the bracket on the bolts located in the aluminum rails with the thumbscrews.
- d) Tighten well. Use work gloves for better grip. Tighten the thumbscrews regularly over time.
- e) OPTIONAL Insert the wind deflectors/RTT raiser onto the top of the aluminum rails.



! IMPORTANT:

Tighten the thumbscrews and check regularly that they are securely tightened.

If it is possible to mount an 8mm locking bolt or an anti-theft locking bolt under the thumbscrew.

The 4 mounting points must be a minimum of 7 inches away from the rail edge

4

5

User Manual:

1. Open the lock/buckles

- a) Open the lock & buckles by pressing the button with one hand and pulling out the rubber strap with the other hand.



2. Open the hardshell

- a) Place your hand on the center of the hardshell side and press quietly upwards. The gas shock absorbers then take over and open the tent automatically.



3. Pull out the ladder

- a) Raise the ladder slightly and pull it fully backwards in full length.
- b) It is very important that the ladder has said "click" in all joints, as they are thereby locked. Therefore, pull back an extra time to ensure this.



6

User Manual continued

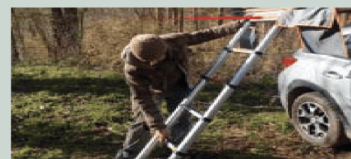
4. Open the tent

- a) Position yourself on the side of the ladder.
- b) Place one hand on the bottom of the ladder and press down on this, which will open the tent to vertical.
- c) Use the other hand to pull outwards at the top of the ladder, which opens the tent completely up.
- d) The ladder is lifted all the way back so that the tent now hangs freely in a horizontal position



5. Adjust the ladder

- a) It is very important to adjust the ladder correctly as it carries the part of the roof tent that hangs over the side of the car.
- b) When the ladder is fully extended, you start from the top of the ladder by adjusting one joint at a time.
- c) Click with one hand in each side on the top buttons on the ladder and lift up. Then the next step, etc. until the ladder is the correct length.
- d) The angle of the ladder should be slightly sloping so that it is easier to climb up and down but there is still full support.
! IMPORTANT: The ladder must be fully supported on the top step. The tent must NOT be able to move up and down.
- e) It is recommended to mount a storm protection strap on the tent from the top step of the ladder and down to the car's wheels, as this secures the tent.



7



BAD WEATHER PROTECTION

- Always mount a storm protection / tent protection pole especially in rain and wind, so that the tent is properly tensioned.
- Make sure that the flex fabric where the tent folds in the sides is correctly mounted inside and outside with the small elastic straps from side to side.
- If your tent is wet when it is to be packed, dry the tent cloth for the worst water, then close all openings in the tent and fold the tent together.
- Always remember to open the tent for drying when you get home.
- Always watch our tips and tricks videos and get good advice about correct setup



11.1 - Centori Outdoors Roof Top Tent

WATER PROOF AND FOUR SEASON TENT

- The tent is treated with water-protective coating. At a later point you can apply a new coating if needed.
- The first time the tent gets wet, all seams expand and the tent becomes waterproof after this. Therefore, do not be nervous if a little water comes in the first time. You can advantageously take a water hose and make all external seams wet manually.
- Always mount a storm protection / tent protection strap when using the tent, and especially in rain and wind, so that the tent is properly tensioned.
- Make sure that the flex fabric where the tent folds in the sides is correctly mounted inside and outside with the small elastic straps from side to side.
- If your tent is wet when it is to be packed, dry the tent cloth for the worst water, then close all openings in the tent and fold the tent together. Always remember to open the tent for drying when you get home.
- In snow and extreme rain, the supplied snow/rain safety pole can be fitted if needed.
- Always watch our tips and tricks video and get good advice about correct setup



GENERAL INFO

Never use fire inside or near a roof tent.
Never block the exit and always have a fire extinguisher

nearby.

Max speed 100km / h.

Max tent load weight 600 lbs.

It is YOUR responsibility that your car and roof racks are suitable for the roof tent.





USER MANUAL

MODEL EX-25DC

EXPION360



25 AMP DC TO DC LITHIUM CHARGER

FEATURES

High Efficiency: 91 % @ 12 Vdc Input.
Fast Charging.
Protections for Overcurrent, Overvoltage,
and Temperature.
Ignition Controlled.



EX-25DC

CHARGER DATA SHEET

Output Parameters	
Profile	CC-CV 2-Stage
Voltage	14.6 Vdc $\pm$ 0.1 Vdc
Overvoltage Protection	Yes
Overcurrent Protection	Yes
Output Current	25 A
Profile Chemistry	LiFePO ₄
No Load Current	60 mA @ 12 Vdc
Parallel Connection	2 Chargers

Mechanical Parameters	
Dimension (L x W x H)	7.09 in x 4.72 in x 1.57 in (180 mm x 120 mm x 40 mm)
Weight	2.5 lbs (1.1 kg)
Wire Size	8 AWG
Housing	Extruded Aluminum Case
Ingress Protection	IP67
Cooling	Heatsink, Convection
Compliance	RoHS / CE

Input Parameters	
Nominal Voltage	12.8 Vdc
Minimum Voltage	10.0 Vdc
Maximum Voltage	16.0 Vdc
Efficiency	91 % @ 12 Vdc

Temperature Parameters	
Operating Temperature	-4 °F to 132 °F (-20 °C to 56 °C)
High Temperature Protection	Yes
Storage Temperature	-20 °F to 150 °F (-29 °C to 66 °C)
Operating Humidity	20 % - 100 % RH

DISCLAIMER: While every precaution has been taken to ensure the accuracy of the contents within this document, Expion360, Inc. assumes no responsibility for errors or omissions. Note as well that specifications and product functionality may change without notice.



NOTE: See Expion360, Inc. User's Manual for Proper Operation.
© 2022, Expion360, Inc. All Rights Reserved.

Revision 01/27/22

MOBILE CHARGER MODEL EX-25C

DESCRIPTION

The Expion360 DC to DC mobile charger is designed to charge Lithium Iron Phosphate (LiFePO₄/LFP) chemistry deep cycle house batteries from the vehicle alternator through the chassis battery. The mobile charger is unique in that it uses a 2-stage constant current (CC) constant voltage (CV) charge profile at 14.6V / 25A. The charger is compact, easy to install, and simple to use. The mobile charger is specifically designed to charge the Expion360 VPR 4Ever Classic and Platinum batteries. It can also be used with other LFP chemistry batteries that recommend the same charge profile.

INSTALLATION

The Expion360 mobile charger needs to be installed in a location with some air movement. It is convection air-cooled using a heat sink. The charger is IP68 rated and can be installed on an outside location such as a vehicle frame rail. Make sure to secure the charger to its mounting location to prevent its movement. If the charger is installed on an outside location, make sure it stays clean and free of debris to prevent overheating. Do not install in the engine compartment to prevent overheating. Install the charger with the LED green and red indicator lights visible by the user for troubleshooting purposes if needed. Please make sure to follow all wiring diagram instructions provided in this manual.

MULTIPLE CHARGER CONNECTION

You can parallel connect up to two Expion360 mobile chargers. By parallel connecting the chargers, the charge rate will increase from 25A to 50A while maintaining 14.6V. For the charger to boost the voltage to 14.6V it requires additional current from the alternator and may draw up to 35A on the input circuit to achieve this. Because of the input load requirement, we do not recommend parallel connecting more than two chargers as two can draw up to 70A. Combining more than two chargers can exceed the vehicle alternator's surplus output capability especially when at idle with high load items running such as air conditioning.

CHARGE PROFILE

The Expion360 mobile charger uses the CC/CV (bulk/absorption) 2-stage charge profile with no float or equalization stages. LFP batteries have a very low self-discharge rate and do not sulfate by being left at a partial state of charge, so a maintenance float stage and desulfation equalization stage are not required.

Constant Current Stage (Bulk): During this stage, the charger will provide the full rated current at 25A (1 charger) or 50A (2 chargers) until the maximum charge voltage has been achieved at 14.6V. The battery is approximately 97% full and will now transition to the constant voltage stage. The red LED indicator light will be lite when in the constant current stage (bulk).

Constant Voltage Stage (Absorption): During this stage, the charger will hold the full charge voltage while gradually decreasing the current to zero or near zero. This stage will take 15-20Min on average, depending on how many batteries are being charged. During this stage, the final cell balancing is completed. The charger will then enter a standby mode waiting for the batteries voltage to drop to provide another charge cycle. The red and green indicator lights will be lite simultaneously during the constant current – absorption stage. The green light will be lite when fully charged and in standby mode.

MODEL EX-25DC TECHNICAL SPECIFICATIONS**MECHANICAL PARAMETERS**

DIMENSIONS (L X W X H)	7.08 X 4.72 X 1.57
WEIGHT	2.5Lbs
CHARGER WIRE SIZE	10Ga
CASE TYPE	DIE-CAST ALUMINUM
CASE PROTECTION	IP68
INTERNAL ELECTRONIC PROTECTION	EPOXY POTTING
COOLING	HEAT SINK CONVECTION
BATTERY ISOLATION	YES
SAFETY	RoHS / CE

INPUT PARAMETERS

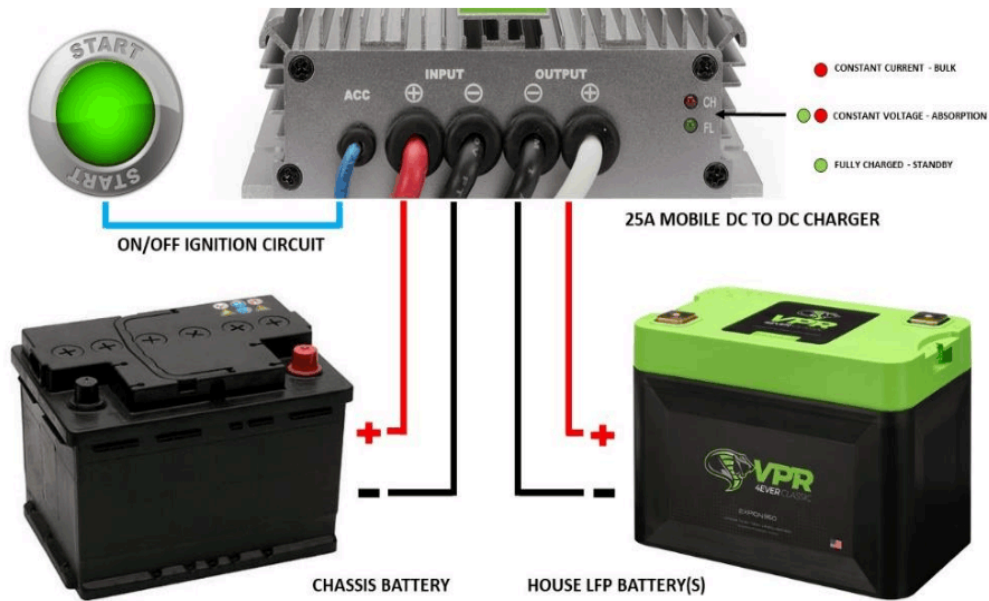
NOMINAL VOLTAGE	12.8V
MINIMUM VOLTAGE	10.0V
MAXIMUM VOLTAGE	16.0V
MAXIMUM CURRENT	35A
FUSE SIZE REQUIRED	45A
EFFICIENCY	91%

OUTPUT PARAMETERS

CHARGE PROFILE	CC/CV 2-STAGE LFP
VOLTAGE	14.6±0.1V
OVERVOLTAGE PROTECTION	YES
MAXIMUM CURRENT	25A
FUSE SIZE REQUIRED	35A
POWER	365W
PARALLEL CONNECTION	2 CHARGERS / 50A
NO LOAD CURRENT	60mA

TEMPERATURE PARAMETERS

OPERATING TEMPERATURE	-4 TO 132°F
HIGH TEMPERATURE PROTECTION	YES
STORAGE TEMPERATURE	-20 TO 150°F
OPERATING HUMIDITY	0-100%RH



NOTICE

TO PREVENT DAMAGE AND EXTEND THE LIFE OF THE CHARGER PLEASE FOLLOW THESE PRECAUTIONS

- ⚠ DO NOT DROP THE CHARGER
- ⚠ DO NOT OPEN THE CHARGER
- ⚠ DO NOT SHORT CIRCUIT THE CHARGER
- ⚠ DO NOT SUBMERGE THE CHARGER IN WATER
- ⚠ DO NOT CONNECT MORE THAN 2 CHARGERS IN PARALLEL
- ⚠ DO NOT ATTEMPT TO REPAIR THE CHARGER IF MALFUNCTIONING
- ⚠ DO NOT USE THE CHARGER TO CHARGE OTHER BATTERY CHEMISTRIES
- ⚠ DO NOT USE THE CHARGER AS A 12VDC POWER SUPPLY ONLY USE TO CHARGE

EXPION360 24 MONTH WARRANTY

Expion360 warrants The Expion360 branded DC to DC mobile charger sold by Expion360 or any of its authorized dealers, distributors, and OEM partners to be free of defects for 24 months from the date of sale as determined by the customer's sales receipt for proof of purchase.

Within the 24-month warranty period, subject to the exclusions listed below, Expion360 will repair or replace the charger and or parts of the components in question are determined to be defective in material and or workmanship.

INSTALLATION

Expion360 recommends a professional installation by a qualified RV, Marine, or 12VDC technician. However, the full warranty applies whether professionally installed or not if installation instructions are followed in the User Manual.

NON-TRANSFERABLE

This Limited Warranty is for the original purchaser only. It is not transferable to any other person or entity.

WARRANTY EXCLUSIONS

Expion360 has no obligation under this Limited Warranty for the Expion360 Mobile DC to DC charger subject to the following conditions (including but not limited to):

- Damage is caused by road debris or collision.
- Damage due to short circuits or other electrical conditions caused by mishandling.
- Damage due to improper installation, incorrect parallel connections, wrong wire, and or fuse sizing.
- A charger that has been opened, tampered with, and or modified.
- Environmental damage, such as water, moisture, and fire.

WARRANTY DISCLAIMER

THIS LIMITED WARRANTY REPRESENTS THE TOTAL LIABILITY OF EXPION360 FOR ANY BATTERY. ALL OTHER WARRANTIES IMPLIED BY LAW APPLICABLE TO THE BATTERY SHALL BE LIMITED TO THE WARRANTY PERIOD STATED. EXPION360 MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. EXPION360 SHALL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES.

LEGAL RIGHTS

Some states do not limit how long an implied warranty lasts or exclude or limit incidental or consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state. This warranty shall be governed by and interpreted by the laws of Oregon. This warranty is understood to be the exclusive agreement between the parties relating to the subject matter hereof. No employee or representative of Expion360 is authorized to make any warranty in addition to those made in this agreement.

SUBMITTING A WARRANTY CLAIM

To submit a warranty claim, please contact Expion360 at support@expion360.com

Explorer Bear

EX40B/EX50B

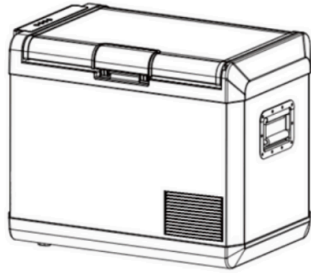


support@explorerbear.com / 1-833-275-3482

Catalogue

1	What's in the Box	-----	1
2	Fridge Operations	-----	2
3	Cleaning And Maintenance	-----	7
4	Error Codes & Solutions	-----	9
5	Troubleshooting (Q & A)	-----	11
6	Safety Instructions	-----	15
7	Warning	-----	17

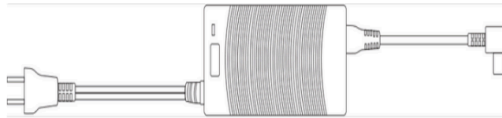
1 What's in the Box



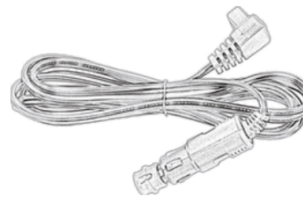
Refrigerator x1



Wire Basket x2

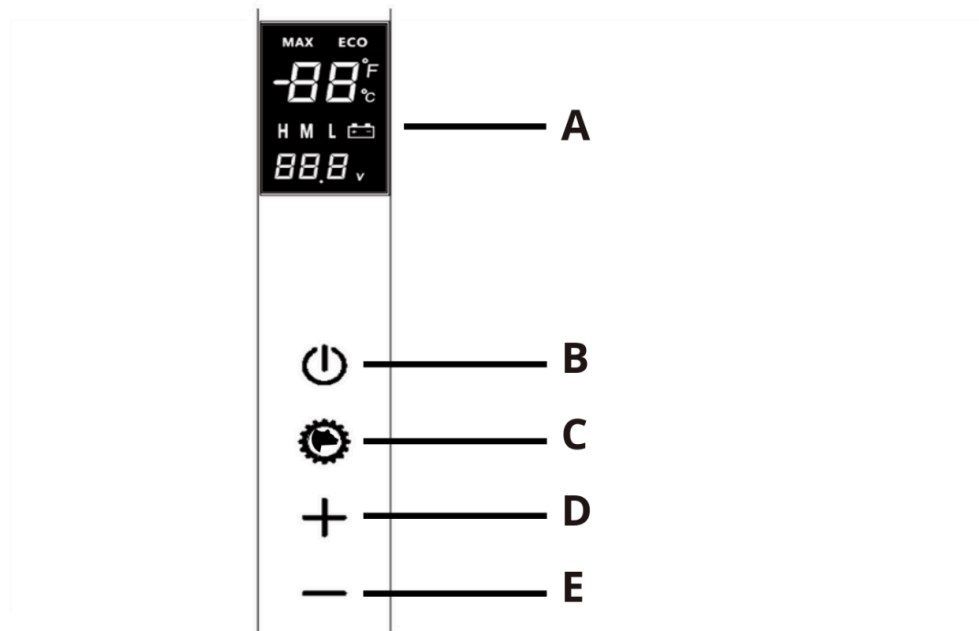


220V AC
Adaptor X1



12/24V DC Cigarette
Lighter Plug Cable x1

2 Fridge Operations



- A** Display Panel
- B** Power ON/OFF Button
- C** Setting Button
- D** "+" Button
- E** "-" Button

2.1 MAX & ECO Mode

1. **Power On:** Press & hold the power button for 3 seconds.
2. **(Temperature) (Max/Eco) and (Battery Protection) Level**
Adjustments can be made by:
pressing the setting button and use "+" and "-" button to make needed adjustments.

2.2 Switch Between °C and °F

With the unit shut off, press & hold the setting button for 3 seconds until you see "F1", then you can press the setting button a few more times until you see the "CF" selection and you can use the "+" or "-" to make your selections.

3 Cleaning & Maintenance

3.1 Cleaning

- Always unplug the fridge before cleaning the fridge.
- You can clean the interior and exterior of the fridge by using warm water, mixed with a gentle non-abrasive detergent.
- You may use a soft sponge, or micro fiber cloth.
- When not in use, it's better to leave the lids open to reduce odors.
- If odors occur, please clean the fridge thoroughly, or use baking soda in a bowl to absorb odors.

3.2 warning

- Do not use pointed objects to scrape, or defrost ice.
- Do not use abrasive detergents to clean.
- Do not use heavy duty sponges (due to scratching).
- Do not clean the fridge with running water or pressure washer.
- Do not clean the fridge without power input covers secured.

4 Error Codes & Solutions

Code	Description
E1	The DC voltage is below the protection settings and the battery protection mode is activated.
E2	The cooling fan is over-loaded with more than 1A of current.
E3	Compressor start error The motor of compressor is blocked or the pressure difference in the refrigeration system is too high.
E4	Minimum motor speed error The compressor is over-loaded, and the motor cannot maintain its minimum speed of 1850 rpms.
E5	Thermal cut-out of electronic unit Thermal cut-out error. If the refrigeration system overloads, or the ambient temperature is too high, the thermal sensor is overheated.
E6	NTC failure (open circuit)
E7	NTC failure (short circuit)

5 Troubleshooting (Q&A)

1. Heat & Water Resistance

Heat resistance

CoolRide refrigerators are engineered to operate at an ambient temperature of up to 55 °C (131 °F).

Weather Proof

Refrigerators can operate under light rain conditions.

We DO NOT recommend exposing the fridge to moderate or heavy rain.

As with all electrical appliances, over-exposure to moisture may shorten the fridges' life. Please keep the vents clear of water, and please add some clearances to the bottom of the fridge, if the ground is wet.

2. Why did it change back to the original temperature after setting the temperature?

The Solid/Non-Flashing number on the display is the CURRENT interior temperature. The Flashing number is your SET temperature after adjustment. The compressor will shut off when the SET temperature is reached.

3. What should I do if the refrigerator is upside down when it is delivered?

Please leave your refrigerator upright for 24 hours to allow the compressor lubricant to resettle before powering on the fridge. Otherwise it may contribute to certain operation abnormalities. If the fridge has any visible oil or fluid leaks, please contact us immediately.

4. What is the function of triple battery protection? How do they work?

The triple battery protection is designed to prevent over-discharge and battery depletion. When the measured DC voltage is below the set value, the compressor will shut off to prevent battery depletion.

Battery Protection (ON SWITCH POSITION)	Cut-out 12V	Cut-in 12V	Cut-out 24V	Cut-in 24V
LOW	9.6	10.9	21.3	22.7
MED	10.8	11.8	22.3	23.7
HIGH	11.3	12.6	24.3	25.7

For example, when you switch to a LOW MODE, the battery voltage is lower than 9.6 volts, the refrigerator will automatically power off; When the battery voltage reaches 10.9 volts, the refrigerator will start again.

6 Safety Instruction

SAFETY INSTRUCTIONS

Please read the user manual and safety instructions carefully before using the appliance.

By ignoring the safety instructions, the manufacturer cannot be held responsible for the damage.

The use of accessories that are not recommended by manufacturer can cause injuries and will invalidate any warranty that you may have.

The appliance shall not be exposed to rain.
Place the refrigerator on a dry, protected surface, away from corners.

- ❗ Do not use the refrigerator in uncovered outdoor areas exposed to the environment.
- ❗ Do not use this appliance near a direct heat source. For example: a cooker, radiator, or exposing it to direct sunlight.
- ❗ Do not place ice or liquids that are not sealed in a container within the refrigerator.
- ❗ Do not place hot products or hot food in the refrigerator. Place the products so that they do not knock against each other or break when the appliance is in motion.

Ensure that the lid is always latched securely and reduce the amount of time the lid is left open.

The power cable must only be replaced by a qualified technician personnel or by an assistant authorized by the manufacturer.

Before carrying out any maintenance operations on the refrigerator, disconnect the power cable from the plug.

This appliance is suitable for camping use.

WARNING!

- ❗ Keep ventilation openings clear of obstruction. 3 inches recommended.
- ❗ Do not use mechanical devices or other means to accelerate the defrosting process, unless recommended by the manufacturer.
- ❗ Do not damage the refrigerant circuit.
- ❗ Do not use electrical appliances inside the food storage compartments of the appliance, unless they are the type recommended by the manufacturer.
- ❗ Do not store explosive substances such as aerosol cans with a flammable propellant in this appliance.
- ❗ Risk of fire and electrical shock.
- ❗ Do not let hot items come in contact with the plastic parts of the appliance.
- ❗ Do not put flammable products or items that are wet with flammable products in or near the appliance.

- ❗ Do not touch the compressor or the con-denser. They are hot.
- ❗ When positioning the appliance, ensure the supply cord is not trapped, caught or damaged.
- ❗ Do not locate multiple portable socket-outlets or portable power supplies at the rear of the appliance.

Further information is provided on the technical data label inside the product.

1. This appliance is not intended to be used by the following: children, those with physical, sensory, or mental disabilities, or those with a lack of experience/ knowledge unless they have been given supervision or instructions concerning the use of the appliance by a person responsible for their safety.
2. Children should be supervised to ensure that they do not play with the appliance.

3. This appliance is intended to be used in a household or similar applications such as:

- Staff kitchen areas in shops, offices, and other working environments
- Farmhouses and by clients in hotels, motels, and other residential type environments
- Bed and breakfast type environments
- Catering and similar non-retail applications

4. If the supply cord is damaged, it must be replaced by the manufacturer, a service agent, or a similarly qualified person in order to avoid any hazards.

5. Do not store explosive substances such as aerosol cans with a flammable propellant in this appliance.

6. **DANGER:** Risk of child entrapment. Before you throw away your old refrigerator or freezer:

***Take off the doors.**

***Leave the shelves in place so that children may not easily climb inside.**

HARDKORR™

TRI-COLOUR LED LIGHT BARS



UP TO 2400
LUMENS

IP68
PROTECTION

BUG REDUCING
ORANGE LIGHT

25CM RRP
\$19.00

50CM RRP
\$49.00

100CM RRP
\$79.00

NOW TWICE
AS BRIGHT

AN EVEN HIGHER OUTPUT

The latest development of our famous Tri-colour light bars is here! Now using a brighter LED, the 25cm light bars can produce up to 600 lumens, 50cm bars produce up to 1200 lumens, while the 100cm bars are capable of producing up to 2400 lumens - that's twice as bright as our previous bars - without using any more power.

Ideal for canopy setups or for providing light around camp, these bars still come with everything you need including built-in magnets and pole-clips for mounting, as well as your dimmer, 3m extension lead, and 12V cigarette lead.



CAMPING + 4X4 CANOPY LIGHT



BUG REDUCING ORANGE LIGHT

Reduce the amount of bugs at your campsite by up to 90% with our orange light function.



PUSH BUTTON TRI-COLOUR DIMMER

Power on/off for easy campsite navigation, change colour to set the mood, or dim your light for ultimate comfort.



DIFFUSER FOR WIDER, SOFTER BEAM

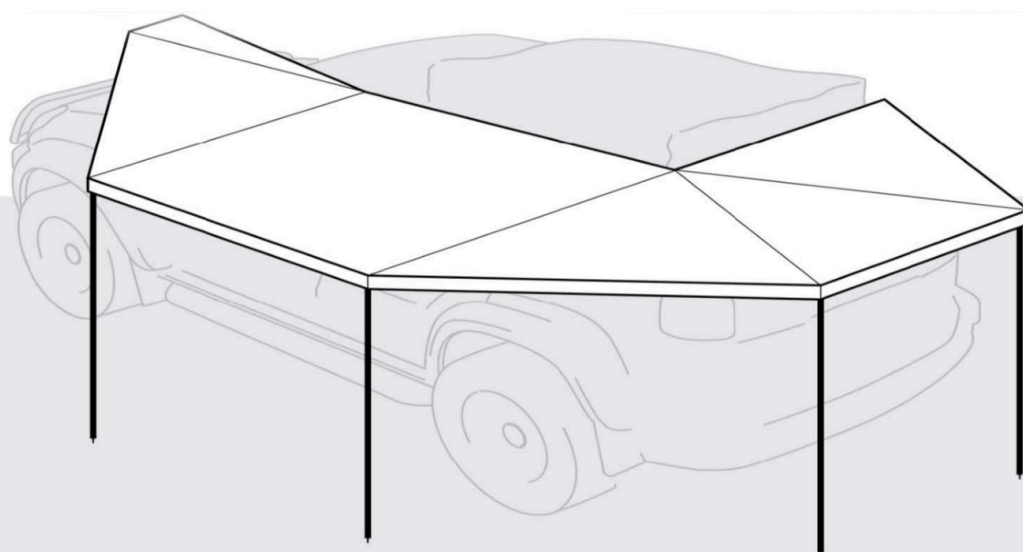
Our exclusive diffusers create a much wider, more pleasant light beam. No more LEDs shining in your eyes!

SPECIFICATIONS	RBWTOR25D	RBWTOR50CIGD	RBWTOR100CIGD
Max Lumen Output	600	1200	2400
Current Draw	0.32A @ 12V	0.63A @ 12V	1.26A @ 12V
LED Type	Genuine OSRAM® SMD2835		
LED Lifespan	50,000+ hours		
Beam Angle	180 degrees		
Colour Modes	white, warm white, orange		
Ingress Protection	IP68		
Material	6063 aluminium alloy housing, UV-resistant epoxy resin filling		
Size (mm)	250 x 22 x 17	500 x 22 x 17	1050 x 22 x 17

⌚ Backwards compatible with all HardKorr LED Light Bar products



Nomadic 270° Awning



CAREFULLY READ INSTRUCTIONS PRIOR
TO THE FIRST USE OF THE 270° AWNING

Nomadic 270° Awning SET-UP & CARE INSTRUCTIONS

Driver : 18079909
Passenger: 18179904
Bracket: 18169909

18169911: Extended 3 Meter Poles 6 Piece Kit
19519908 Driver: - Bracket Kit and Extended Poles
19529908 Pass: Bracket Kit and Extended Poles

GET TO KNOW YOUR AWNING

We recommend you check all parts are included prior to first use.

Box 1

1 270° Awning
6 Twist-lock leg poles
(3 in a canvas bag)

6 25mm M8 mounting bolts and nuts
3 Mounting bracket
1 Neoprene Sleeve

Box 2

6 'U' Bolts with nuts and washers
2 Tension straps
13 Pegs

Tools needed

13 Guy ropes
3 T-Slot Brackets
1 13mm Wrench

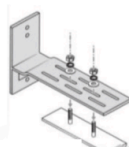
ATTACHING BRACKET TO ROOF-RACK

1

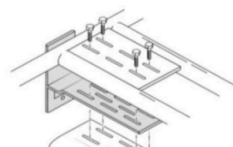
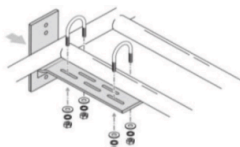
270° awning brackets have been designed to fit most common roof rack configurations. However, with the ever increasing numbers of roof rack designs available, it is difficult to supply a mounting bracket to accommodate every case. Below are examples of how to mount the Awning brackets to Flat style and

Basket style roof racks. The bracket can also be mounted on roof bars, however, additional specific attachments may need to be sourced from your roof rack supplier.

If in doubt, please visit your roof rack specialist for specific roof rack mounting options and advise on Load capacities



Yakima and Thule Applications



Torque Specs
200 Inch Lbs / 17 Foot Lbs

ATTACH AWNING TO BRACKET

We recommend using an experienced after-market 4x4 Accessories fitter to mount the Awning to your vehicle. Fasteners and fixing connections should be checked regularly on both the awning and roof rack to ensure the awning is always mounted securely to your vehicle roof rack.



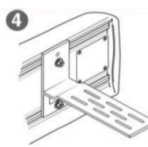
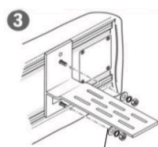
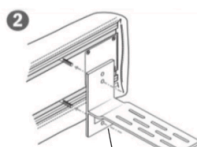
PROLONGED TRAVELING ON UNEVEN ROUGH OR CORRUGATED TERRAIN WILL REQUIRE MORE FREQUENT INSPECTIONS.

IMPORTANT - Yakima & Thule Bedracks

Set to the highest elevation before installing awning

2

Insert supplied 25mm M8 bolts into grooves in aluminum backing plate.



Torque Specs
200 Inch Lbs / 17 Foot Lbs

Nomadic 270° Awning

SET-UP & CARE INSTRUCTIONS

SET-UP

3

REMOVE COVER

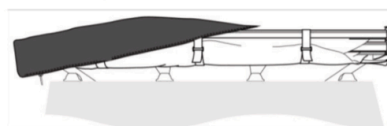
Unzip cover and fold it over the awning body



1



2



4

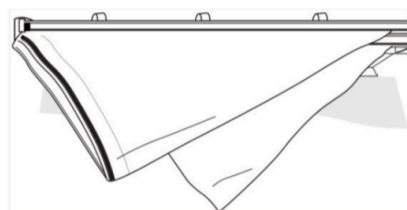
RELEASE AWNING

Release the three Velcro straps and allow canvas to drape

1



2



Nomadic 270° Awning

SET-UP & CARE INSTRUCTIONS

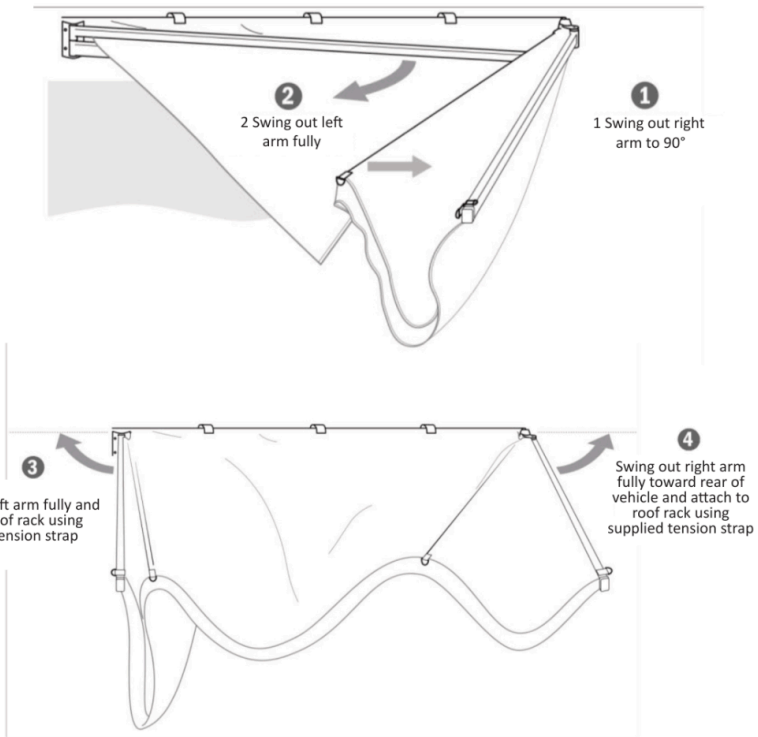
SET-UP

5

OPENING

To begin setting up the awning follow steps 1 to 4

TIP

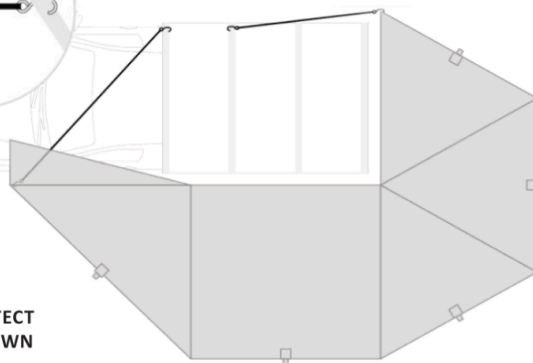


5

INSERT STRAP INTO OPTIONAL NEOPRENE SLEEVE IF APPLICABLE



THE NEOPRENE SLEEVE IS DESIGNED TO PROTECT THE VEHICLE'S PAINT FROM BEING WORN DOWN WHILE THE PRODUCT IS IN USE.



Nomadic 270° Awning

SET-UP & CARE INSTRUCTIONS

6

SET-UP

POLE SET-UP

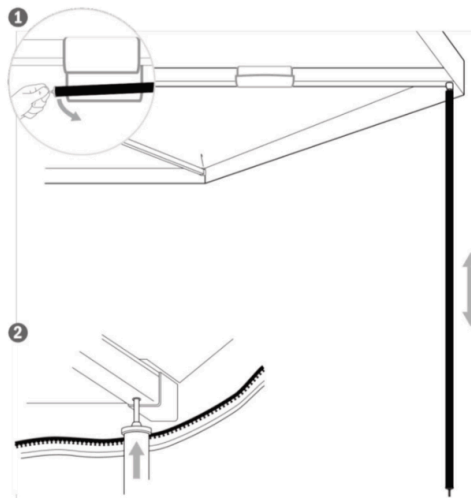
- Undo the Velcro straps securing each support leg. Leg will pivot down to a vertical position. Adjust to desired height by unlocking and locking the internal twist locking mechanism.
- Attach individual support legs to the remaining rafters by inserting into holes at the end of each rafter.
- Secure the end of each rafter by anchoring and tensioning guy ropes.



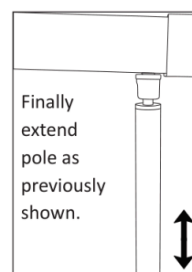
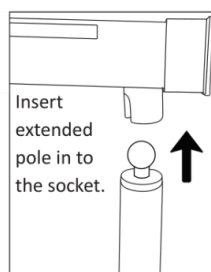
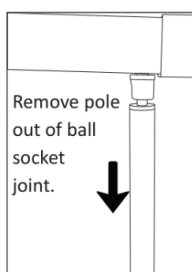
ENSURE ALL GUIDE ROPES ARE SECURED



IF ATTACHING OPTIONAL WALLS, EACH RAFTER MUST BE SUPPORTED BY A POLE.

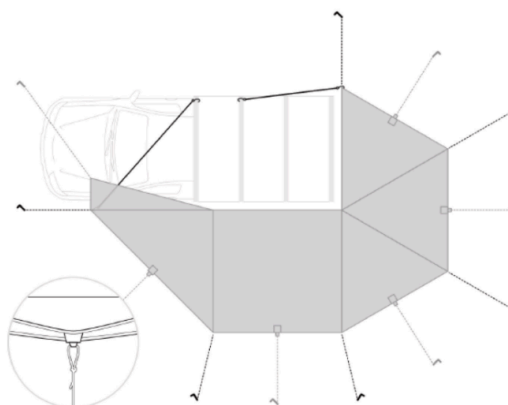


UPDATING POLES FOR TRANSIT VANS



TIP

IN CASE OF RAIN, LOWER THE SUPPORT LEGS TO ALLOW DOWNWARD SLOPE AND GUY OFF BETWEEN RAFTERS TO FORM VALLEYS FOR WATER RUN—OFF



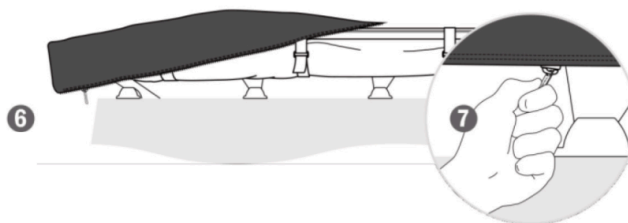
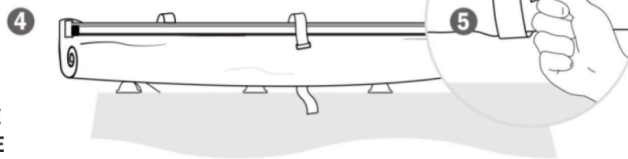
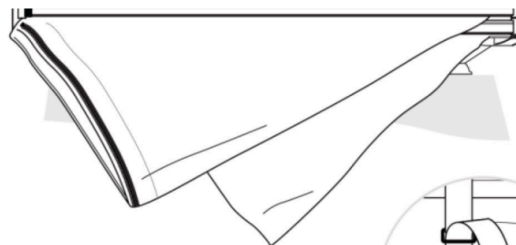
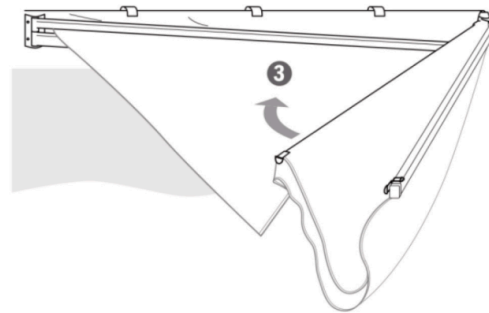
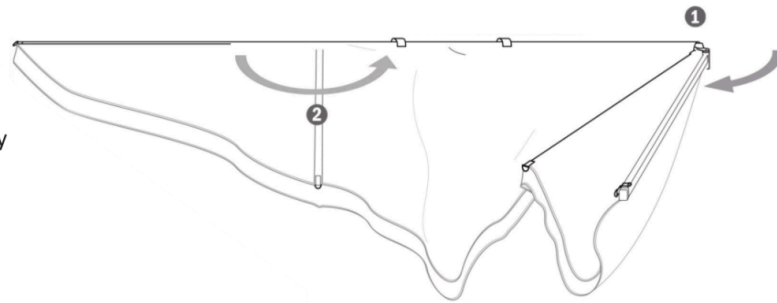
Nomadic 270° Awning

SET-UP & CARE INSTRUCTIONS

7

PACK-DOWN

- Undo all pegs / guy ropes
- Fold away legs and stow away using attached Velcro straps
- Stow 3 x additional legs in canvas carry bag.
- Release front and rear tension strap.
- Fold the RHS of awning back 90° from the awning body ensuring the top rafters sit directly on top of the bottom rafters.
- Fold the LHS of awning back 90° from the awning body ensuring the top rafters sit directly on top of the bottom rafters.
- Roll canvas and secure using Velcro straps.
- Position PVC bag over awning and zip up to complete pack down.



DO NOT STOW THE CANVAS CARRY BAG CONTAINING THE ADDITIONAL LEGS INSIDE THE AWNING'S TRANSIT COVER.



Nomadic 270° Awning

SET-UP & CARE INSTRUCTIONS

CLEANING

Clean with cold water and a soft bristle brush. Do not use soaps and detergents. Do not expose to petrol, diesel, oils or chemicals of any nature.

STORING

Correct storage is vital for the longevity of your Nomadic 270° awning. If on occasion the awning is required to be stowed wet, it is essential it is unpacked and dried as soon as possible. Rot, mildew damage and incorrect storage is not covered under warranty.

STRUCTURAL INTEGRITY

The 270° awning has been designed for general camping use under normal conditions. Always ensure all guy ropes are anchored correctly. It may be necessary to re-adjust guy ropes and pegs at times to maintain the structural integrity of the awning.

VEHICLE FITTING

We recommend using an experienced aftermarket 4x4 accessories fitter to mount the 270° Awning to your vehicle. Fasteners and fixing connections should be checked regularly on both the awning and roof rack to ensure the awning is always mounted securely to your vehicle roof rack. Prolonged travelling on uneven rough or corrugated terrain will require more frequent inspections.

FIXING THE OPTIONAL WALLS

The zip on awning walls will provide a sheltered / protected area around the awning. When attached to the awning, they are designed to create a shaded area and help reduce dust.

WARNINGS

- THE 270° AWNING HAS BEEN DESIGNED FOR GENERAL CAMPING USE UNDER NORMAL CONDITIONS. ALWAYS ENSURE ALL GUY ROPES ARE ANCHORED CORRECTLY. IT MAY BE NECESSARY TO RE-ADJUST GUY ROPES AND PEGS AT TIMES TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE AWNING.

- TO AVOID CHANCES OF PERSONAL INJURY AND PROPERTY DAMAGE, WE HIGHLY RECOMMEND THE NOMADIC 270° AWNING SHOULD NOT BE ERECTED DURING WINDY CONDITIONS.

- * IN WINDY CONDITIONS IT IS HIGHLY RECOMMENDED NOT TO ERECT THE AWNING AND WALLS AS PERSONAL INJURY AND OR PROPERTY DAMAGE MAY OCCUR.

- DO NOT CUT OR MODIFY THE AWNING OR MOUNTING ACCESSORIES.

- DO NOT EXCEED THE VEHICLE MANUFACTURER'S WEIGHT LIMITS.

- DO NOT USE DAMAGED OR EXCESSIVELY WORN PRODUCTS. CONTACT US IF YOU ARE UNSURE.

- KEEP ALL FLAMES AND HEAT SOURCES AWAY FROM THE FABRIC

- UNDER NO CIRCUMSTANCES SHOULD ANY NAKED FLAME SOURCES BE USED NEAR THE AWNING, KEEP FIRES AWAY FROM THE AWNING

- KEEP A LOOK OUT FOR ANY AIRBORNE BURNING EMBERS THAT MAY COME IN CONTACT WITH THE TENT. KEEP A FIRE EXTINGUISHER OR BUCKET OF WATER NEAR BY.

- DO NOT OPERATE ANY DEVICES WHICH BURN FUEL INSIDE THE AWNING WHILE THE WALLS ARE ATTACHED.

- KEEP EXITS CLEAR

- REMAIN CAUTIOUS WHEN GUIDE ROPES ARE IN USE

- KEEP AN EYE OUT FOR CHILDREN WHEN AWNING IS IN USE

- STOW AWAY AWNING BEFORE OPERATING VEHICLE



DO YOU NEED OUR HELP?



CUSTOMER SUPPORT 833-226-4863



SALES@OVERLANDVEHICLESYSTEMS.COM

WANT TO SHOW US YOUR RIG?
CHECK OUT OUR SOCIAL!

@overlandvehiclesystems



User's Manual



Catalog

❖ Installation notice.....	2
◆ Inverter Safety.....	3
◆ Battery Safety.....	4
◆ Installation Safety	4
◆ Product Key Features	4
❖ Introduction to working mode.....	5
❖ Outward appearance.....	7
◆ Front panel.....	7
◆ Inverter charger back panel.....	8
◆ Hybrid Inverter with solar controller back panel	9
❖ DC wiring	10
◆ Battery connection diagram	11
■ 12V Connection diagram	11
■ 24V Connection diagram	11
■ 48V Connection diagram	11
■ 96V Connection diagram.....	12
❖ AC wiring	12
❖ FAN Operation.....	14
❖ Inverter connection diagram.....	15
❖ Hybrid inverter with solar controller connection diagram	15
❖ Solar panel and battery connection diagram.....	16
◆ Solar panels in series.....	16
◆ Batteries in series	16
◆ Solar panel in parallel	16
◆ Battery in parallel.....	16
❖ LED indicator and LCD introduction	17
◆ LED indicator.....	17
◆ LCD info	18
◆ LCD information	19
◆ Hybrid solar input information.....	20
❖ Parameter setting.....	20
❖ Fault code and repair	27
❖ Buzzer alert	29
❖ Specifications	30
❖ BMS parameters	34

❖ Installation notice



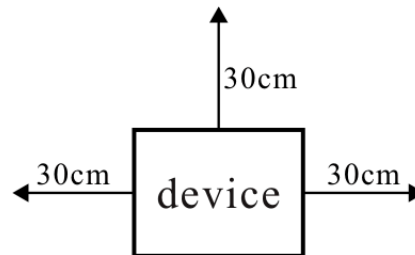
Important Safety Instructions



Please save these instructions.

This manual contains important safety, installation, and operating instructions for the inverter, please read the product manual carefully before using this product.

- Check the package is complete before opening. After opening packing please check the accessories, The accessories includes 1PCS user manual and check the inverter is still protected well after transportation.
- If you find damage or missing parts, please do not turn on the machine and contact your dealer.
- Please keep the packing box and materials for next delivery if needed.
- This series of products is very heavy, please handle it carefully.
- The inverter installation must be more than 30cm away from the wall, well ventilated, free of water, flammable gases and corrosives. As shown in the figure:



- Not good to place in a corner, on the side, or upside down. Put away from heat sources. Avoid direct sunlight, ensure that the front panel, rear panel, and fan inlets have good ventilation.
- The environment temperature should be between 0 ° C and 40 ° C/32°F -104°F .
- If the machine is disassembled and used in a low temperature environment, Water may condense on it. Only operate after drying both internal and external part of the machine, otherwise you will be at risk of shock
- Please install the inverter near the mains input socket or switch where it will be easy to unplug the mains input or cut off the power supply during an emergency situation.

- The external battery should not be exposed. It should be installed in the battery cabinet.
- The DC input cable between the inverter and the battery should be short as possible.
- Do not stack goods on the inverter.
- Before the load is connected to the inverter, the load must be turned off before wiring. The inverter must be connected to a socket with over current protection, and the machine must be safely grounded.
- The power outlet should be safely grounded.
- To ensure no output from the inverter, all switches must be turned off first, then turn off the mains power. Whether the inverter has an input or not, turning off the inverter does not guarantee that the internal parts have no power.
- Powering an inductive load: When powering an inductive load such as motor, display and laser printer, the inverter capacity should be three times the starting power of the load/equipment.
- It is often needed to keep charging to extend the battery life. When the inverter is connected to the normal mains, whether inverter is on or off, it still keep charging the battery, and provides overcharge protection.
- Normally, the battery life is three to five years. If there is a problem with the battery, it must be replaced early. When replacing the battery, it must be operated by professionals.
- It is not recommended to replace the battery individually. When replacing the battery, you should follow the battery supplier's operating instructions.

Note:

- Before replacing the battery, you must cut off all power connected to the machine: mains switch, battery switch, etc.
- Take off metal objects such as rings and watches.
- Use tool as handles and screwdrivers. Do not put tools or other metal objects on the battery.
- It is normal for a small spark when connecting the battery cable, but will not harm human safety and inverter.
- **Note: Do not short the battery positive and negative terminals, you can't reverse the battery connection.**

◆ Inverter Safety

The inverters are suitable for Battery Banks ONLY.

Always make sure the inverter is in OFF position and disconnect all AC and DC connections when working on any circuit associated with the inverter. Never connect the AC output of the unit directly to an Electrical Breaker Panel/ Load Centre which is also fed from the utility power / generator. When connecting battery terminals, ensure the polarity of the battery connections is correct. Incorrect polarity may cause permanent damage to the unit. Be careful when touching bare terminals of capacitors as they may retain high lethal voltages even after power is removed.

◆ **Battery Safety**

Do NOT let the positive (+) and negative (-) terminals of the battery touch each other.

Use sealed Lead-Acid, Flooded, Gel, AGM, Lithium batteries which must be deep cycle.

Explosive battery gases may be present while charging. Be certain there is enough ventilation to release the gases.

Be careful when working with large lead acid batteries. Wear eye protection and have fresh water available in case there is contact with the battery acid.

Over-charging and excessive gas precipitation may damage the battery plates and activate material shedding on them. Too high of an equalizing charge or too long of one may cause damage. Please carefully review the specific requirements of the battery used in the system.

◆ **Installation Safety**

The unit should be installed in a well-ventilated, cool, and dry environment.

Make sure the fans of the unit and the ventilation holes are not blocked.

Do not expose the unit to rain, moisture, snow, or liquids of any type.

◆ **Product Key Features**

- Suitable for mains power unstable or often off, and important equipment that requires backup power.
- This product adopts high-precision DSP control chip, precise detection circuit, advanced control technology .
- Intelligent temperature-regulating fan, efficient heat dissipation, extending system life.
- Pure sine wave output, Multiple working mode options
- Multiple electronic protections: short circuit protection, over voltage and under voltage protection, overload protection, Overheat / short circuit automatic restart(automatic restart three times).

- wide frequency and wide voltage input, can be used for diesel / gasoline generator input.
- 3-Stage battery charger with configurable charging current.
- 8 Pre-Set battery voltages including Lithium; User-defined option.

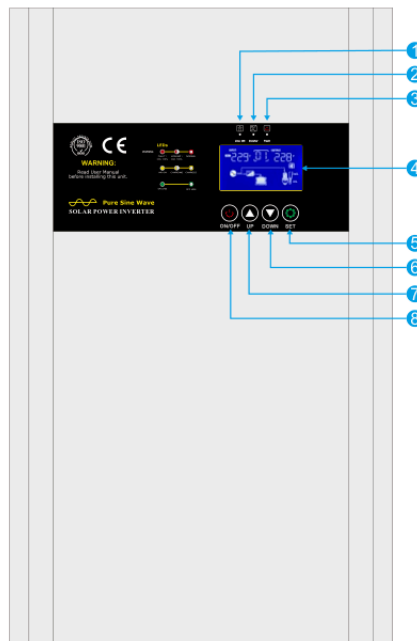
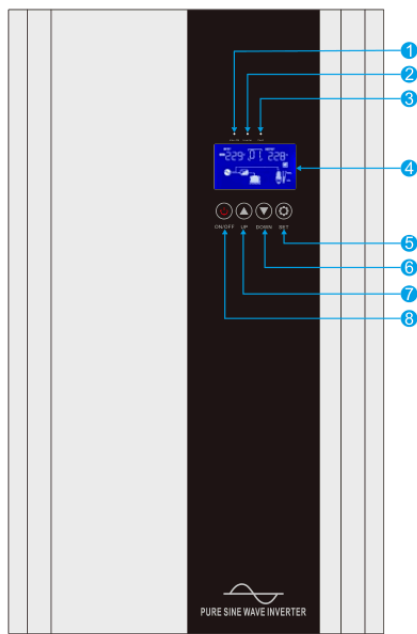
❖ Introduction to working mode

Work mode	Description
01 City power priority	When the mains power is available, the mains power supply power to the load, and when the mains power is off, the battery will supply power to the load and charging to battery.
02 Energy saving mode	When the inverter is in battery priority mode and the output load is less than 1%-10% of the power(set by the P7 ,10% default), the AC output will be turn off, The inverter restarts every 1 minute, and checks whether the load is greater than the set power. When the connected load is greater than the minimum setting, the inverter restarts output. This function is to reduce the battery loss and extend the battery backup time.
03 Battery priority mode	The battery supply power to the load. When the battery voltage is lower than the set battery voltage (voltage set by PA item), use City power supply power to the load. When the battery voltage is restored , the battery will supply power to the load again (When battery power is low or solar power is off, the inverter can be set by PC to use main power charging the battery or not).
04 Mains priority unattended mode	Inverter automatically turn on when connected to mains power or battery voltage is normal (not include inverter first time use) . But when the battery discharge voltage lower than battery voltage by set F4 (F4: set the battery low voltage power is turn off), the

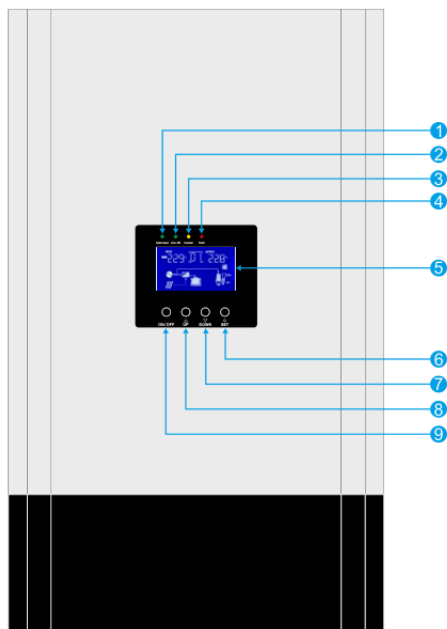
	power will be turned off. Inverter on only mains power is coming or turn on by hand.(mains is charging is or not set by PC).
05 Battery priority unattended mode	When the battery voltage is normal ,the inverter automatically turn on and supply power to the load. When the battery voltage is low, mains supply power to the load. When the battery discharge to battery low voltage shutdown (PL setting), the inverter enters standby and waits for the mains power or solar charging to battery .When the battery voltage is restored (PN setting),the inverter automatically turn on .But when the battery. discharge voltage is lower than battery voltage (set by F4), power will be turn off . Inverter can only be turned ON only by mains power input or turned ON by hand.
06 Solar priority mode	1.Solar energy priority working mode (06 mode) If the battery voltage is higher than 10.5V (PA program setting), solar and battery will provide power to the load at the same time. 2.When the battery voltage drops to 10.5V (PA program setting), the inverter will turn to bypass mode, utility provides power to the load . utility charging to battery or not can set by PC (ON/OFF/ AUTO default). 3.When the inverter is in bypass mode, the battery recovers voltage higher than 13.2V (Pb setting), the solar input voltage is 5V higher than the battery voltage, and solar is available for 1 minute, the inverter uses solar and the battery provides power to the load.

❖ Outward appearance

◆ Front panel

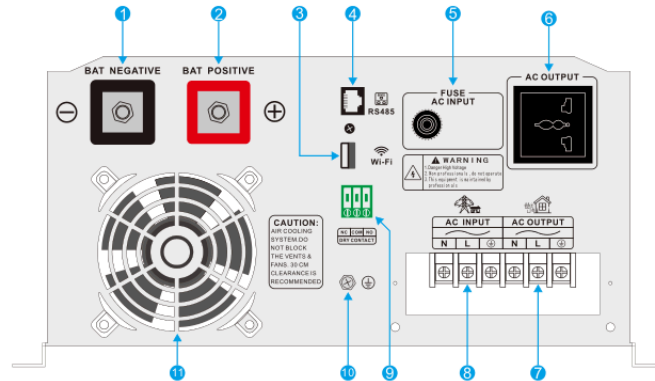


- ① AC Input indicator
- ② Inverter/charging indicator
- ③ Fault indicator
- ④ LCD
- ⑤ STE
- ⑥ DOWN
- ⑦ UP
- ⑧ ON/OFF

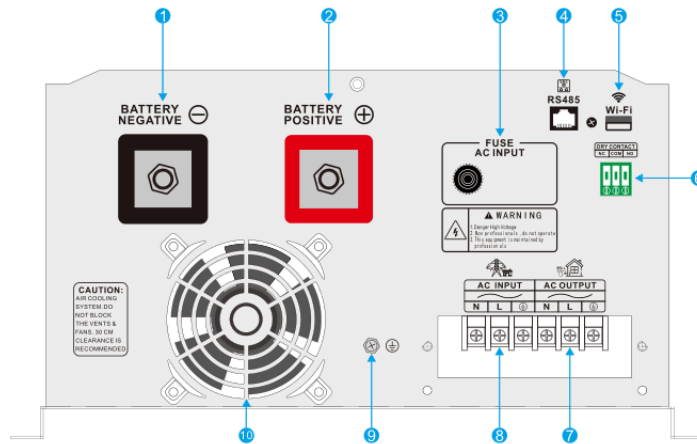


- ① Solar Input indicator
- ② AC Input indicator
- ③ Inverter/charging indicator
- ④ Fault indicator
- ⑤ LCD
- ⑥ STE
- ⑦ DOWN
- ⑧ UP
- ⑨ ON/OFF

◆ Inverter charger back panel

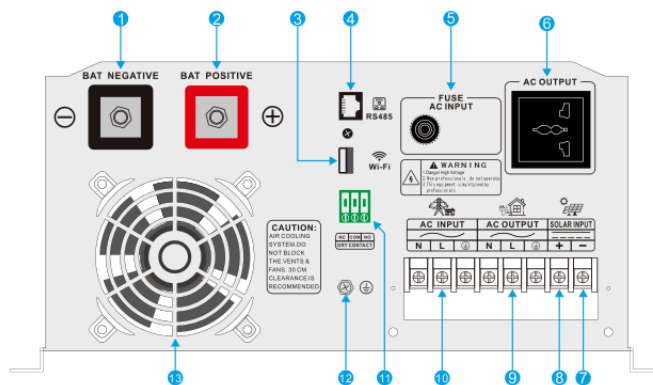


- | | |
|-----------------------------|-------------------------------|
| ① Battery negative terminal | ⑦ AC Output terminal |
| ② Battery positive terminal | ⑧ AC Input terminal |
| ③ WIFI Interface (Optional) | ⑨ Dry contact port (Optional) |
| ④ RS485/BMS (Optional) | ⑩ GND |
| ⑤ AC Input Fuse | ⑪ Fan |
| ⑥ AC Output Socket | |

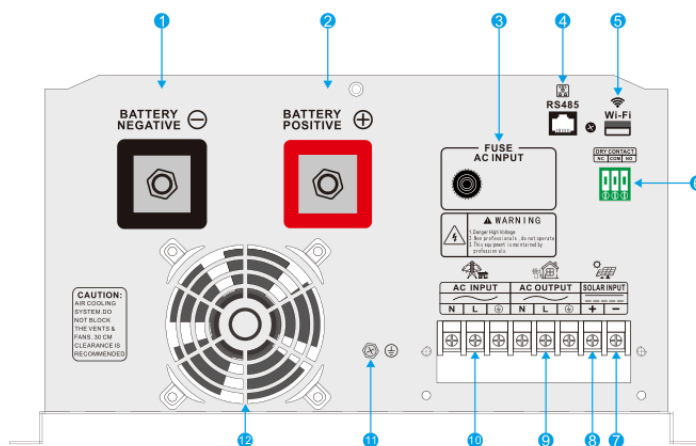


- | | |
|-----------------------------|-------------------------------|
| ① Battery negative terminal | ⑥ Dry contact port (Optional) |
| ② Battery positive terminal | ⑦ AC Output terminal |
| ③ AC Input Fuse | ⑧ AC Input terminal |
| ④ RS485/BMS (Optional) | ⑨ GND |
| ⑤ WIFI Interface (Optional) | ⑩ Fan |

◆ Hybrid Inverter with solar controller back panel



- | | |
|---------------------------------|---------------------------------|
| ① Battery negative terminal | ⑧ Solar Input positive terminal |
| ② Battery positive terminal | ⑨ AC Output terminal |
| ③ WIFI Interface (Optional) | ⑩ AC Input terminal |
| ④ RS485/BMS (Optional) | ⑪ Dry contact port (Optional) |
| ⑤ AC Input Fuse | ⑫ GND |
| ⑥ AC Output Socket | ⑬ Fan |
| ⑦ Solar Input negative terminal | |



- | | |
|-------------------------------|---------------------------------|
| ① Battery negative terminal | ⑦ Solar Input negative terminal |
| ② Battery positive terminal | ⑧ Solar Input positive terminal |
| ③ AC Input Fuse | ⑨ AC Output terminal |
| ④ RS485/BMS (Optional) | ⑩ AC Input terminal |
| ⑤ WIFI Interface (Optional) | ⑪ GND |
| ⑥ Dry contact port (Optional) | ⑫ Fan |

❖ DC wiring

WARNING

DC wiring not following the minimum DC requirement will cause irreversible damage to the unit.

CAUTION

Be careful of the positive and negative poles. Reversing the poles might cause permanent damage to the inverter. It will surely blow the internal fuse.

NOTE

Damage to the inverters due to reverse polarity is NOT covered by warranty.

NOTE

The input terminals of the inverters have large capacitors connected to them. Once a positive and negative wire are connected to the terminals, it will complete the circuit, and commence drawing a heavy current momentarily. As a result, there may be a sparking occurring even if the inverter is in the off position. To minimize sparking, it is recommended that the user have the appropriate size wire feeding into the inverters and/or install an external fuse leading into the inverter.

WARNING

Ensure all sources of DC power (i.e., batteries, solar, etc.) and AC power (utility power or AC generator) are de-energized (i.e., breakers opened, fuses removed) before proceeding—to prevent accidental shock

1. Unscrew the screw terminals along the edge of the side plate.
2. Gently remove DC Side plate to expose DC Terminals.
3. Connect the positive and negative DC Cables to their respective terminals and run them through the side panel.

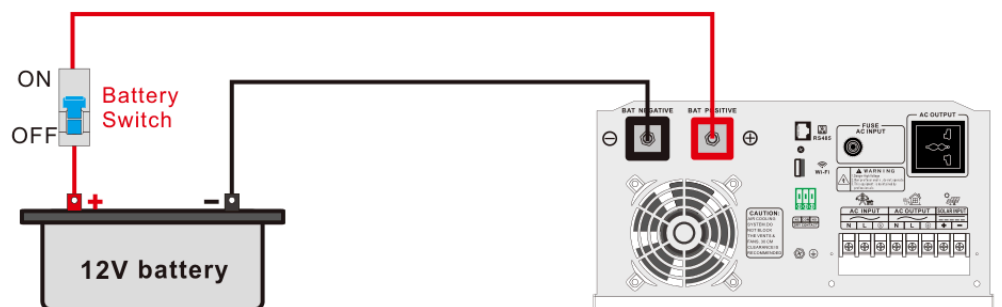
WARNING

The Terminals must be clean to reduce the resistance in the cable connection. A buildup of dirt or oxidation may eventually lead to the cable terminal overheating during periods of high current draw.

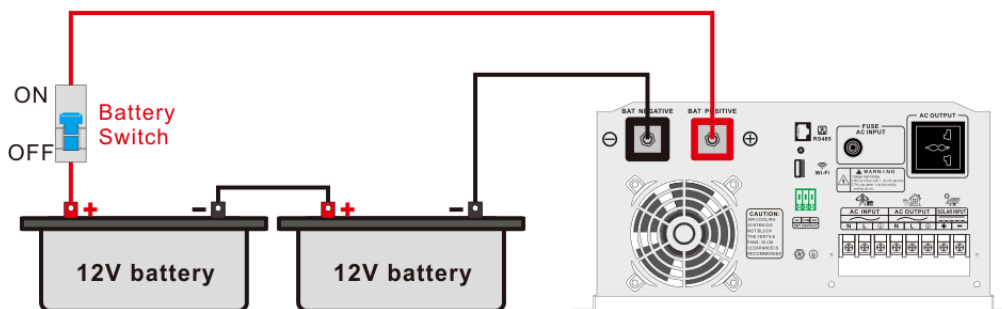
- When installing DC cables, the following are recommended:
 1. Battery positive and negative cables should be as close to the battery as possible to minimize voltage loss and other possible effects.
 2. Tie, tape, or twist cables together to reduce self-inductance.
 3. Install all over current devices on the positive cable.

◆ Battery connection diagram

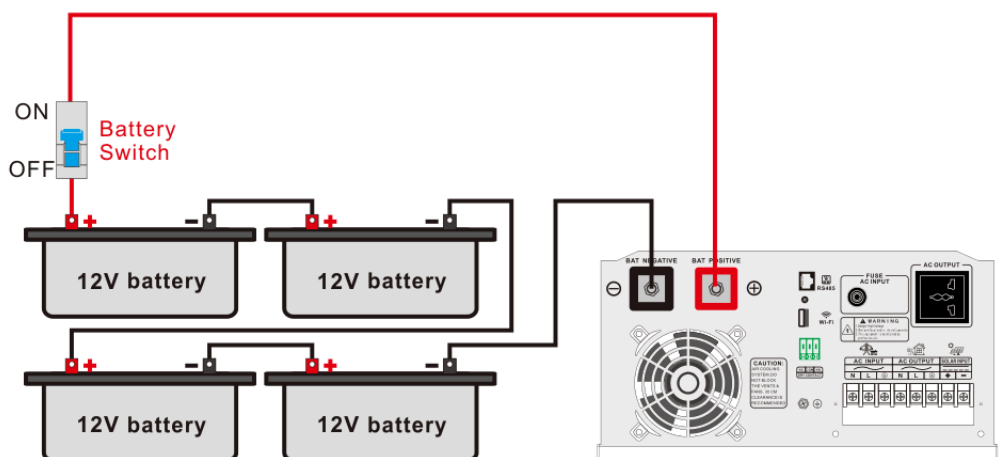
■ 12V Connection diagram



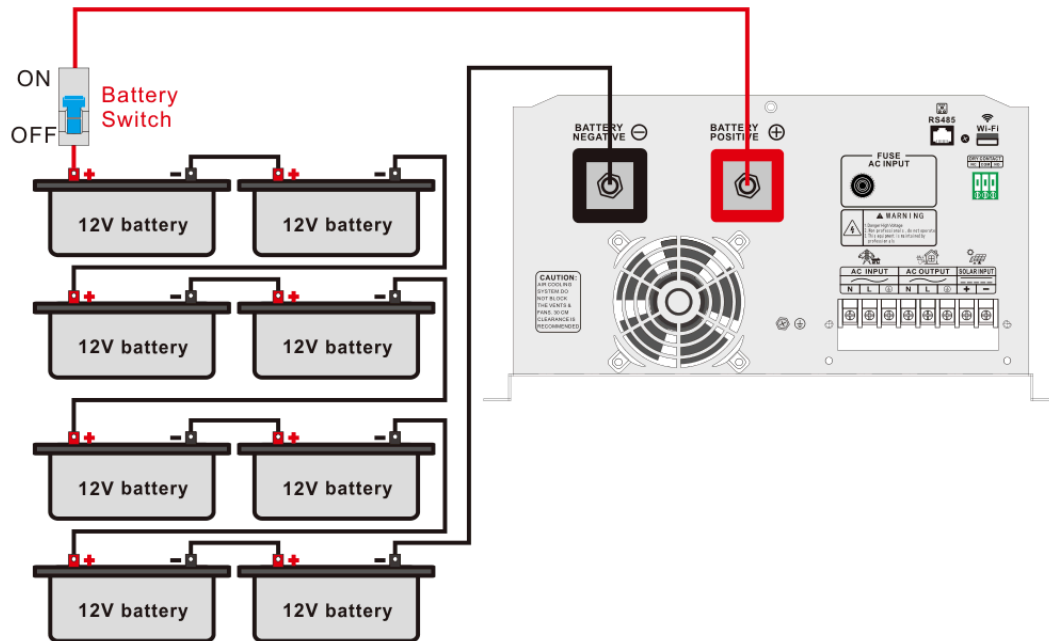
■ 24V Connection diagram



■ 48V Connection diagram



■ 96V Connection diagram



❖ AC wiring

CAUTION

Avoid switching on the inverter with the load (electronic devices) already switched on. This may trigger an overload since some electronic devices have an initial high power surge to start.

CAUTION

When switching off the inverter, turn off the electronic devices first. Although the inverter is off, the capacitors will still have a charge, so the DC and AC terminals must be disconnected if altering the circuitry.

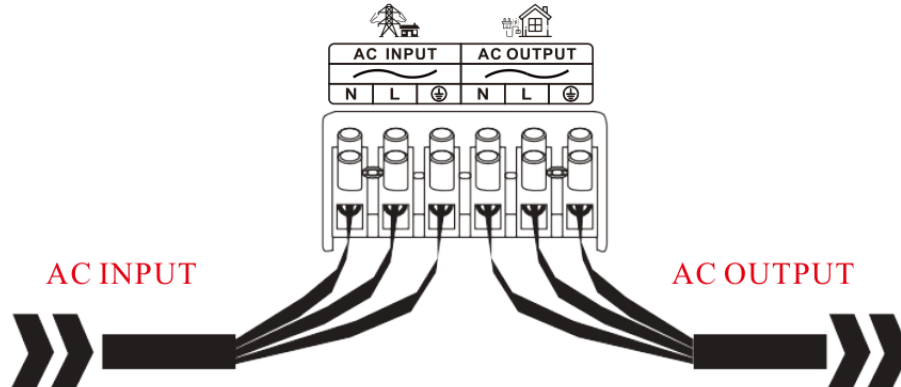
CAUTION

Ensure all sources of DC power (i.e., batteries, solar, etc) and AC power (utility power or AC generator) are de-energized (i.e., breakers opened, fuses removed) before proceeding—to prevent accidental shock.

● Steps:

1. Remove the AC Terminal block.
2. Make note of the AC Input terminals from left to right (Neutral, Live, Ground). and the AC output terminals from left to right (Neutral, Live, Ground).

* If you want to connect the inverter to diesel generator or gasoline generator, please follow these steps:



1. Turn on the generator, after it works stably, connect generator output to the inverter input (Confirm the inverter is no-load), then turn on the inverter as normal. After the inverter starts working, connect the load.
2. Recommended generator capacity is 2-3 times larger than that of the inverter.

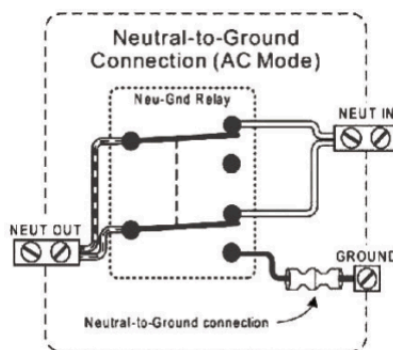
WARNING

The AC input must NEVER be connected to the AC output as irreversible overload or damage may result.

AC Output should NEVER be connected to public power or a generator.

WARNING

This cannot be disabled.



◆ Automatic Transfer Relay

The inverter chargers are equipped with transfer relay switch that switches between Inverter and Standby mode depending on availability of AC input

power. if AC is present, the transfer relay bypasses up of the incoming AC power through the inverter to power the AC loads on the inverter's output. In the event AC power gets disconnected, the inverter will power the loads through the battery bank.

WARNING

The inverter's internal AC transfer relay contacts are rated for 30 amps (each leg), the pass-through current for relay contact must be no greater than 30 amps or damage to this relay may occur.

◆ Dry Contacts for Auto Generator Start

- To use this function, an auto start controller must be installed on the generator. There are three contacts; left to right: Normally Closed (NC), Common (COM), Normally Open(NO).
- When mains power is off, inverter uses the battery power to supply the load and the dry contact auto start.
- Do not store units with auto gen start feature enabled. Generators exhaust dangerous fumes when running.

◆ Temperature Fault Auto Shutdown

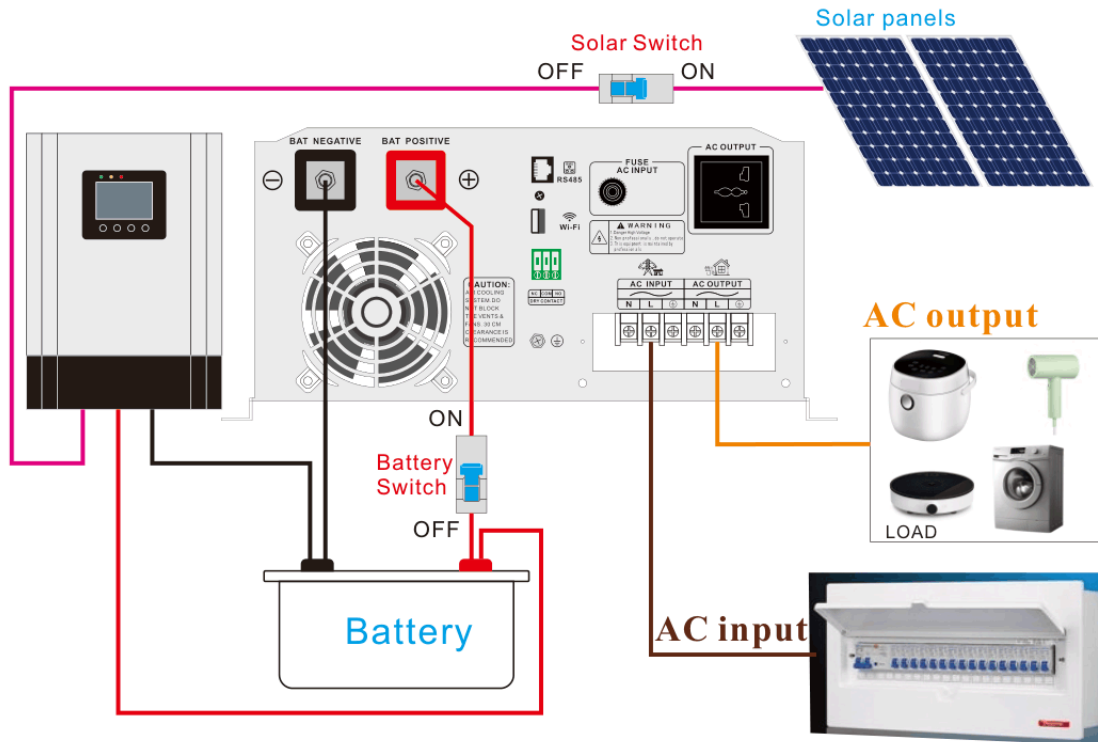
The operating temperature range for the inverter series is -10C°-50C° / 14F° - 122F°. If internal power components begin to exceed their safe operating temperature level, the inverter shuts down to protect itself from damage. It is required to manually restart the inverter when it cools down.

❖ FAN Operation

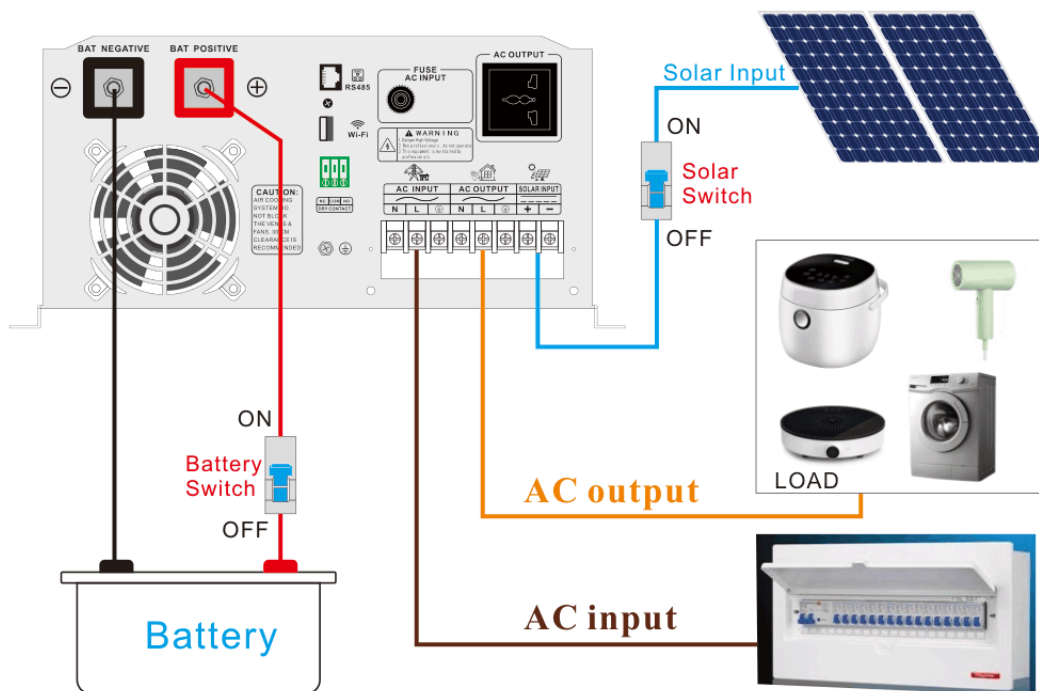
By default, when powering first, the unit fans and alarm will run for approximately 1 minute as part of the start-up routine. Other fan ON/OFF operation parameters are listed below:

Condition	Turn on Condition	Turn off Condition
Inverter Charger Uptime	Uptime $\leq$ 1 minute	Uptime $>$ 1 minute
Inverter Mode Load Percentage	Load $\geq$ 50%	Load $<$ 35%
DC Input Current	Current $\geq$ 10A	Current $<$ 6A
Inverter Heat Sink Temperature	Temperature $\geq$ 50°C	Temperature $<$ 45°C

❖ Inverter charger connection diagram

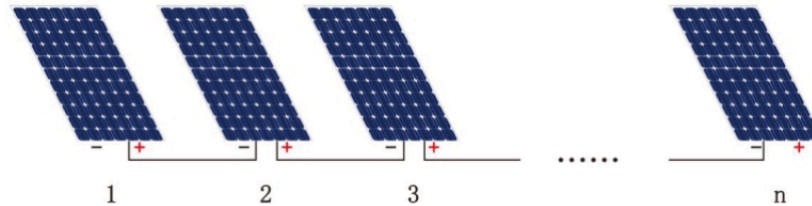


❖ Hybrid inverter with solar controller connection diagram



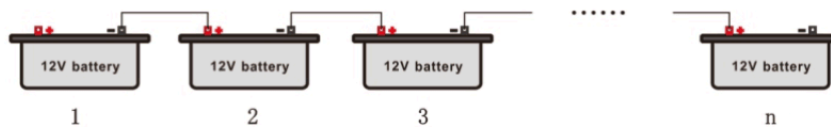
❖ Solar panel and battery connection diagram

◆ Solar panels in series



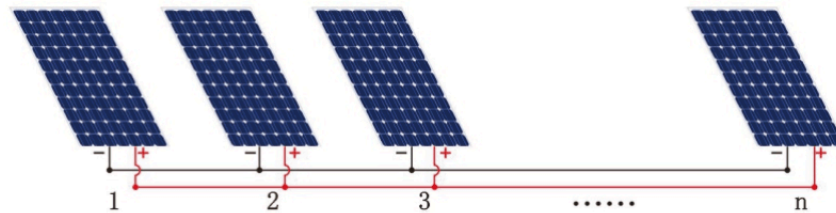
Solar panel $V_{\text{Total}} = V_1 + V_2 + V_3 + \dots V_n$, the voltages of each solar panel are added together.

◆ Batteries in series



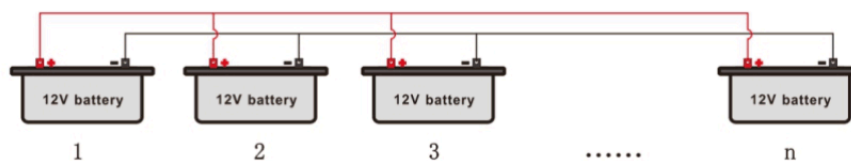
Battery $V_{\text{Total}} = V_1 + V_2 + V_3 + \dots V_n$, the voltages of each battery are added together.

◆ Solar panel in parallel



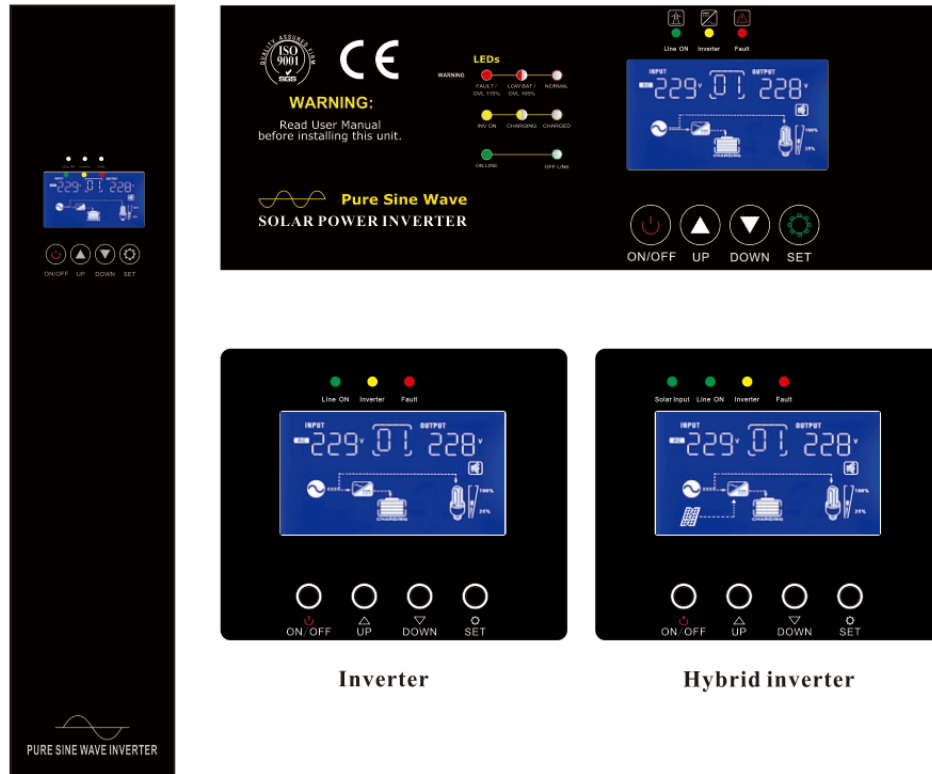
Solar panel $V_{\text{Total}} = V_1 = V_2 = V_3 = \dots V_n$, the voltage of 1PCS solar panel (the voltage of each panel must be the same to be connected in parallel).

◆ Battery in parallel



Battery $V_{\text{Total}} = V_1 = V_2 = V_3 = \dots V_n$, the voltage of 1PCS battery (the voltage of each battery must be the same to be connected in parallel).

❖ LED indicator and LCD introduction



◆ LED indicator

 Green Light (Solar input)	When there is solar power input, LED light will be ON, without solar power LED light will be OFF.
 Green Light (Line ON)	In the mains working mode, the LED light is on when the mains is working, the green light off when the inverter is inverting.
 Yellow Light (INT/ CHARGE)	1.Solid Battery is fully charged or inverter mode In the 03 battery priority mode, the PC menu determines whether the light is ON or OFF during charging. 2.Flashing Battery is charging (Mains Charging Indicator: It will OFF when charging is completed).

 Red Light (Fault/ Overload)	1.Flashing when the overload is more than 110%, lights flashing when the battery is low 2.Solid when the inverter fails.
 ON/OFF	Hold 3-5 seconds to turn on the inverter and buzzer will sound. Hold 3 seconds to turn off the inverter.
 UP DOWN	Press UP or DOWN to check LCD display parameters
 SET	1.Press3-5 seconds to enter the inverter setting page parameter. 2.Press to confirm setting in parameter setting.

◆ LCD info

Load Information				
OVER LOAD	Indicates overload.			
	Indicates the load level by1-25%,26-50%,51-75%and76-100%.			
	1-25%	26-50%	51-75%,	76-100%
	 100% 75% 50% 25%	 100% 75% 50% 25%	 100% 75% 50% 25%	 100% 75% 50% 25%
Mode Operation Information				
	Indicates unit is connected to shore power			
	Indicates the utility charger circuit is working			
	Indicates the DC/AC inverter circuit is working			
	Indicates the hybrid solar inverter is connected to solar energy			
Mute Operation				
	Indicates unit alarm is disabled(P6 menu can be set)			
	Indicates that the device is enabling WI-FI communication.			
	Indicates that the device is enabled for Bluetooth communication			
	Indicates the activation of generator mode(F3 menu can be set)			
	Load Enhanced Mode(Hd menu can be set)			

Battery Information	
Battery voltage(Single)	Battery capacity percentage
14.00V	100%
13.30V	100%
13.00V	90%
12.60V	80%
12.40V	70%
12.20V	60%
12.00V	50%
11.80V	40%
11.60V	30%
11.40V	20%
11.20V	10%
10.00V	0%

◆ LCD information

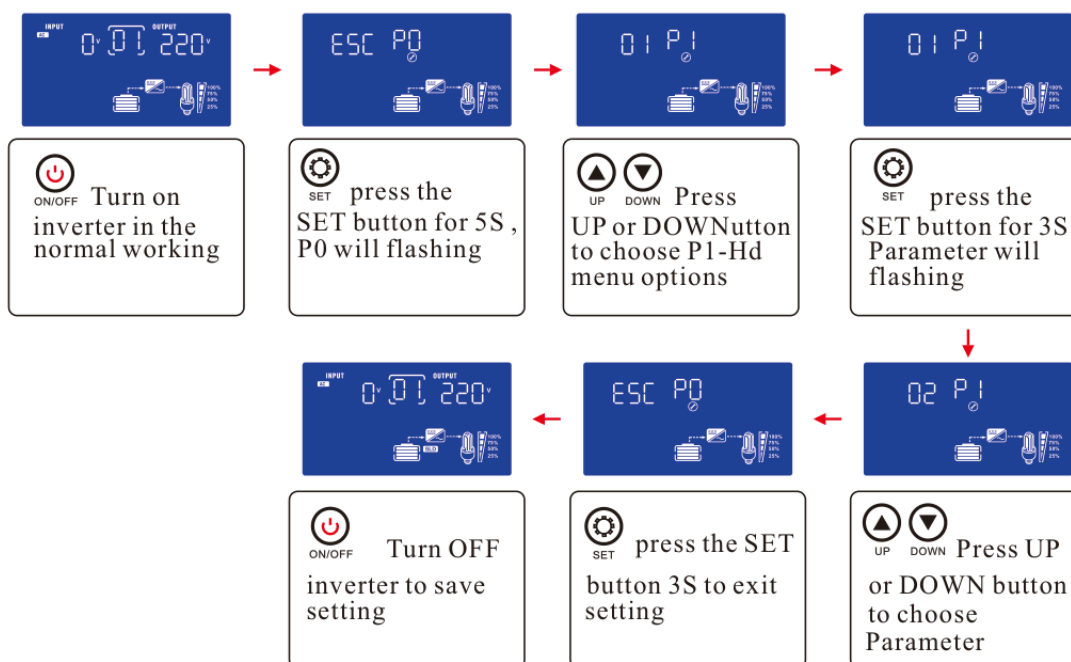
	Inverter mode: No mains input, only connect to battery:		Mains mode: (battery capacity icon flashing when AC charging)
	03: Battery priority mode, mains status (mains icon will flash)		50Hz/60Hz: Frequency display (Automatic)
	LOAD***%: Load % display		LOAD ***W: Load power display
	Overload display: (Over Load icon will flashes)		BATT***%: Battery % display
	BATT **V: Battery voltage display		AC OUTPUT: 0.0KWH: Accumulated power generated by the inverter display

	BATT **A: AC charging current and inverter discharging current display
--	---

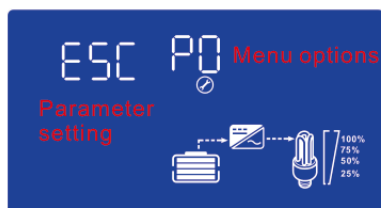
◆ Hybrid solar input information

	Solar input with mains		Solar input without mains
	PV ***V: Solar input voltage display		PV ***A Solar input current display
	PV ***W: Solar input power display		

❖ parameter setting



1. When the inverter in the normal working.
2. press the SET button for 5S to enter the setting menu. Enter the setting menu, LCD shows the working mode icon is flashing.
3. Press the UP button or the DOWN button to operate the menu options. The working mode icon will change depending on the operation.
4. When choose the right menu option, press the setting button SET 3S to enter the setting parameters, (At this time, the working mode icon is not flashing, in the left parameter item is flashing.)
5. Press the up or down button to select the setting parameter, press the SET button 3S to exit the setting. (At this time, the working mode icon flashes, and the parameter icon does not flash.)
6. To exit the mode (ESC), press the SET button 3S to enter the set parameters and then press the SET button 3S to exit the setting menu and save the settings.
7. Need to press the ON/OFF button to save parameters Setting.
8. **Quick setting of working mode: Long press the scroll down button to switch between 01, 03, and 06 working modes**



P0: Set work mode menu:

Press the SET button 3S to enter the setting menu, the menu selection icon is flashing. If need save and exit, press the SET button 3S to save and exit



P1: work mode setting:

- 01: City power priority mode
- 02: Energy saving mode
- 03: Battery priority mode
- 04: Mains priority Unattended mode
- 05: Battery priority Unattended mode
- 06: Solar priority mode
- 07: Clock mode(Optional)



P2: Battery type and charging voltage setting:

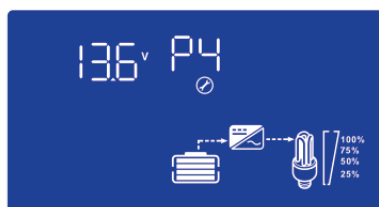
SLA: lead-acid battery (default), FLD: FLD battery, GEL: gel battery, LEP: lithium battery(Pulse charging method), Li: lithium battery(Constant voltage charging method, BMS communication effective automatic default recognition),, USE: user mode. Select

USE user mode to adjust battery voltage in P3 and P4 menus. If you do not select the USE user mode, the P3 and P4 menus will not appear.

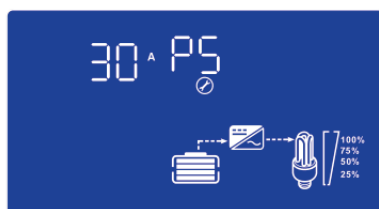
Battery type	uniform charge voltage (Single section)	floating charge voltage (Single section)
Lead-acid battery	14.4V	13.6V
FLD battery	14.8V	13.2V
Gel battery	14.4V	13.7V
Lithium battery	14.5V	13.5V



P3: Battery voltage uniform charge setting:
12.5V ~ 15.5V (single) can be set.



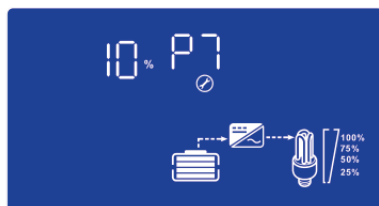
P4: Battery voltage floating charge setting:
12.5V ~ 13.9V (single) can be set.



P5: Maximum mains charging current setting:
(For details, refer to the label of the corresponding machine on Page 31,33)
5A, 10A, 20A,30A,40A,50A,60A,70A, 80A, 90A, 100A.



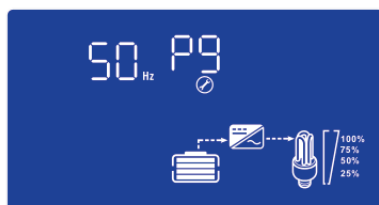
P6: Buzzer sound setting:
ON: Turn on the buzzer, OFF: Turn off the buzzer (over voltage, under voltage, overload, over temperature, except faults).



P7: Energy saving mode AC output setting: (10% default), in (USE) user mode, can be adjusted up and down 1.0-10% /1%.



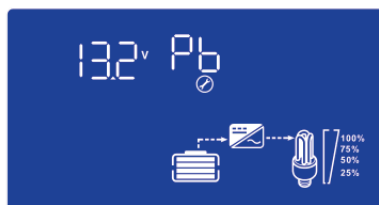
P8: Inverter output voltage setting: 220V default, (208V, 210V, 220V, 230V, 240V, 254V)
110V default, (104V, 105V, 110V, 115V, 120V, 127V)



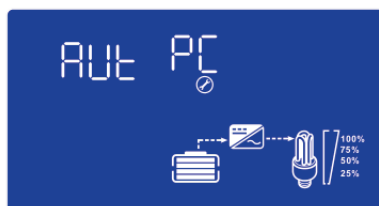
P9: AC Output frequency setting: 50Hz default, (50Hz, 60Hz)



PA: Solar priority mode, battery under voltage to mains voltage setting: 10.5V default(10.5V- 12.8V can be set. (0.1 increment)).



Pb: Solar priority mode, when battery voltage is restored, the inverter is disconnected from the city power.
Conversion inverter Voltage: 13.2V default, (12.4V ~ 14.4V) can be set.



PC: battery priority mode, mains is charged or not:
Aut default, ON (battery priority with AC charging), OFF (battery priority without AC charging), Automatic (Only the inverter with built-in solar controller can make this function work, detection solar priority or city power priority, select solar charging, the mains will charge when the solar charging current is small) The specific charging method is as follows:

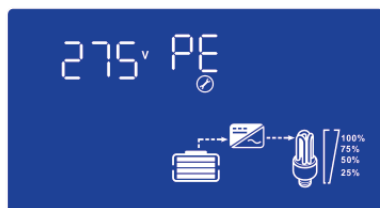
The relationship between solar charging and mains charging:	
Solar charging current	Mains charging current (* maximum set charging current)
40A	0%
30A	20%
20A	40%
10A	60%
5A	80%
0A	100%



Pd: AC input lowest voltage setting:

AC220V: Default 160VAC, (140V, 150V, 160V, 170V, 180V, 190V).

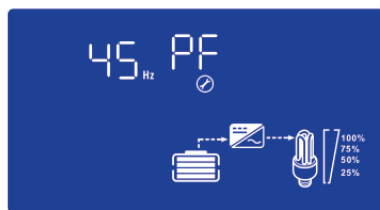
AC110V: Default 80VAC, (70V, 75V, 80V, 85V, 90V, 95V).



PE: AC input highest voltage setting:

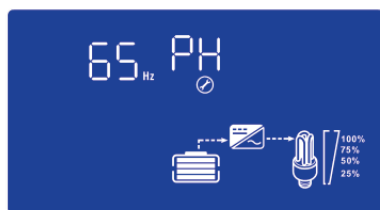
AC220V: Default 275V, (260V, 265V, 270V, 275V, 280V, 285V, 290V)

AC110V: Default 137V, (130V, 132V, 135V, 137V, 140V, 142V, 145V)



PF: AC input minimum frequency setting:

Default 45Hz, (40Hz, 41Hz, 42Hz, 43Hz, 44Hz, 45Hz)



PH: AC input maximum frequency setting:

Default 65Hz, (63Hz, 64Hz, 65Hz)



PL: Battery low voltage shutdown setting:

(must: $P_n > PL > F_4$)

10.0V default, 9.5V ~ 12.5V can be set.



Pn: unattended mode, battery under voltage restores the startup voltage setting:

(must: Pn>PL>F4)

13.8V default, 11.2V,11.4V,11.6V,11.8V,12.0V, 12.2V,12.4V,12.6V,12.8V,13.0V,13.2V,13.4V, 13.6V,13.8V,14.0V,14.2V,14.4V can be set.



F3: Generator mode setting:

Default OFF (ON \ OFF)



F4: Unattended mode battery voltage low power off power point setting:

(must: Pn>PL>F4)

8.0V default,8.0V,8.2V,8.5V,8.7V,8.9V,9.0V 9.2V,9.5V can be set.



F5: Fan failure detection settings:

Default single block OFF (ON, OFF)



F9: Dry contact type detection setting:

Default 0, (0: Whether the mains power is normal dry contact, 1: whether the battery is low battery dry contact. The battery dry contact alarm voltage is set by PL with a voltage of +0.9V).



H8: BMS current accuracy setting

Default 0, (0: BMS current without decimal point display accuracy 1, 1: BMS current with decimal point display accuracy 0.1).



HA: After shutdown, when the inverter automatically starts up after the AC power is restored, the AC output needs to be turned on or off.

0: After shutdown, the output automatically turns on (default).

1: After shutdown, the output does not turn on.



Hb: Clock function setting (only when this function is turned on, **07 mode** can be realized) optional function

0: Turn off the clock function (default).

1: Turn on the time control function.



HC: 03, 05, 06 mode AC to DC switching times
0: Off. 5~15 indicates the maximum number of conversions that can be set in 1 hour, and the default is 6 times.

Note: When the set value of the number of conversions is reached in 1 hour, the machine will sound a long alarm and display the fault code E19 until the current mains connection is disconnected, turned off the inverter and then turned on again, it will resume normal operation and re-accumulate the number of conversions.



Hd: Load Enhanced Mode

0: Disable Enhanced Mode.

1: Enable Enhanced Mode.

❖ Fault code and repair

- This icon  will flash when there is a fault.



Code	Buzzer or indicator	Fault cause	Solution
E01	Keep shouting, red light keep lighting	Battery low voltage	Check the battery is broken or not
E02	1 long 2 short B-BB shout, red light is off	Battery overvoltage	Check the battery is broken or not
E03	Buzzer Buzzer sounding the red light keep lighting	Battery low voltage	Check the battery is broken or not
E04	Intermittent Buzzer sound, red light is off	Transformer secondary line reverse connection	Restart or contact the supplier
E05	Buzzer sounding, red light keep lighting	Inverter startup failure	Check output have circuit, overload or not
E06	Buzzer sounding, red light keep lighting	Output for short circuit	Check output have circuit, overload or not
E07	Buzzer sounding, red light keep lighting	Output voltage is too low or overloaded	Check output voltage and load
E08	Buzzer sounding, red light keep lighting	Temperature is too high	Check the fan is working
E09	Output Low voltage	Battery low voltage overload	Check the battery is broken or not Reduce load
E11	Buzzer sounding, red light keep lighting	Low temperature or temperature control failure	Check the temperature control lines are not open circuit , dropped

E13	Buzzer sounding, red light keep lighting	Low temperature shutdown	
E14	Buzzer sounding, red light off	Fan open circuit	Check the fan are not open circuit , dropped
E15		Input relay short circuit	Tap the input relay to check if broken or not
E16	Buzzer sounding, red light keep lighting	The mains power is turned on, and the mains power input voltage is too high	Reduce input voltage
E19	Intermittent Buzzer sound, red light is off	1. Weak or decaying battery 2. HC function is enabled to reach the set limit function	1. Replace the battery 2. Turn off HC function or shut down and restart (eliminate E19 alarm code)
E21	Buzzer sounding, red light keep lighting	Overload discharge protection	Reduce usage load

Controller-1 fault codes			
codes	Buzzer or indicator	Fault cause	Solution
F01	The red light is on straight	The controller internal temperature is too high	Check if the cooling fan is rotating
F02	The red light is on straight	The controller fails to automatically identify the battery level.	Disconnect the battery to check if the battery voltage is correct and then reconnect it
F03	The red light is on straight	Solar input voltage is too high	Check whether the solar input voltage is correct
F05	The red light is on straight	Battery voltage is high	Disconnect and check if the battery voltage is correct and if there is any damage
F06	The red light is on straight	Battery voltage is low	Disconnect and check if the battery voltage is correct and if there is any damage
F07	The red light is on straight	DC output overcurrent	Check if the DC output load is overloaded or short circuited. Reduce load and troubleshoot short circuits, then reconnect.

Controller-2 fault codes			
codes	Buzzer or indicator	Fault cause	Solution
F10	The red light is on straight	The controller internal temperature is too high	Check if the cooling fan is rotating
F20	The red light is on straight	The controller fails to automatically identify the battery level.	Disconnect the battery to check if the battery voltage is correct and then reconnect it
F30	The red light is on straight	Solar input voltage is too high	Check whether the solar input voltage is correct
F50	The red light is on straight	Battery voltage is high	Disconnect and check if the battery voltage is correct and if there is any damage
F60	The red light is on straight	Battery voltage is low	Disconnect and check if the battery voltage is correct and if there is any damage
F70	The red light is on straight	DC output overcurrent	Check if the DC output load is overloaded or short circuited. Reduce load and troubleshoot short circuits, then reconnect.

❖ Buzzer alert

Buzzer sound:

- 1) Inverter: A beep sounds every 10 seconds. 10S --- 10S ---
- 2) When the battery voltage is low, one sound per second. --1S--1S--
- 3) When the battery is high voltage: three sound every four seconds, one long and two short. 4S -----
- 4) Overload:
 - > 110% long sound. ----
 - > 105% sound every two seconds. 2S --- 2S ---
- 5) Temperature control failure: 2 sound every 4 seconds 4S-- --4S---
- 6) The temperature is too high: sound every two seconds. 2 --- 2 ---
- 7) Fan abnormality: long sound ---

❖ Specifications

Inverter Specifications													
Model	1000W	1200W	1500W	2000W	3000W	4000W	5000W	6000W	7000W	8000W	10000W	12000W	15000W
Surge Power (1 second)	3000W	3600W	4500W	6000W	9000W	12000W	15000W	18000W	21000W	24000W	30000W	36000W	45000W
Surge Power (10 second)	1300W	1560W	1950W	2600W	3900W	5200W	6500W	7800W	9100W	10400W	13000W	15600W	19500W
Surge Power (60 second)	1100W	1320W	1650W	2200W	3300W	4400W	5500W	6600W	7700W	8800W	11000W	13200W	16500W
Rated Voltage	110VAC, 120VAC, 220VAC, 230VAC, 240VAC(Optional)												
AC Frequency Range	45-65Hz												
Selectable Voltage range(VAC)	220VAC, 230VAC, 240VAC±10%(Auto-sensing)								220/230VAC:160-275VAC 240VAC:180-290VAC				
Output Frequency Range(AC mode)	110VAC, 120VAC±10%(Auto-sensing)				110VAC:80-137VAC 120VAC:90-150VAC				- - - - -				
Output Frequency	Tracking automatically /shared frequency with the mains input 60/50±0.5 Hz												
DC Voltage Input	12V/24VDC		12V/24V/48VDC		48V/96VDC								
Input Wave Form	Sine Wave (Utility or Generator)												
Output Wave Form	Pure Sine Wave												
Output Overload	105% < Load < 110% ± 10% : Fault (Turn off output after 60 seconds) 110% < Load < 130% ± 10% : Fault (Turn off output after 10 seconds) 150% < Load ± 10% : Fault (Turn off output after 1 seconds)												
Thermal Method	cooling fan in intelligent control is≤42 ℃, fan rotates slowly to ≥ 45 ℃ or the load is ≥ 50%, and the fan rotates fast												
Communication port	RS485(BMS)/WI-FI (Optional)												
temperature	-10℃ ~+50℃												
Humidity	10%~90%												
Short Circuit Protection	Software Protection												
Line Mode Efficiency	> 95%												
Optimal Efficiency	> 85%												

DC Battery Specifications														
AC Charging(Max)	Model	1000W	1200W	1500W	2000W	3000W	4000W	5000W	6000W	7000W	8000W	10000W	12000W	15000W
	12VDC	30A	30A	30A	30A	40A	40A	40A	40A	40A	40A	40A	40A	40A
	24VDC	20A	30A	30A	40A	40A	50A	50A	50A	50A	50A	50A	50A	50A
	48VDC	-----	-----	-----	20A	30A	40A	50A	50A	50A	50A	50A	50A	50A
	96VDC	-----	-----	-----	-----	10A	20A	20A	20A	30A	30A	40A	40A	50A
Battery Type		GEL, AGM, SLA, FLD, LI, USER (default SLA)												
Input Voltage Range		12VDC:10.5 ~ 15V			24VDC:21 ~ 30V			48VDC:41 ~ 60V			96VDC:82 ~ 120V			
Floating Charge Set		12VDV:12.9 ~ 13.6V			24VDC:25.8 ~ 27.2V			48VDC:51.6 ~ 54.4V			96VDC:103.2 ~ 108.8V			
Low Voltage Restored		12VDC:12.6 ~ 14.4V			24VDC:25.2 ~ 28.8V			48VDC:50.4 ~ 57.6V			96VDC:100.8 ~ 115.2V			
Low Voltage Shutdown set		12VDC:10 ~ 10.9V			24VDC:20 ~ 21.8V			48VDC:40 ~ 43.6V			96VDC:80 ~ 87.2V			
Over Voltage Protection		12VDC:16.7V			24VDC:33.4V			48VDC:66.8V			96VDC:133.6V			
Over Voltage Alarm		12VDC:15V			24VDC:30V			48VDC:60V			96VDC:120V			
Transfer Time		Typical: 5-8ms(Including detection time)												
Waveform		Pure sine wave												
solar charge controller														
Model	1000W	1200W	1500W	2000W	3000W	4000W	5000W	6000W	7000W	8000W	10000W	12000W	15000W	
Max Solar Charger Current	PWM:60A(Max),MPPT:100A(Max)													
Battery DC Voltage	12VDC/24VDC			24VDC/48VDC/96VDC			48VDC/96VDC			MPPT:150A(Max)				
PV Voltage Input Range	PWM:12V;25V;24;50V;48;75V;96V;145V(Max) MPPT:12V/24V(20-50A);90V;12V/24V(60-100A);130V;48V;(30A-150A)160V(Max) 96V(50-60A);180V;96V(80-150A);280V(Max)													
Max PV Power Input	12VDC System	10A:120W,20A:240W,30A:360W,40A:480W,50A:600W,60A:720W,80A:960W,100A:1200W (Max)												
	24VDC System	10A:240W,20A:480W,30A:720W,40A:960W,50A:1200W,60A:1440W,80A:1920W,100A:2400W(Max)												
	48VDC System	10A:480W,20A:960W,30A:1440W,40A:1920W,50A:2400W,60A:2880W,80A:3840W,100A:4800W,120A:5760W,150A:7200W(Max)												
	96VDC System	30A:2880W,40A:3840W,50A:4800W,60A:5760W,80A:7680W,100A:9600W,120A:11520W,150A:14400W(Max)												

Inverter Specifications												
Model	1500VA	1800VA	2000VA	3000VA	5000VA	6000VA	7000VA	8000VA	10000VA	12000VA	15000VA	20000VA
Surge Power (1 second)	4500VA	5400VA	6000VA	9000VA	15000VA	18000VA	21000VA	24000VA	30000VA	36000VA	45000VA	60000VA
Surge Power (10 second)	1950VA	2340VA	2600VA	3900VA	6500VA	7800VA	9100VA	10400VA	13000VA	15600VA	19500VA	26000VA
Surge Power (60 second)	1650VA	1980VA	2200VA	3300VA	5500VA	6600VA	7700VA	8800VA	11000VA	13200VA	16500VA	22000VA
Rated Voltage	110VAC,120VAC,220VAC,230VAC,240VAC(Optional)											
AC Frequency Range	45-65Hz											
Selectable Voltage range(VAC)	220VAC,230VAC,240VAC±10%(Auto-sensing)								220/230VAC:160-275VAC 240VAC:180-290VAC			
Output Frequency Range(AC mode)	110VAC, 120VAC±10%(Auto-sensing)				110VAC:80-137VAC 120VAC:90-150VAC				-----			
Output Frequency	Tracking automatically /shared frequency with the mains input 60/50±0.5 Hz											
DC Voltage Input	12V/24VDC			12V/24V/48VDC			48V/96VDC					
Input Wave Form	Sine Wave (Utility or Generator)											
Output Wave Form	Pure Sine Wave											
Output Overload	105% < Load < 110% ± 10% : Fault (Turn off output after 60 seconds) 110% < Load < 130% ± 10% : Fault (Turn off output after 10 seconds) 150% < Load ± 10% : Fault (Turn off output after 1 seconds)											
Thermal Method	cooling fan in intelligent control is≤42 ℃, fan rotates slowly to ≥45 ℃ or the load is ≥ 50%, and the fan rotates fast											
Communication port	RS485(BMS)/WI-FI (Optional)											
temperature	-10℃ ～+50℃											
Humidity	10%～90%											
Short Circuit Protection	Software Protection											
Line Mode Efficiency	> 95%											
Optimal Efficiency	> 85%											

DC Battery Specifications														
AC Charging(Max)	Model	1500VA	1800VA	2000VA	3000VA	5000VA	6000VA	7000VA	8000VA	10000VA	12000VA	15000VA	18000VA	20000VA
	12VDC	30A	30A	30A	30A	40A	-----	-----	-----	-----	-----	-----	-----	-----
	24VDC	20A	30A	30A	40A	40A	50A	50A	50A	-----	-----	-----	-----	-----
	48VDC	-----	-----	-----	20A	30A	40A	50A	50A	50A	50A	50A	50A	50A
	96VDC	-----	-----	-----	-----	10A	20A	20A	20A	30A	30A	40A	40A	50A
Battery Type		GEL, AGM, SLA, FLD, LI, USER (default SLA)												
Input Voltage Range		12VDC:10.5 ~ 15V			24VDC:21 ~ 30V			48VDC:41 ~ 60V			96VDC:82 ~ 120V			
Floating Charge Set		12VDV:12.9 ~ 13.6V			24VDC:25.8 ~ 27.2V			48VDC:51.6 ~ 54.4V			96VDC:103.2 ~ 108.8V			
Low Voltage Restored		12VDC:12.6 ~ 14.4V			24VDC:25.2 ~ 28.8V			48VDC:50.4 ~ 57.6V			96VDC:100.8 ~ 115.2V			
Low Voltage Shutdown set		12VDC:10 ~ 10.9V			24VDC:20 ~ 21.8V			48VDC:40 ~ 43.6V			96VDC:80 ~ 87.2V			
Over Voltage Protection		12VDC:16.7V			24VDC:33.4V			48VDC:66.8V			96VDC:133.6V			
Over Voltage Alarm		12VDC:15V			24VDC:30V			48VDC:60V			96VDC:120V			
Transfer Time		Typical: 5-8ms(Including detection time)												
Waveform		Pure sine wave												
solar charge controller														
Model	1500VA	1800VA	2000VA	3000VA	5000VA	6000VA	7000VA	8000VA	10000VA	12000VA	15000VA	18000VA	20000VA	
Max Solar Charger Current	PWM:60A(Max),MPPT:100A(Max)													
Battery DC Voltage	12VDC/24VDC			24VDC/48VDC/96VDC			48VDC/96VDC			MPPT:200A(Max)				
PV Voltage Input Range	PWM:12V/25V/24-50V/48-75V/96V:145V(Max)													
	MPPT:12V/24V:(30-40A):90V,12V/24V(50-100A):130V,48V(30-200A):160V/250V(Optional)													
	MPPT:96V(30-60A):180V,96V(80-150A):280V													
Max PV Power Input	12VDC System	10A:120W,20A:240W,30A:360W,40A:480W,50A:600W,60A:720W,80A:960W,100A:1200W (Max)												
	24VDC System	10A:240W,20A:480W,30A:720W,40A:960W,50A:1200W,60A:1440W,80A:1920W,100A:2400W(Max)												
	48VDC System	30A:1440W,40A:1920W,50A:2400W,60A:2880W,80A:3840W,100A:4800W,120A:5760W,150A:7200W,200A:9600W(Max)												
96VDC System	30A:2880W,40A:3840W,50A:4800W,60A:5760W,80A:7680W,100A:9600W,120A:11520W,150A:14400W,200A:19200W(Max)													

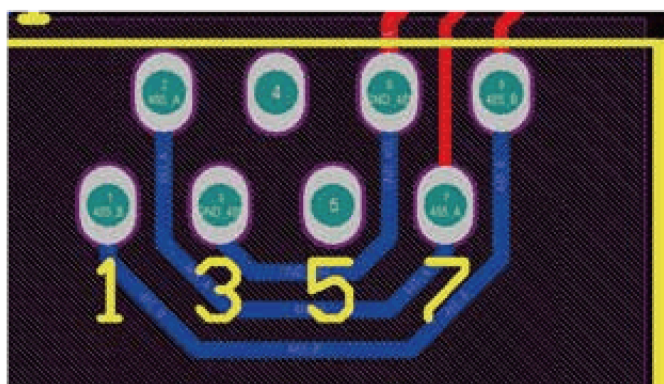
❖ BMS parameters

Definition of RJ45 Port pin for BMS

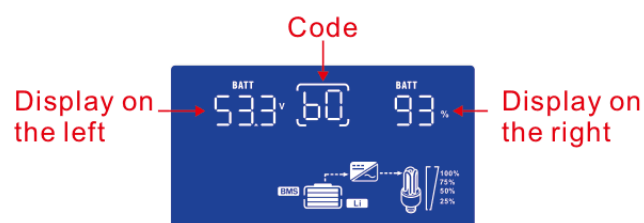
NO.	Rs485 Pin
1	RS485B
2	RS485A
3	GND
4	
5	
6	GND
7	RS485A
8	RS485B



Rs485 Port



BMS display



Code	Display on the left	Display on the right
b0	Battery voltage	Percentage of battery capacity
b1	Charging current	Discharge Current
b2	Single cell temperature	Number of cycles

b3	Battery environmental temperature	Battery MOS temperature
b4	Maximum voltage of a single battery cell	Minimum voltage of a single battery cell
b5	Low voltage shutdown low voltage	Charging cutoff voltage
b6	Turn on charging:ON	Turn off charging : OFF

BMS fault code

Code	describe
E21	Single-core voltage consistency alarm
E22	MOSFET high temperature alarm
E23	Low temperature of a single core alarm
E24	Alarm for high temperature of single core
E25	Single-core voltage low alarm
E26	Single-core voltage high alarm
E27	The total voltage of the module is low
E28	The total voltage of the module is high
E35	Intercom error alarms
E36	Discharge over current alarm
E37	Charging over current alarm
E38	Single-core temperature consistency alarm
E42	MOSFET over-temperature protection
E43	Single-core temperature under-temperature protection
E44	Single-core temperature over-temperature protection
E45	Single-core voltage under-voltage protection
E46	Single-core voltage over voltage protection
E47	Module total voltage undervoltage protection
E48	Module total voltage over voltage protection
E54	System fail-safe protection
E56	Discharge over current protection
E57	Charging over current protection