

TOPO DC POWER
Centerfire Lithium
MODEL: T-CF-100AH

User Operation Manual
Version 1.1

This manual must be read in its entirety before operating the Centerfire and retained for future reference.
Thank you for choosing to purchase TOPO DC POWER products.

Important Notice

This user manual has been prepared to provide guidance for the safe installation, operation, and maintenance of the Centerfire Lithium system. TOPO DC POWER has taken reasonable care to ensure the information contained in this manual is accurate and addresses foreseeable use conditions and avoidable hazards at the time of publication.

However, no manual can cover every possible situation, installation method, or environmental condition. The user is responsible for exercising sound judgement and common sense when installing, operating, or transporting this product.

Failure to follow the instructions and safety information provided in this manual may result in personal injury, property damage, or damage to the product.

If you are uncertain about any aspect of installation or use, consult a qualified auto electrician or suitably licensed professional before proceeding.

Nothing in this manual excludes, restricts, or modifies any rights or remedies available under applicable Australian Consumer Law.

TOPO DC POWER – CUSTOMER CARE

For all product-related enquiries, technical assistance, or support:

Website: www.topodcpower.com.au
Phone: +61 (08) 9457 7809
Email: contact@topodcpower.com.au

Office Hours:
8:30 am – 4:30 pm (UTC +8)

Australia Headquarters

Address: Topo DC Power
3 Whyalla Street
Willetton, WA 6155
Australia

Warranty

Important Safety & Legal Notice

This product must be installed and used in accordance with the instructions provided in the user manual. Improper installation, incorrect wiring, misuse, or operation outside specified limits may result in personal injury, vehicle damage, property damage, or product failure.
If you are not confident in automotive electrical systems, installation must be carried out by a qualified auto electrician or suitably licensed professional.
To the maximum extent permitted by law, TOPO DC POWER is not responsible for loss or damage resulting from incorrect installation, misuse, or failure to follow instructions.
This product is covered by Australian Consumer Law guarantees that cannot be excluded.

Product registration is required to activate warranty coverage.
Please register your Centerfire Lithium product at:

https://www.topodcpower.com.au/warranty/

The **serial number is located on the Centerfire Lithium unit** and is required for product registration, warranty claims, and all service or support enquiries.

This TOPO DC POWER product is covered by a **24-month factory warranty on all electronic components** and a **5-year limited warranty on battery cells**, effective from the original date of purchase showing on invoice.

Warranty coverage applies only when the product is **installed, operated, and maintained in accordance with the instructions and specifications** outlined in this user manual and used within the stated operating and environmental conditions.

For warranty claims, service enquiries, or technical assistance, please contact **TOPO Customer Care**.
TOPO DC POWER is committed to providing **ongoing manufacturer support, technical expertise, and product serviceability well beyond the stated warranty period**.

Warranty Exclusions

This warranty does not apply under the following circumstances:

1. The product has not been installed, maintained, operated, or used in accordance with the manufacturer's instructions or specifications.
2. Damage or defects resulting from misuse, abuse, negligence, physical modification, fire, liquid ingress, incorrect voltage, power surges or dips, lightning or thunderstorm activity, force majeure events, unstable voltage supply, tampering, or unauthorised repair or modification.
3. Damage caused by defective, incompatible, or unauthorised accessories, third-party hardware, or third-party software not supplied or approved by TOPO DC POWER.
4. Loss or theft of the product.
5. Battery repair or replacement where battery cells have been used outside specified operating conditions or have reached the end of their service life through normal wear.

IMPORTANT SAFETY INSTRUCTIONS
READ ALL INSTRUCTIONS BEFORE USING THIS APPLIANCE.

Failure to follow these instructions may result in **electric shock, fire, serious injury, or damage to the product**.

These instructions apply to the appliance and, where applicable, to all tools, accessories, chargers, and mains adapters used with this product.

To Reduce the Risk of Fire, Electric Shock, or Injury

1. This appliance is not intended for use by young children, infirm persons, or persons with reduced physical, sensory, or mental capabilities unless supervised or instructed by a responsible person.
2. Children must be supervised to ensure they do not play with the appliance.
3. Use the appliance only for its intended purpose as described in this manual. Do not perform maintenance or servicing unless specified or instructed by TOPO DC POWER.
4. This appliance is intended for **dry-condition use only**. Do not operate in rain or wet environments.
5. Do not touch the appliance, connectors, or cables with wet hands.
6. If a supply cord or charging cable is damaged, the appliance must not be used. Replacement must be performed by TOPO DC POWER or an authorised service agent.
7. If the appliance is dropped, damaged, submerged, or exposed to conditions outside those specified, disconnect immediately and discontinue use.
8. Do not disassemble the appliance. There are no user-serviceable parts inside.
9. Do not place cables under strain, tension, or compression.
10. Keep the appliance away from open flames, sparks, and high-temperature sources.
11. Do not immerse the appliance or allow liquid ingress.
12. Use only charging equipment and accessories specified or approved by TOPO DC POWER.
13. When used in a vehicle, the appliance must be securely restrained to prevent movement during transit.
14. Charge only in a well-ventilated area.
15. Do not exceed the maximum rated current or load for any input or output connection.

Lithium Battery Safety Information

This appliance contains **lithium battery cells**. Improper use may result in **fire, electric shock, chemical leakage, or explosion**.

Lithium Battery Safety Warnings

1. Do not short-circuit battery terminals or allow contact with conductive materials.
2. Do not crush, puncture, deform, or subject the appliance to excessive mechanical shock.
3. Do not expose the appliance to temperatures outside the specified operating or storage ranges.
4. Do not charge using equipment other than that specified by TOPO DC POWER.
5. If unusual odours, excessive heat, smoke, swelling, or abnormal noise are detected, disconnect immediately and move the appliance to a non-combustible area.
6. In the event of battery leakage, avoid contact. Rinse affected areas with clean water and seek medical attention.
7. Do not charge or store the appliance in confined or unventilated spaces.
8. Do not attempt to replace or service battery cells.
9. Dispose of the appliance and battery in accordance with local lithium battery disposal regulations. Do not dispose of in household waste.



Transport and Storage Safety

These instructions apply to the transport and storage of the Centerfire Lithium and its internal lithium battery system.

Transport Safety

1. Ensure the appliance is switched OFF when not in use, disconnected from all connections, and securely restrained during transport.
2. Protect the appliance from excessive vibration, impact, or crushing forces.
3. Do not transport if damage, swelling, leakage, or abnormal operation is observed.
4. Do not transport in conditions where exposure to water or high humidity may occur.
5. When transporting in a vehicle, position the appliance away from:
    - engine or exhaust heat
    - sharp objects or loose cargo
    - cable strain or connector damage
6. Ensure adequate ventilation during extended transport.
7. Transport may be subject to lithium battery regulations. Compliance with applicable regulations is the responsibility of the user.





Storage Safety

1. Store the appliance in a **cool, dry, well-ventilated location**, away from direct sunlight and heat sources.
2. Do not store outside specified temperature limits.
3. Maintain the battery within the recommended state-of-charge range during long-term storage.
4. Do not store:
    - near combustible materials
    - in confined or unventilated spaces
    - where accessible to children
5. Disconnect all external cables and chargers before storage.
6. Inspect the appliance periodically for signs of damage or abnormal condition.
7. Follow long-term storage procedures outlined in this manual if the appliance will not be used for extended periods.

Centerfire Lithium — System Overview

Centerfire Lithium draws inspiration from the proven design principles of the **50-calibre ammunition case**—a form factor used in demanding military, industrial, and expedition environments. Its emphasis on **strength, simplicity, and reliability** aligns directly with TOPO DC POWER's engineering approach.

Beyond the enclosure, Centerfire Lithium is engineered as a **fully integrated dual purpose, mobile and permanent power system**, not a collection of separate components. Internal mechanical mounting, electrical pathways, and thermal management are designed to support **simultaneous charging and discharging while in transit**—across sealed roads, remote unsealed tracks, and 4×4 conditions.

A reinforced steel enclosure, **collapsible carry handle**, and balanced form factor enable true portability, allowing the system to be safely moved, redeployed, or transferred between vehicles. **Recessed, protected connector orientation** reduces the likelihood of cable or connector damage while on the move and minimises overall footprint.

Designed, manufactured, and supported in Australia, Centerfire Lithium is built to be **supported and serviceable**, **not disposable**—engineered for long-term ownership and real-world use.

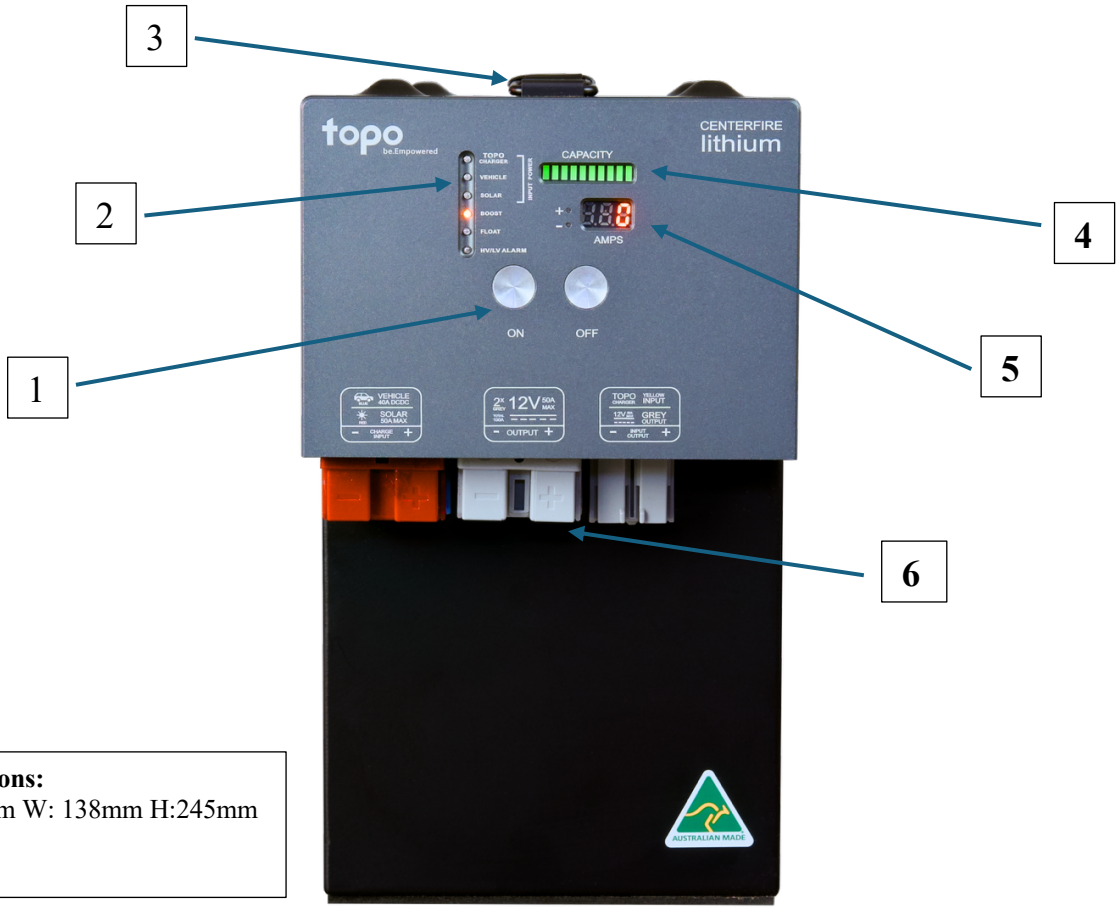
One System — Multiple Functions

Centerfire Lithium integrates multiple traditionally separate components into a single platform:

- A-grade **$LiFePO_4$ prismatic lithium battery cells**
- **Heavy-duty** steel enclosure with collapsible carry handle
- Advanced **TOPO Battery Management System (BMS)**
- **Heavy-duty** input and output connectors
- Built-in **TOPO 40A DC-DC charger**
- Integrated **TOPO dual-battery controller with voltage sensing**
- Built-in **TOPO Solar charge controller**
- Dedicated **TOPO Mains** charging input
- Optional **TOPO wireless plug-and-play monitoring** (no Bluetooth or mobile app)
- Intuitive onboard display with clear charge and discharge indicators
- Built-in audible low voltage alarm and Low voltage shutdown.

Each function is integrated to **reduce system complexity, minimise failure points, and simplify real-world use**.

Front Display Panel and Indicators



Dimensions:
L: 288mm W: 138mm H:245mm
Weight:
11.15Kg

Front Panel Overview

1. **System ON/OFF Switch**
2. **Mode Indicator LEDs**
3. **Collapsible Carry Handle**
4. **State-of-Charge Battery Capacity Gauge**
5. **Net Charge / Discharge Ammeter**
6. **Heavy-Duty Recessed Input and Output Connectors**

Charging and Status LED Indicators

- **MAINS LED**
  Illuminates when mains charging is detected via the **Yellow input connector**.
- **VEHICLE LED**
  Illuminates when vehicle input is connected and DC-DC charging is active.
- **SOLAR LED**
  Illuminates when solar charging is detected and charge current exceeds **2 A**.
- **BOOST LED**
  Illuminates when the battery is actively accepting charge from any input source.
- **FLOAT LED**
  Illuminates when battery voltage has reached **14.2 V**, regulating charge to prevent over-charging.
- **HV/LV ALARM LED**
  Illuminates and sounds an audible alarm when battery voltage:
  - Drops **below 11.5 V**, or
  - Rises **above 14.5 V**

Input and Output Connectors

All connectors are clearly **labelled, colour-coded, and keyed** to minimise the risk of incorrect connection. Vehicle and solar input connectors are supplied.

Outputs

If any output exceeds its maximum rating, the internal **magnetic circuit breaker** will trip and **automatically shut down the unit**.

After shutdown, the Centerfire Lithium must be **manually switched ON** to restore operation.

Combined Total Output: 100 A

- **2 × 50 A Grey Anderson-type connectors**
  → Maximum continuous output: **50 A**

Combined Total Output: 20 A

- **1 × 20 A Grey Mini connector**
  → Maximum continuous output: **20 A**

Inputs

- **Yellow Connector (Mains)**
  → For use only with **TOPO DC POWER 10A or 23A mains chargers**
- **Red Connector (Solar)**
  → Maximum input: **25A**
- **Blue Connector (Vehicle)**
  → Maximum input: **50A**

Built-In Protection Features

- Advanced Topo Battery Management System (BMS) for safe, plug-and-play operation
- Unique colour-coded, keyed and clearly labelled input and output connectors
- High and low voltage audible alarm
- Automatic high/low voltage protection and system shutdown
- Output circuits equipped with current-sensing magnetic overload protection
- Internally fused
- High temperature protection and system shutdown

State of Charge (SOC) Battery Capacity Gauge

The SOC gauge may become out of sync if the unit is left powered ON, standby power draw for extended periods without load or without a charging source. Fully charge unit to Float before each use.

1. Switch **ON** the Centerfire Lithium.
2. Fully charge the unit from any available charging source (Mains, Vehicle, or Solar) until the **FLOAT LED indicator** illuminates.

This process **automatically recalibrates** the 12 V/100Ah State of Charge battery capacity gauge.

Pro Tip: Press the **ON** button once to display battery voltage.
If voltage is **12.8 V or below with no loads drawing from battery**, recharge immediately.

The battery capacity gauge uses **10 green LED segments** to display the remaining charge level.
Each bar represents **10% of the total 100 Ah capacity**.

How Does the Amp Gauge Work?

The front-panel **amp gauge** displays the **net charge or discharge current** to and from the Centerfire Lithium.

- A **positive (+)** reading indicates NET **charging current** entering the unit.
- A **negative (–)** reading indicates NET **discharge current** supplying connected loads.

This feature is particularly useful for:

- Monitoring **solar, mains and vehicle charging performance**
- Understanding and calculating **recharge times based on charge rate.**
- Measuring load consumption from devices such as **12 V fridges, lighting, and other accessories.**

The amp gauge has a resolution accuracy of **±0.5 A count tolerance**.

Pro Tip:
Becoming familiar with the simple Centerfire Lithium monitoring system enables early identification of general troubleshooting indicators:

- System or connection issues
- Charging efficiency
- Load profiles, connected appliance efficiency

Optional: Topo Wireless Remote Battery Monitor

Model **T-CF-100AH** is compatible with **TOPO DC POWER's Plug-and-Play Wireless Remote Battery Monitor**.

The remote monitor plugs into any powered **12 V cigarette socket** and mirrors the same display information shown on the Centerfire Lithium front panel that's in range.

- **Typical operating range:** approximately **10 metres**
- Actual range may vary depending on surrounding environment and obstructions

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Charging the Centerfire Lithium

The **ON/OFF switch, display, and all input and output connections** are clearly marked and located on the front panel of the unit.

IMPORTANT:
The Centerfire Lithium must be switched ON for all charging operations.

When the Centerfire Lithium is connected to a power source and actively charging, the **charging input and operating mode** are indicated by the front-panel LED indicators.
The **amp gauge** displays the **net charge or discharge current** to and from the Centerfire Lithium.

- A **positive (+)** reading indicates **net charging current** entering the battery.
- A **negative (–)** reading indicates **net discharge current** depleting the battery.

Pro Tip –
Simply plug or unplug what you want to display on the Amp meter to find out Charge and Discharge rates

Charging Modes

- **BOOST Mode LED**
  Indicates the battery is actively accepting charge.
  This occurs when battery voltage is **below 13.7 V**.

- **FLOAT Mode LED**
  Indicates the battery is fully charged. voltage has reached **14.2 V**.
  In this mode, input source LEDs (**Mains, Vehicle, Solar**) will turn **OFF** when the system is regulating in FLOAT mode, preventing unit from over-charging.

Pro Tip: With the Centerfire Lithium switched **ON**, press the **ON** button once to display battery voltage:

- **12.8 V or below with no loads connected** → Recharge immediately (battery low)
- **Above 14.2 V** → Check all connected charging sources, charge voltage limits exceeded.

Charge Times (Indicative)

Charging time will vary depending on battery state of charge, available charging source, and operating conditions.
Approximate Charging Times:

- **Mains AC (10 A charger):** ~10 hours (flat to full)
- **Solar charging:** ~10 hours **(Approx:** 200Watts of solar in peak sun, @ 10A)
- **Vehicle charging:** ~2.5 hours (40 A DC-DC)
- **Vehicle + Solar:** Faster than vehicle charging alone

Pro Tip: Monitoring the amp gauge will display active charge rate.

The Centerfire Lithium supports **simultaneous charging from Solar, Vehicle, and Mains AC**, provided limits are not exceeded.

IMPORTANT:
Combined **Mains and Solar charging input must not exceed 25 A**.

Charging from Mains AC Power

Safely ensure **all power sources and the Centerfire Lithium unit are switched OFF** before making or altering any electrical connections.

The Centerfire Lithium **Mains Input** is designed to be used **only with TOPO DC POWER 10A or 23A battery chargers / power supplies**.

WARNING:
Use of non-approved chargers may damage the battery system and will void the warranty.
If you are unsure whether your mains charger is compatible, **contact TOPO DC POWER Technical Support** before connection.

Charging Procedure

1. Using the supplied cables, inspect all leads for damage and ensure secure connections are made in the following order:
   Mains Power → TOPO Charger / Power Supply → Centerfire Lithium (Yellow Mains Input)
2. Switch **ON the Mains power**, then switch **ON the Centerfire Lithium**.
3. The **Mains LED indicator** on the front panel will illuminate, confirming AC power is connected and charging is in progress, net positive charge will display on amp gauge.

NOTE:
The Centerfire Lithium must remain switched ON for charging to continue.

Charging from Vehicle

The Centerfire Lithium incorporates **automatic vehicle input voltage sensing** and a **built-in FAST 40A DC-DC charger**. Charging from a vehicle is achieved using the **Blue 50A Anderson-type connector (supplied)** connected to the vehicle's primary (starter) battery.

CAUTION:
Safe, Fast, Efficient continuous charging requires **correct polarity, correct size cable,** and **good connections** from Vehicle starter battery to supplied Blue 50A Anderson connector. Incorrect polarity, cable size and poor connections will cause damage to system.

Vehicle Voltage Sense

The vehicle input voltage sensing function **automatically isolates the vehicle's starter battery**, preventing starter battery from being over discharged and going flat.

Automatic Vehicle Charging Logic

- **Charging enabled:** Primary battery voltage **above 12.8 V**
- **Charging disabled:** Primary battery voltage **below 12.8 V**

This ensures reliable charging while protecting the vehicle's 12V electrical system.

NOTE:
Ensure the vehicle's alternator and wiring is capable of supplying combined system charge rate and supplying charging voltage above 12.8V at the primary starter battery terminals when engine is running.
If you are unsure whether your Vehicles alternator is compatible, **contact TOPO DC POWER Technical Support** before connection.

Vehicle Fast-Charge Checklist

1. Confirm the **Blue 50A Anderson connector** is securely connected to the Centerfire Lithium vehicle input and that **12 V DC power** is available from the vehicle's primary battery.

   Pro Tip – Quick Vehicle Input Voltage Check:
   Press the **ON and OFF buttons simultaneously once** to display the measured input voltage at the Blue 50A vehicle connector. Continue to monitor Centerfire Lithium's amp gauge.

2. When connecting the vehicle to the Centerfire Lithium for the first time, ensure the **Vehicle LED indicator is OFF**.
   If the Vehicle LED is ON, cycle the unit **ON/OFF/ON** until the vehicle indicator turns OFF.

3. With the Centerfire Lithium switched **ON**, start the vehicles engine.
   The system will measure the primary battery voltage and **automatically activate the internal built-in 40A DC-DC charger** once measured supply voltage exceeds **12.8 V**.

4. Turn the vehicle engine **OFF**.
   The system will re-measure battery voltage and **automatically disable the DC-DC charger** when voltage falls below **12.8 V**.

5. Vehicle charge test cycle complete. The Centerfire Lithium may remain switched **ON**.
   Ensure the **Vehicle LED indicator is OFF** before disconnecting the Blue 50A Anderson connector.

Refer to the back of this user manual for the vehicle wiring diagram.

Charging from Solar

The Centerfire Lithium incorporates a **built-in solar charge controller** and uses a **Red 50A Anderson connector (supplied)** to connect solar charging from compatible panels.

The solar input accepts **unregulated 12V solar panels** (Open Circuit voltage up to 25V), with a **maximum solar charging current of 25 A**.

CAUTION:
Ensure correct polarity from all power sources to and from the Centerfire Lithium unit. Incorrect polarity will cause damage to the system.
Safe, Fast Efficient continuous charging requires **correct polarity, correct rated size cable,** and **good connections.**

Pro Tip: In most cases a 150-200Watts of solar will supply 6-10A/h in good sun. This is enough to offset most 12V fridge draws keeping your battery charged and fridge powered for longer. Be mindful solar panel efficiency is heavy effected by dirty panels, shade and orientation.

Solar Charging Procedure

1. Connect a suitable **12 V solar panel** to the Centerfire Lithium using the supplied **Red 50A Anderson connector**, then connect to the **Solar DC Input (Red connector)** on the unit.
2. When a solar charging source is connected and supplying **more than 2 A**, the **Solar LED indicator** on the front panel will illuminate, confirming solar charging is active.

Pro Tip – Check connected solar panel efficiency and charge rate by monitoring the Amp gauge.

Use of External Solar Controllers (MPPT / PWM)

Depending on the design and configuration of the external solar controller, it **may be possible** to connect an MPPT or PWM solar controller in series.

IMPORTANT:
The **Red Solar connector on the Centerfire Lithium is an INPUT ONLY** and must **not** be used as a power output.

If you are unsure whether your external solar controller is compatible, **contact TOPO DC POWER Technical Support** before connection.

FLAT BATTERY WARNING

If the low-voltage audible alarm sounds and or battery voltage is 12.5v or below **charge immediately**. Continued operation while in a low-voltage condition, Centerfire lithium will self-protect and low voltage system shutdown. If left flat over extended period of time may cause battery damage and may require factory recovery service.

Using the Centerfire Lithium

A true dual purpose built permanent and portable dual battery system. Integrated engineered systems to safely supply simultaneous in-built charge and discharge capability.

Ready – Set - Go

1. Disconnect loads from the grey outputs, when turning ON for the first time.
2. Press **ON**. The display and LEDs will illuminate and perform a brief self-check.
3. Plug & Play

DOs and DON'Ts (Quick Reference)

Ensure correct polarity from all power sources to and from the Centerfire Lithium unit.
Incorrect polarity will cause damage to the system.
Safe, Fast, Efficient charging requires **correct polarity, correct rated size cable,** and **good connections**.

Charging & Discharging

DO'S	DON'T
• Keep the unit **ON while charging**. • Charge fully to Float Mode on first use. • Charge immediately if the low-voltage alarm sounds. • Check battery voltage and amp gauge regularly • Charge in a **well-ventilated** area. • Keep the mains charger **upright** and vents clear. • Follow all input and output current limits.	• Do not leave the unit uncharged after low-voltage alarm. • Do not use unsupported chargers. • Do not exceed input and output limits. • Do not block air vents on unit. • Do not use if you observe any sign of physical damage to cabling or internal electrical components.

USE & TRANSPORT

DO'S	DON'T
• Secure the unit in a vehicle. • Keep away from heat, sparks, and open flame. • Maintain ventilation.	• Do not open internal panels (voids warranty). • Do not use after water exposure or if cables are damaged.

Storage

DO'S	DON'T
• Store cool, dry, out of direct sunlight. • Inspect and recharge every 3 months if not used.	• Do not store where exposed to water, fire, or extreme heat. • Do not store in sealed, unventilated spaces.

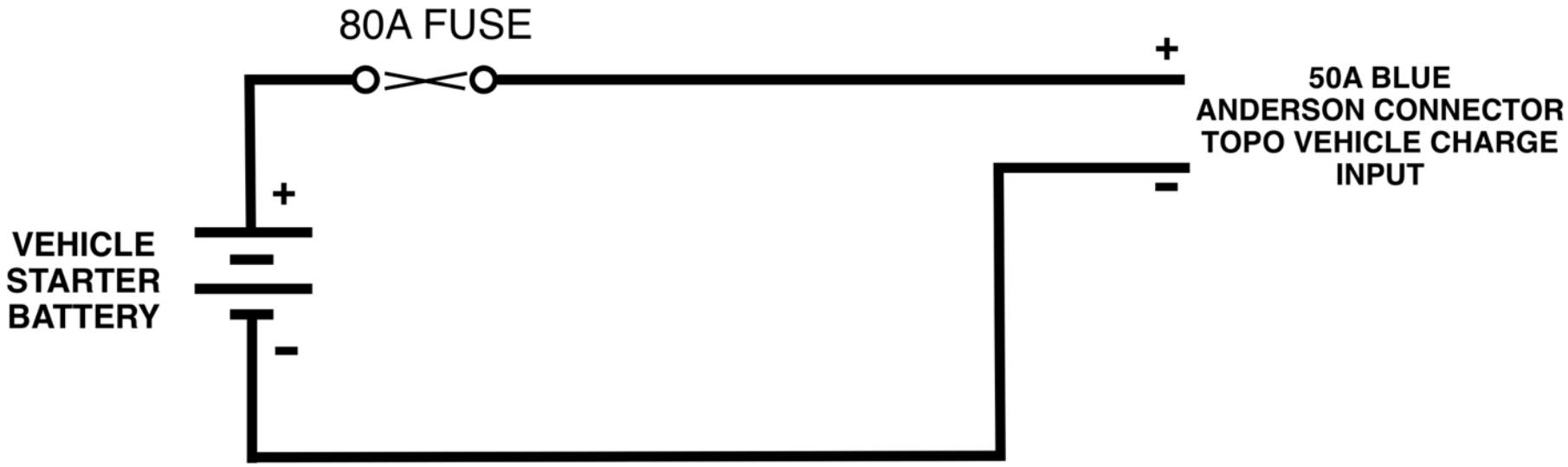
If you are unsure on any details above, **contact TOPO DC POWER Technical Support** before connection.

Technical Specifications:

Battery:	
Cell Chemistry	Lithium Iron Phosphate (LiFePO4) prismatic cells IEC62619 Accredited.
Capacity	1280Wh (12.8V, 100Ah),
Cycles	3000+ Cycles to 80% D.O.D
Battery Management System	Topo's Advanced Battery Management System High voltage cut off – 14.5V Low voltage cut off - 11V Low voltage alarm – below 11.5V High voltage alarm – above 14.5V High Temperature thermal cutoff - 65° C Overload current protection – 100Ah
Inputs/Outputs	
Vehicle DC Input (Blue 50A Anderson connector)	Max Draw up to 55A from Primary battery DC Voltage range, 12.8V to 15V Built -in ,40A DC-DC Charger
Solar DC Input (Red 50A Anderson connector)	DC Open Circuit Voltage Range 15V-25V DC Up to 25A from regulated OR unregulated solar panels. For 12V system. **Mains and Solar charging input must not exceed 20A, internal 25A Fuse**
Mains Charge Input (Yellow 35A mini connector)	To suit only Topo's 10A and 23A Mains charger **Mains and Solar charging input must not exceed 20 A, internal 25A Fuse**
2x 50A Grey Anderson type connectors	Total output 100Amps - Peak 100Amps
1x 35A Grey mini connectors	Combined total output 20 Amps
General:	
Weight:	11.15kg
Dimensions (L x H x W)	L: 288mm x W: 138mm x H: 245mm (top) L: 242mm x W: 138mm (base)
Operating Temperature (Charge)	0° ~ 50° C ~ (32° ~ 122° F)
Operating Temperature (Discharge)	0° ~ 50° C ~ (32° ~ 122° F)
Optimal Storage Temperature	25° C ~ (77° F)
Warranty	2 Years Factory Warranty on all electronics 5 Years on battery cells. Continued support long after the warranty period.

WIRING DIAGRAM

TOPO CENTERFIRE LITHIUM - MODEL:T-CF-100AH
BUILT-IN, VOLTAGE SENSE + 40A DC-DC CHARGER



If you are unsure about any installation or wiring procedures described in this manual, consult a qualified auto electrician or suitably licensed professional before proceeding.