

LITHIUM2400 OWNER'S MANUAL

Portable Dual Battery System

Power that moves with **YOU**



COPYRIGHT & DOCUMENT CONTROL

© 2026 Flexopower Energies (Pty) Ltd. All rights reserved. – Owner Manual Version 2.4, October 2026

No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of Flexopower Energies (Pty) Ltd.

Flexopower® and the Flexopower logo are registered trademarks of Flexopower Energies (Pty) Ltd.

Product specifications and information contained in this manual are subject to change without prior notice.

TABLE OF CONTENTS

01	Safety Information
02	Quick Start Guide
03	Intended Use
04	Package Contents
05	Before First Use
06	Product Overview
07	LCD Display
08	Product Features
09	Switching the Lithium2400 On and Off
10	Operating the Outputs
11	Charging the Lithium2400
12	Troubleshooting
13	Error Codes
14	Frequently Asked Questions
15	Care and Maintenance
16	Battery Storage
17	Technical Specifications
18	Shipment and Packaging
19	Warranty
20	Disposal and Recycling
21	Copyright
22	Contact Information

1. SAFETY INFORMATION

Read Before Operating

Thank you for choosing the Flexopower Lithium2400 Portable Dual Battery System.

Please read this Owner's Manual completely before using the Lithium2400.

The Lithium2400 contains high-energy Lithium Iron Phosphate (LiFePO₄) battery technology and integrated high-power AC and DC electrical systems. Incorrect installation, operation or maintenance may result in personal injury, equipment damage or reduced battery life.

Retain this manual for future reference and ensure that anyone operating the Lithium2400 has read and understood these instructions.

WARNING

Failure to follow these instructions could result in serious injury, fire, electric shock or permanent damage to the Lithium2400.

- Do not open the Lithium2400 enclosure or remove any enclosure screws. There are no user-serviceable components inside. Do not modify, disassemble or attempt to repair the unit.
- Do not expose the unit to flames, sparks or temperatures exceeding 60°C.
- Do not immerse the Lithium2400 in water or operate it in standing water.
- Do not insert foreign objects into connectors, ventilation openings or cooling fans.
- Do not operate the unit if it has been dropped, showing signs of damage or emitting unusual smells, smoke or excessive heat.
- Disconnect all charging sources immediately if abnormal operation occurs.
- Keep the Lithium2400 away from children and pets.
- Use only approved charging equipment and accessories.

CAUTION

Failure to observe these precautions may reduce product life or result in equipment damage.

- Operate only within the specified temperature range of 0°C to 45°C.
- Always ensure adequate ventilation around the cooling vents.
- Never block ventilation openings during charging or operation.
- Protect all connectors from dust, moisture and contamination.
- Do not place heavy objects on top of the Lithium2400.
- Avoid prolonged exposure to direct sunlight inside enclosed vehicles.

IMPORTANT

The Lithium2400 is designed for portable energy storage and backup power.

It is not intended for:

- Life-support equipment
- Aircraft electrical systems
- Hazardous environments
- Explosive atmospheres

Electrical Safety

- Connect only compatible electrical equipment.
- Never exceed the published output ratings.
- Inspect cables before every use.
- Replace damaged cables immediately.
- Disconnect damaged appliances before reconnecting additional equipment.

Battery Safety

The Lithium2400 contains a Lithium Iron Phosphate (LiFePO₄) battery protected by an advanced Battery Management System (BMS).

The Battery Management System automatically monitors and protects:

- Battery voltage
- Charge current
- Discharge current
- Cell temperature
- Over-current
- Short-circuit
- Over-voltage
- Under-voltage

Do not attempt to bypass these protection systems.

Fire Safety

If the Lithium2400 is exposed to fire:

- Disconnect all power sources if it is safe to do so.
- Evacuate the area.
- Contact emergency services if required.
- Do not continue using the product after fire exposure.

Environmental Conditions

Operate the Lithium2400 only in clean, dry, well-ventilated environments.

Avoid:

- Heavy rain
- Flooding
- Condensation
- Excessive dust
- Corrosive chemicals
- Salt spray
- Direct high-pressure water

Storage Safety

If storing the Lithium2400 for more than three months:

- Charge the battery to approximately 50% State of Charge (SOC).
- Store indoors.
- Maintain and recharge to 50% SOC every three months.
- Keep the product between 10°C and 30°C whenever practical.

2. QUICK START GUIDE

Step 1 – Charge the Battery

Connect the supplied AC charging cable to the AC input and charge the Lithium2400 to 100% before first use.

Step 2 – Switch On

Press the Master Power / Display button.

The LCD display will illuminate.

Step 3 – Enable Outputs

Enable only the outputs you require by pressing once

- AC Output button
- DC Output button
- USB Output button

Each output group operates independently.

Step 4 – Connect Your Equipment

Connect compatible appliances.

Always verify that the total connected load does not exceed the maximum output rating.

Step 5 – Recharge After Use

Recharge the Lithium2400 as soon as practical after discharge.

Avoid storing the battery in a deeply discharged state.

Quick Tips

- ✓ Charge fully before first use.
- ✓ Keep ventilation openings unobstructed.
- ✓ Disconnect charging sources before transport.
- ✓ Store at approximately 50% battery charge during long-term storage.

3. INTENDED USE

The Flexopower Lithium2400 Portable Dual Battery System is designed to provide reliable portable AC and DC power for recreational, professional and emergency applications.

Typical applications include:

- 4WD and overlanding vehicles
- Caravans
- Campers
- Recreational vehicles
- Marine applications (installed in accordance with applicable marine electrical standards)
- Home backup power
- Office backup power
- Mobile workstations
- Field service operations
- Emergency response

The Lithium2400 is intended for charging compatible batteries and powering electrical equipment within the specifications published in this manual.

It must not be used in life-support or other safety-critical applications where failure could result in injury or loss of life.

4. PACKAGE CONTENTS

Carefully inspect the packaging before first use.

Your Lithium2400 package should contain:

Item Quantity

- Lithium2400 Portable Dual Battery System 1
- AC Charging Cable 1
- XT60–SB50 Solar/DriveCharge Charging Cable (30 cm, 6 mm²) 2
- Quick Start Guide with QR code to download Owners Manual

If any item is missing or damaged, contact your authorised Flexopower dealer before operating the product.

5. BEFORE FIRST USE

Before using your Lithium2400 for the first time:

1. Inspect the unit for signs of transport damage.
2. Verify that all accessories are included.
3. Place the Lithium2400 on a stable, level surface.
4. Ensure all ventilation openings are unobstructed.
5. Fully charge the battery using the supplied AC charging cable.
6. Familiarise yourself with the controls and connectors before connecting any equipment.
7. Read this Owner's Manual completely before operating the product.

NOTE

The Lithium2400 may be supplied partially charged. For optimum battery calibration and performance, Flexopower recommends fully charging the unit before the first use.

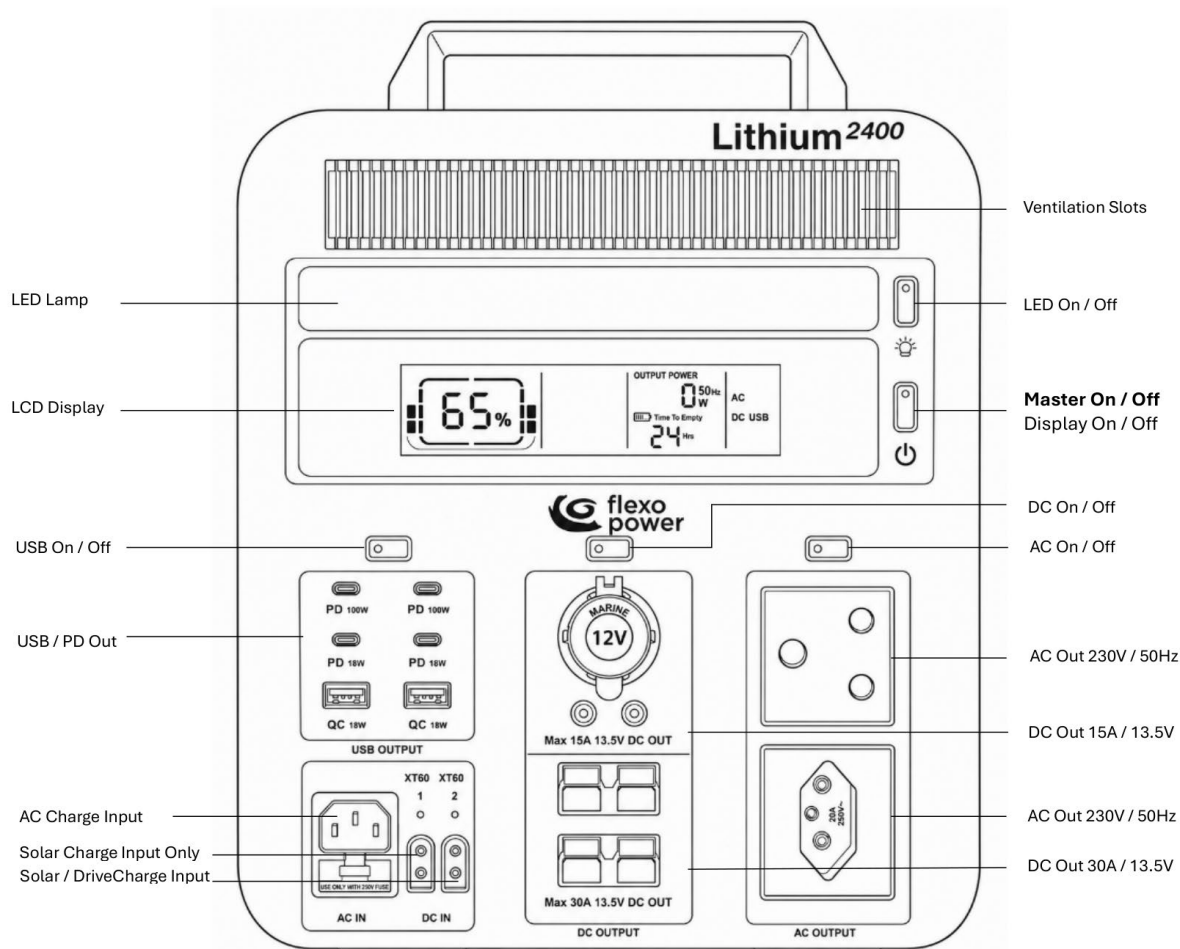
6. PRODUCT OVERVIEW

The Flexopower Lithium2400 is a portable dual battery system designed to deliver reliable AC and DC power for vehicle-based travel, camping, off-grid living, professional field work and emergency backup applications.

The Lithium2400 combines a high-capacity LiFePO₄ battery, a pure sine wave inverter, dual MPPT solar charge controllers and multiple charging options into a single portable power solution.

Designed for demanding environments, the Lithium2400 supports charging from AC mains, compatible solar panels and DriveCharge from a vehicle alternator.

Front Panel



Item	Description	Function
1	Master Power Button Display Button	Master switch turning the Lithium2400 on and off. Switches display on and off when in use.
2	LCD Display	Displays battery status, charging information, power flow and operating status.
3	AC Output Button	Enables or disables all AC outputs.
4	DC Output Button	Enables or disables all DC outputs.
5	USB Output Button	Enables or disables all USB outputs.
6	LED Light Button	Controls the integrated LED lamp.
7	AC Outlets	230V AC pure sine wave outputs.
8	Anderson SB50 Outputs	30A / 13.5V DC outputs.
9	CLA Output	15A / 13.5V regulated. CLA and DC5521 share a combined maximum of 15A.
10	DC5521 Outputs	15A / 13.5V regulated. CLA and DC5521 share a combined maximum of 15A.
11	USB Outputs	USB-C PD and USB-A charging ports.

Charging Inputs

The Lithium2400 provides three charging methods.

AC Charging

Connect the supplied AC charging cable to a standard 230 V AC outlet to recharge the Lithium2400.

The AC input is protected by a replaceable fuse . The operating fuse and a spare fuse are conveniently stored inside the AC charging port.

To inspect or replace the fuse:

1. Disconnect the AC charging cable.
2. Insert a small flat-blade screwdriver into the slot beneath the AC charging port cover.
3. Carefully lever the cover open to access the fuse holder.
4. Replace the blown fuse with the supplied spare fuse or a fuse of the same type and rating .
5. Close the cover securely before reconnecting the AC charging cable.

IMPORTANT

Always replace the fuse with one of the same type and rating . Using an incorrect fuse may damage the Lithium2400 or create a safety hazard.

Maximum charging power is 1800W .

Solar Charging

Two independent MPPT solar charge controllers maximise energy harvest from compatible solar panels.

XT60-1 accepts solar input only.

XT60-2 accepts either compatible solar panels or the DriveCharge charging system.

Maximum combined solar input: 1800W.

DriveCharge

DriveCharge allows the Lithium2400 to charge from a vehicle alternator via the XT60-2 input while the engine is running.

The electronic engine-off sensing function automatically stops charging when the engine stops, helping prevent discharge of the vehicle starter battery.

Maximum charging current: 30 A .

NOTE – DriveCharge and FlexoDrive

DriveCharge is the Lithium2400's built-in vehicle charging function. It allows the Lithium2400 to charge from the vehicle alternator via the XT60-2 input, without requiring a separate DC-DC charger.

FlexoDrive is Flexopower's separate DC-DC charging system used with compatible Flexopower power stations and other applications. It is a separate product and is not required for **DriveCharge on the Lithium2400**.

Fan Cooling System

The Lithium2400 uses an intelligent temperature-controlled internal fan cooling system.

Cooling fans operate automatically whenever required.

Fan speed varies according to:

- Charging power
- Output load
- Internal temperature
- Ambient temperature

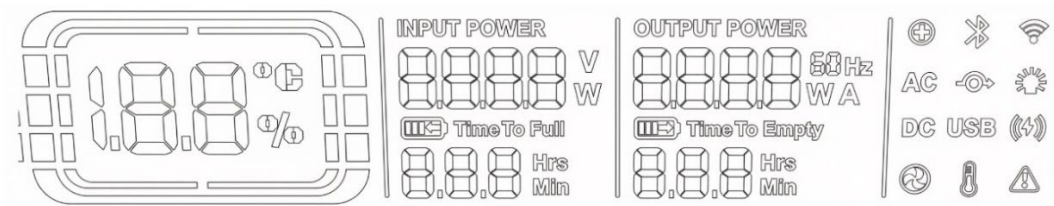
This is normal operation.

Always keep the ventilation openings unobstructed.

7. LCD DISPLAY

The LCD display provides real-time operating information.

Zone	Simple Description
Battery State of Charge	Shows current battery charge as percentage. Charging bars flashing when the battery is charging.
Input	Shows incoming charge from AC, solar or DriveCharge and the approximate time until the battery is fully charged at that rate.
Output	Shows power drawn by connected equipment (AC & DC) and the approximate time until battery is empty at that rate.
Operating and Warning Symbols	Icons showing which outputs are active, fan and UPS operation and any warnings. WiFi / Bluetooth functionality is not active in this version. Reserved for future versions.



8. PRODUCT FEATURES

The Lithium2400 combines dependable portable power with high charging performance, multiple output options and advanced battery protection, all housed in a rugged aluminium extrusion enclosure that offers excellent impact resistance and enhanced fire safety.

High-Capacity LiFePO₄ Battery

The Lithium2400 is powered by a 2560Wh Lithium Iron Phosphate (LiFePO₄) battery.

LiFePO₄ technology provides:

- Long cycle life
- High thermal stability
- Enhanced safety
- Low maintenance
- Long service life, up to 10 years depending on usage

The battery is replaceable by Flexopower or an authorised service centre using genuine Flexopower replacement batteries.

The integrated Battery Management System (BMS) continuously monitors battery voltage, current and temperature, and protects against overcharge, over-discharge, over-current, short-circuit and over-temperature conditions.

IMPORTANT

Unauthorised battery replacement or the use of non-approved batteries may result in equipment damage, safety hazards and will void the product warranty.

Pure Sine Wave Inverter

The integrated inverter delivers clean 230V AC power suitable for sensitive electronic equipment including:

- Computers
- Televisions
- Refrigerators
- Battery chargers
- Power tools within specification
- Washing machines
- Air fryer

Max. continuous output: 2400W

Power Boost

When compatible resistive appliances require more than the continuous inverter rating, the Lithium2400 automatically activates Power Boost.

Maximum Power Boost: up to 3600W for compatible resistive appliances

Examples include:

- Electric kettles
- Toasters
- Hair dryers
- Electric heaters

Power Boost does not guarantee operation of appliances with high starting currents or large induction motors.

Peak Output

The inverter can supply short-duration surge loads up to: 4800W

This assists with starting compatible appliances that momentarily require additional power during start-up.

UPS Function

When connected to AC mains power, the Lithium2400 operates as an Uninterruptible Power Supply (UPS) supporting 2400W max load.

- During normal mains operation: Connected equipment is powered directly from the mains, while the Lithium2400's battery remains on standby.
- If mains power is interrupted: The Lithium2400 automatically switches to battery power in less than 10 milliseconds .
- When mains power is restored: The Lithium2400 automatically switches back to mains power and begins recharging the battery, ready for the next power interruption.

This rapid changeover helps keep compatible connected equipment running during temporary power outages, with minimal interruption.

Dual MPPT Solar Charging

The Lithium2400 incorporates two independent Maximum Power Point Tracking (MPPT) solar charge controllers.

Benefits include:

- Faster charging
- Improved efficiency
- Better performance during changing sunlight conditions
- Independent optimisation of each solar input

DriveCharge DriveCharge enables the Lithium2400 to charge from a vehicle alternator via the XT60-2 input while the engine is running.

Benefits include:

- Up to 30 A charging current
- No separate DC-DC charger required
- Simple vehicle installation
- Automatic engine-off detection to help protect the starter battery
- No permanently installed auxiliary battery system required
- Easily transferred between vehicles, trailers and home/cabin

Multiple Output Options

The Lithium2400 provides simultaneous access to:

- Two AC outlets
- Two Anderson SB50 outputs
- One CLA output
- Two DC5521 outputs
- Two USB-C PD 100W ports
- Two USB-C PD 18W ports
- Two USB-A ports

Advanced Battery Management System (BMS)

The integrated Battery Management System continuously protects the battery by monitoring:

- Battery voltage
- Charge current
- Discharge current
- Cell temperature
- Short circuits
- Over-current
- Over-voltage
- Under-voltage

Battery protection functions operate automatically and require no user intervention.

9. SWITCHING THE LITHIUM2400 ON AND OFF

Switching On

1. Position the Lithium2400 on a stable, level surface with adequate ventilation.
2. Press the Master Power button once.
3. The LCD display will illuminate and perform a brief system check.
4. The Lithium2400 enters standby mode.
5. Press the required output button(s):
 - o AC
 - o DC
 - o USB
6. Connect your equipment.

NOTE

Switching on the Lithium2400 does not automatically enable the output ports. AC, DC and USB outputs must each be activated individually.

Switching Off

1. Turn off or disconnect all connected appliances.
2. Press the AC Output button to disable AC power.
3. Press the DC Output button to disable DC power.
4. Press the USB Output button to disable USB power.
5. Press the Master Power button once.
6. The LCD display will switch off, indicating that the Lithium2400 has shut down.

Best Operating Practices

For optimum performance and battery life:

- Recharge the battery after each trip or extended use.
- Keep ventilation openings clear during charging and operation.
- Operate the Lithium2400 within the specified environmental limits.
- Turn AC off to prevent battery discharge from inverter idling, if no AC is required.
- Store the unit at approximately 50% State of Charge (SOC) if it will not be used for several months.

10. OPERATING THE LITHIUM2400

The Lithium2400 is designed to supply power only through the output groups that you enable. Activating only the outputs required for your connected equipment helps reduce standby power consumption and maximise available battery capacity.

Before connecting any appliance, ensure that the Lithium2400 is switched on and positioned on a stable, dry surface with unobstructed ventilation.

10.1 AC OUTPUT

The AC inverter provides regulated 230V, 50Hz pure sine wave power suitable for a wide range of household appliances, power tools and sensitive electronic equipment.

To Enable the AC Output

1. Press the AC Output button once.
2. Confirm that the AC output indicator is illuminated.
3. Connect the appliance to one of the AC outlets.
4. Verify on the LCD display that output power is being registered.

To Disable the AC Output

1. Turn off or disconnect all connected appliances.
2. Press the AC Output button again.
3. Confirm that the AC indicator has switched off.

NOTE

The AC inverter continues to consume a small amount of power whenever the AC output is enabled, even if no appliance is connected. Disable the AC output when it is not required.

AC Output Recommendations

For best performance:

- Do not exceed the rated continuous output power.
- Where possible, connect larger appliances one at a time.
- Verify the power rating of all connected equipment before use.
- Ensure adequate ventilation around the Lithium2400 during prolonged high-power operation.

10.2 DC OUTPUT

The Lithium2400 provides regulated 13.5V DC power through its Anderson SB50 connectors, CLA accessory socket and DC5521 outputs.

These outputs are suitable for powering compatible 12V equipment such as portable refrigerators, compressors, lighting systems, communication equipment and other DC appliances.

To Enable DC Outputs

1. Press the DC Output button.
2. Confirm that the DC indicator is illuminated.
3. Connect the required DC appliance.

To Disable DC Outputs

1. Disconnect the appliance where practical.
2. Press the DC Output button again.

Anderson SB50 Outputs

The Anderson SB50 connectors provide 30A regulated DC power. They provide a secure, high- current DC connection that is resistant to vibration and accidental disconnection, making them ideal for portable and mobile power applications.

CLA Accessory Socket

The CLA output provides 15A regulated DC power. It is intended for compatible 12V accessories fitted with standard automotive accessory plugs. CLA and DC5521 outputs share a combined maximum of 15A.

Always ensure that the connected appliance does not exceed the rated current of the output.

DC5521 Outputs

The DC5521 connectors provide 13.5V regulated DC power for compatible electronic equipment. CLA and DC5521 outputs share a combined maximum of 15A.

10.3 USB OUTPUT

The Lithium2400 includes multiple USB charging ports for powering and charging portable electronic devices.

Available USB outputs include:

- USB-C Power Delivery (100W)
- USB-C Power Delivery (18W)
- USB-A charging ports

To Enable USB Outputs

1. Press the USB Output button.
2. Confirm that the USB indicator is illuminated.
3. Connect the device using a suitable charging cable.

To Disable USB Outputs

1. Press the USB Output button again after disconnecting all devices.

USB Charging Recommendations

For reliable charging:

- Use high-quality USB cables.
- Avoid damaged or worn connectors.
- Disconnect devices once fully charged when practical.
- Keep connectors free from dust and moisture.

10.4 LED LIGHT

The integrated LED light provides convenient illumination for campsite, workshop and emergency use.

To Operate

Press the LED Light button.

Repeated presses cycle through the available lighting modes.

Press again until the light switches off.

NOTE

Prolonged use of the LED light contributes to overall battery consumption.

11. CHARGING THE LITHIUM2400

The Lithium2400 supports three independent charging methods:

- AC Mains Charge
- Solar Charge
- DriveCharge

The Battery Management System automatically manages battery charging to maximise performance and service life.

11.1 AC MAINS CHARGE

AC charging provides the fastest recharge method.

Charging Procedure

1. Verify that the AC charging cable is undamaged.
2. Connect the cable to the AC charging input.
3. Connect the opposite end to a suitable 230V AC outlet (50Hz, pure sine wave).
4. Charging begins automatically.
5. Monitor charging progress on the LCD display.
6. Disconnect the AC cable once charging is complete.

For optimum operation, Flexopower recommends charging the battery to 100% before extended trips or emergency standby use.

11.2 SOLAR CHARGE

The Lithium2400 incorporates dual MPPT solar charge controllers that automatically optimise charging efficiency.

Solar Charging Procedure

1. Position the solar panels in direct sunlight.
2. Connect the solar panel(s) to the appropriate XT60 input(s).
3. Verify correct polarity before connection.
4. Charging begins automatically once sufficient solar input is available.
5. Confirm charging status on the LCD display.

11.3 DRIVE CHARGE

DriveCharge allows the Lithium2400 to charge from a vehicle alternator via the XT60-2 input while the engine is running.

NOTE

DriveCharge is built into the Lithium2400 and does not require a separate DriveCharge DC-DC charger. See Charging Inputs in Section 6 for further information.

1. Install two 16mm² cables from the starter battery terminals to the Lithium2400, incorporating a 40 A inline fuse within 400mm from battery positive terminal. Installation must be carried out by a competent fitment specialist or centre.
2. Connect the DriveCharge cable to the XT60-2 input.
3. Start the vehicle engine.
4. Charging begins automatically.
5. When the engine stops, DriveCharge automatically disconnects the vehicle alternator/starter battery from the Lithium2400. No manual switching or ignition sensing wire is required.

11.4 PASS-THROUGH OPERATION

The Lithium2400 supports pass-through operation, allowing compatible appliances to remain connected while the battery is charging.

During pass-through operation:

- Incoming charging power is supplied to connected loads where possible.
- Remaining available power charges the battery.
- Battery charging speed may vary depending on the connected load.

IMPORTANT

High continuous loads may increase charging time. Where rapid battery charging is required, disconnect unnecessary appliances during charging.

BEST PRACTICES FOR CHARGING

For optimum performance and battery life:

- Charge the battery before it reaches a critically low state of charge.
- After heavy load use, allow the battery to cool down before recharging, where possible. This helps reduce heat stress on the cells and supports long-term battery health.
- Use only approved charging accessories.
- Disconnect charging cables after charging is complete.
- Keep the Lithium2400 in a cool, well-ventilated area while charging and ensure the cooling vents remain unobstructed.
- Inspect charging cables regularly for damage.

12. TROUBLESHOOTING

If the Lithium2400 does not operate as expected, use the following guide before contacting Flexopower Technical Support.

IMPORTANT

Disconnect all connected loads before investigating a fault. Never disassemble or attempt to repair the Lithium2400 yourself.

Problem	Possible Cause	Recommended Action
Unit will not switch on	Battery discharged	Recharge using the supplied AC charger.
LCD display remains off	Unit switched off	Press the Master Power button.
AC outlets have no power	AC Output disabled	Press the AC Output button to enable the inverter.
DC outputs not working	DC Output disabled	Press the DC Output button.
USB ports not charging	USB Output disabled	Enable the USB output group.
Solar charging does not start	Incorrect connection or insufficient sunlight	Verify polarity, wiring and panel orientation.
Vehicle charging not operating	DriveCharge not installed correctly or engine not running	Verify installation and ensure the engine is running.
Cooling fans running continuously	Heavy load or elevated internal temperature	Normal operation. Ensure adequate ventilation.
Unit shuts down unexpectedly	Battery protection activated	Recharge the battery and restart the unit.
AC output switches off	Output overload or short circuit	Disconnect appliances, reduce the load and restart the AC output.
Charging stops unexpectedly	Battery temperature outside operating range	Allow the unit to return to the recommended operating temperature before charging again.
Battery percentage changes rapidly	Heavy load or battery calibration	Perform one complete discharge and recharge cycle.
Appliance will not start	Appliance starting current exceeds inverter capability	Reduce the load or use an appliance with a lower starting current.
Output power lower than expected	Battery charge is low	Recharge the battery.

Problem	Possible Cause	Recommended Action
Unit displays an error code	Protection system activated	Refer to the Error Code table.

TIP

Most operating issues are resolved by disconnecting all loads, restarting the Lithium2400 and reconnecting appliances one at a time.

13. LCD ERROR CODES

If an error code appears on the LCD display, refer to the table below.

Error Code	Description	Recommended User Action
EA01	Inverter communication error	Restart the Lithium2400. Normal operation should resume automatically.
EA02	Battery over-voltage	Stop charging and restart the Lithium2400.
EA03	Battery under-voltage	Recharge the Lithium2400.
EA04	Inverter over-temperature	Ensure the ventilation openings are unobstructed. Normal operation will resume automatically after the unit has cooled.
EA05	Grid voltage abnormal	Verify that the AC supply voltage is within specification, then restart the Lithium2400.
EA06	Grid frequency abnormal	Verify that the AC supply frequency is 50Hz, then restart the Lithium2400.
EA07	Output voltage abnormal	Restart the Lithium2400.
EA08	AC output short circuit	Disconnect the connected equipment, clear the short circuit and restart the Lithium2400.
EA09	AC output overload	Reduce the connected load and restart the Lithium2400.
EA10	Inverter fault	Restart the Lithium2400.
EA11	PV over-voltage	Disconnect the solar panels and verify that the PV input voltage is within specification before reconnecting.
EA12	PV over-current	Disconnect the solar panels and verify the PV installation before reconnecting.

Error Code	Description	Recommended User Action
Ed01 / Ed02 / Ed03	DC over-current	Reduce the DC and USB load.
Ed05 / Ed06	DC short circuit	Remove the connected load, clear the short circuit and restart the Lithium2400.
Ed07 / Ed08	DC over-temperature	Ensure the ventilation openings are unobstructed. Normal operation will resume automatically after the unit has cooled.
Ed11	MPPT communication error / MPPT input over-voltage	Disconnect the charging source, verify the solar or DC input voltage, then reconnect.
Ed12	MPPT over-temperature	Disconnect the charging source. Allow the unit to cool before charging again.
Ed13	MPPT input over-voltage	Disconnect the charging source, verify that the DC input voltage is within specification, then reconnect.
H-1	Charging over-temperature	Charging will resume automatically once the battery temperature has reduced.
H-2	Discharging over-temperature	Normal operation will resume automatically once the battery temperature has reduced.
L-1	Charging under-temperature	Charging will resume automatically once the battery temperature has increased.

Before contacting Technical Support:

1. Record the displayed error code.
2. Disconnect all connected loads.
3. Restart the Lithium2400.
4. If the fault persists, discontinue use.
5. Contact Flexopower Technical Support and provide the recorded error code together with the product serial number.

14. FREQUENTLY ASKED QUESTIONS

Can I leave the Lithium2400 connected to AC power?

Yes. The Lithium2400 automatically manages the charging process and gradually reduces the charging current as the battery approaches full charge to optimise battery life. While connected to AC power, the Lithium2400 also functions as an Uninterruptible Power Supply (UPS) . In the event of a mains power failure, the Lithium2400 automatically switches to battery power, allowing compatible connected appliances to continue operating without interruption.

Can I use Solar Charging and DriveCharge at the same time?

Yes. The Lithium2400 supports simultaneous DriveCharge via XT60-2 and compatible solar charging via XT60-1. While the engine is running, the vehicle alternator can charge the Lithium2400 through XT60-2 while compatible solar panels provide additional charging through XT60-1, subject to the specified input limits.

Can I use third-party solar panels?

Yes. We recommend FlexoSun solar panels for optimum compatibility and performance. Compatible third-party solar panels may also be used, provided they comply with the Lithium2400 solar input specifications.

Can I replace the battery?

The battery is replaceable by Flexopower or an authorised service centre using genuine Flexopower replacement batteries.

Can I use the Lithium2400 indoors?

Yes. Operate the Lithium2400 only in a dry, clean and well-ventilated environment.

Can I use the Lithium2400 while it is charging?

Yes. The Lithium2400 supports pass-through charging, allowing compatible appliances to remain powered while the battery is being charged.

Can I operate a refrigerator or freezer?

Yes, provided the appliance's continuous and starting power requirements are within the inverter's specifications.

Can I charge from solar while using AC outputs?

Yes. The Lithium2400 supports simultaneous charging and power delivery, provided all operating limits are observed.

Why are the cooling fans running?

The fans operate automatically to regulate internal temperature during charging and high-power operation. This is normal.

Why does the battery percentage change quickly?

Battery percentage varies depending on charging rate, discharge rate and connected load. Larger loads will cause the displayed percentage to decrease more rapidly.

15. CARE & MAINTENANCE

The Lithium2400 has been designed to require minimal maintenance. Regular inspection and correct storage will maximise performance and battery life.

Cleaning

- Switch the Lithium2400 OFF.
- Disconnect all charging sources.
- Disconnect all connected appliances.
- Wipe external surfaces using a soft, dry or slightly damp cloth.
- Never use solvents, abrasive cleaners or high-pressure water.

Ventilation

The cooling system relies on unrestricted airflow.

Regularly inspect all ventilation openings and remove accumulated dust using a soft brush or low- pressure compressed air.

Never operate the Lithium2400 with blocked ventilation openings.

Connectors

Inspect all charging and output connectors regularly.

Check for:

- Dirt, moisture
- Bent contacts, corrosion
- Loose connections
- Physical damage

Damaged connectors or cables should be replaced immediately.

Periodic Inspection

Internal servicing The Lithium2400 contains no user-serviceable internal components. Do not remove enclosure screws or open the enclosure. Internal inspection, servicing and repairs must be carried out by Flexopower or an authorised Flexopower Service Centre.

Before every trip or deployment:

- ✓ Inspect all cables.
- ✓ Check connectors.
- ✓ Verify battery charge level.
- ✓ Confirm ventilation openings are clear.
- ✓ Check for signs of physical damage.

16. BATTERY STORAGE

Correct storage is essential to maximise battery performance and service life.

Short-Term Storage (Up to 3 Months)

If the Lithium2400 will not be used for several days or weeks:

- Disconnect all loads and charging sources. Ensure all outputs are switched off.
- Store the unit indoors in a clean, dry and well-ventilated location.
- Protect the unit from direct sunlight, moisture and excessive heat.
- Ensure the battery has an adequate State of Charge before storage, $\geq 50\%$ SOC.

IMPORTANT

Never store the Lithium2400 with a low battery charge or in a fully discharged state, even for a few days.

Although the Lithium2400 is switched off, the Battery Management System (BMS) continues to consume a very small amount of power. If the battery is already at a low State of Charge (SOC), this standby consumption may discharge the battery below its safe operating voltage, potentially causing irreversible battery damage.

Long-Term Storage (More than 3 Months)

For extended storage periods:

- Establish the battery to approximately 50% State of Charge (SOC).
- Store the unit in a cool, dry location.
- Recommended storage temperature: 10°C to 30°C.
- Recharge the battery every three months back to approx. 50% SOC.
- Fully recharge the battery before returning the Lithium2400 to service.

Storage Best Practices

- ✓ Store at approximately 50% SOC for long-term storage.
- ✓ Recharge every three months back to approx. 50% SOC
- ✓ Recharge immediately after every trip or use.
- ✓ Keep the Lithium2400 clean and dry.
- ✓ Protect all connectors from dust and moisture.
- ✓ Never leave the battery fully discharged.

WARNING

Permanent battery damage caused by storing the Lithium2400 in a deeply discharged condition is not covered under the Flexopower Limited Warranty.

17. TECHNICAL SPECIFICATIONS

Battery

Specification	Value
Battery Chemistry	Lithium Iron Phosphate (LiFePO ₄)
Battery Capacity	2560Wh
Nominal Battery Voltage	51.2V
Battery Configuration	The battery is replaceable by Flexopower or an authorised service centre using genuine Flexopower replacement batteries.

AC Output

Specification	Value
Output Waveform	Pure sine wave
Continuous Output	2400W
Power Boost	3600W
Peak Output	4800W
Output Voltage	230V AC
Output Frequency	50Hz

AC Charging

Specification	Value
Input Voltage	230V AC
Input Frequency	50Hz
Maximum Charging Power	1800W

Solar Charging

Specification	Value
Solar Input – XT60-1	1200W maximum, 12V – 75V DC, 25A maximum
Solar Input – XT60-2	800W maximum, 12V – 75V DC, 30A maximum
Combined Solar Input	1800W maximum, system cap
Solar Charge Controllers	Dual MPPT

DriveCharge

Specification	Value
DriveCharge – XT60-2	Up to 30A
Engine-Off Sensing	Automatic

DC Outputs

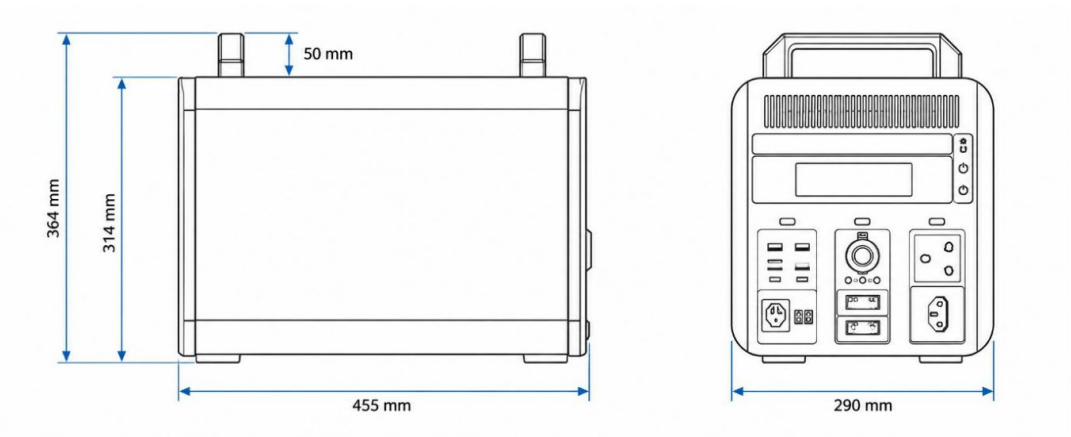
Specification	Value
Anderson SB50 Outputs	2 × Anderson SB50 (30A, 13.5V)
CLA Output	1 × CLA (15A shared with DC5521, 13.5V)
DC5521 Outputs	2 × DC5521 (15A shared with CLA, 13.5V)

USB Outputs

Specification	Value
USB-C Outputs	2 × PD 100W
USB-C Outputs	2 × PD 18W
USB-A Outputs	2 × USB-A 18W

Physical Specification

Physical Specification	Value
Length	455 mm
Width	290 mm
Height 1 (no handle)	314 mm
Height 2 (including handle)	364 mm
Net Weight	27.3kg



18. SHIPMENT AND PACKAGING

If the Lithium2400 ever needs to be shipped, the original packaging provides the best protection during transport.

RECOMMENDATION

We recommend retaining the original carton, foam inserts and protective packaging after unpacking. Keeping the original packaging is good practice and will help ensure the Lithium2400 is well protected should it ever need to be shipped in the future.

19. WARRANTY

Flexopower warrants that the Lithium2400 is free from defects in materials and workmanship under normal use and service for the applicable warranty period of 2 years from the original date of purchase.

This warranty applies only to the original purchaser and is not transferable unless otherwise required by applicable law.

Proof of purchase is required for all warranty claims.

During the warranty period, Flexopower will, at its sole discretion, inspect, repair, replace or provide an equivalent product for any Lithium2400 found to be defective due to a manufacturing or material defect.

Authorised Service

The Lithium2400 enclosure must not be opened by the user. Do not remove or loosen enclosure screws, modify, repair or disassemble the unit. Internal inspection, servicing and repairs must be carried out by Flexopower or an authorised Flexopower Service Centre.

Unauthorised opening, modification, repair or disassembly is subject to the Warranty Exclusions below.

Intended Use

This warranty applies when the Lithium2400 is used for its intended purpose as a portable dual battery system for vehicle-related applications and as a backup power source for home and office use , including:

- 4WD and overlanding vehicles
- Recreational vehicles (RVs), caravans and trailers
- Camping
- Marine applications (installed in accordance with applicable marine electrical standards)
- Emergency backup power
- Professional field applications
- Home and office backup power

The use of the word including does not limit the intended applications to those listed above.

Warranty Exclusions

This warranty does not cover defects or damage resulting from, including but not limited to:

- Unauthorised opening of the Lithium2400 enclosure, including the removal of enclosure screws, or any unauthorised modification, repair or disassembly.
- Misuse, abuse, neglect, improper installation, operation or maintenance.
- Failure to follow the instructions contained in this Owner's Manual.
- Operation outside the published electrical, environmental or operating specifications.
- Use of non-approved replacement parts or accessories that cause damage to the Lithium2400.
- Physical damage caused by impact, accident, dropping or improper handling.
- Water ingress, flooding or immersion.
- Fire, explosion or other external causes.
- Lightning strikes, power surges or other abnormal electrical events.
- Charging from modified sine wave (square wave) inverters.
- Charging from unstable power grids.
- Stress testing, endurance testing or operation beyond the published specifications.
- Excessive exposure to dust or other harsh environmental conditions.
- Damage resulting from incorrect transportation or inadequate packaging during shipment.

20. DISPOSAL AND RECYCLING

Do not dispose of the Lithium2400 with household waste.

The Lithium2400 contains a Lithium Iron Phosphate (LiFePO₄) battery and electronic components that must be recycled or disposed of through an approved recycling or waste management facility.

Always comply with applicable local regulations governing the disposal and recycling of rechargeable batteries and electronic equipment.

21. COPYRIGHT

© 2026 Flexopower Energies (Pty) Ltd.

All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic or mechanical, including photocopying or recording, without the prior written permission of Flexopower Energies (Pty) Ltd.

Flexopower® and the Flexopower logo are registered trademarks of Flexopower Energies (Pty) Ltd.

22. CONTACT INFORMATION

Flexopower Energies (Pty) Ltd, Johannesburg, South Africa

Website: www.flexopower.com

Email: info@flexopower.com

Phone: +27 11 658 0500

When contacting Technical Support, please have the following information available:

- Product model
- Serial number
- Date of purchase
- Description of the issue
- Displayed error code