VOLTCRAFT V-Charge 240 Quadro

VOLTCRAFT V-Charge 240 Quadro Multifunction Charger User Manual

Model: 1489899

1. Introduction and Overview

The VOLTCRAFT V-Charge 240 Quadro is a versatile multifunction charger designed for ambitious model builders. It supports various battery types, including Li-polymer, LiFePO, Li-ION, LiHV, and NiMH. A key feature is its ability to charge up to four batteries simultaneously, significantly reducing waiting times. Users can freely define battery types and all charging and discharging parameters. The charger operates flexibly with both 11-18V DC input and an integrated 100-240V AC power supply, making it suitable for use at home, on the go, or at the airfield.

Figure 1: VOLTCRAFT V-Charge 240 Quadro charger in operation, connected to a LiPo battery via balance board.

2. Safety Instructions

Please read and understand all safety instructions before operating the charger. Failure to do so may result in property damage, injury, or fire.

- **Never leave the charger unattended** while it is connected to a power source or charging/discharging batteries.
- Ensure adequate ventilation around the charger during operation to prevent overheating.
- Only charge battery types supported by this charger. Refer to the specifications for compatible battery chemistries and cell counts.
- Always connect batteries with the correct polarity. Incorrect connection can damage the charger and battery.
- Avoid short circuits between charging leads or balance leads.
- Keep the charger and batteries away from water, moisture, flammable materials, and direct sunlight.
- Do not attempt to charge damaged, swollen, or leaking batteries.

- Keep out of reach of children.
- Use only original or approved charging cables and balance boards.

3. Product Features

The VOLTCRAFT V-Charge 240 Quadro charger offers the following key features:

- **Four Independent Charging Outputs:** Allows simultaneous charging of up to four batteries.
- **Wide Battery Compatibility:** Supports 1-6 cell LiPo, LiFePO, Li-ION, LiHV batteries, and 1-15 cell NiMH/NiCd batteries.
- **Asynchronous Power Distribution:** Optimizes power delivery across multiple channels.
- **User-Definable Parameters:** All battery types and charge/discharge settings can be freely configured.
- **Dual Power Input:** Operates with 11-18V DC (e.g., car battery) or integrated 100-240V AC power supply.
- **Integrated Balancer:** Ensures individual cell voltage balancing for Lithium-based batteries.
- **Multiple Charging Modes:** Includes charge, balance charge, fast charge, storage, and discharge modes.

4. Package Contents

Please check the package contents upon unpacking. If any items are missing or damaged, contact your retailer.

- VOLTCRAFT V-Charge 240 Quadro Multifunction Charger
- AC Power Cable
- DC Input Cable
- Charging Cables (e.g., XT60, T-Plug)
- Balance Boards
- User Manual (this document)

5. Setup

Follow these steps to set up your VOLTCRAFT V-Charge 240 Quadro charger:

5.1 Connecting to Power

1. **AC Power (Mains):** Connect the supplied AC power cable to the charger's AC input port and then to a suitable wall outlet (100-240V AC).
2. **DC Power (12V Source):** Alternatively, connect the supplied DC input cable to the charger's DC input port and to a 11-18V DC power source, such as a car battery or a regulated power supply.

The charger will power on and display the initial screen.

5.2 Connecting Batteries

Each of the four charging channels has a main output port and a balance port.

Figure 2: Front panel of the V-Charge 240 Quadro, highlighting the four charging channels with main output and balance ports.

1. **Main Charge Leads:** Connect the main charging cable (e.g., XT60) from your battery to the corresponding main output port on one of the charger channels. Ensure correct polarity (+ to + and - to -).
2. **Balance Leads (for LiXX batteries):** For Lithium-based batteries, connect the battery's balance lead to the appropriate balance board, and then connect the balance board to the charger's balance socket for the same channel. This is crucial for safe and balanced charging.
3. Repeat for up to four batteries on separate channels.

6. Operating Instructions

Each channel on the V-Charge 240 Quadro operates independently with its own display and control buttons.

6.1 Navigating the Menu

Use the buttons below each display to navigate and set parameters:

- **TYPE:** Selects the battery program (e.g., LiPo, NiMH).
- **DEC (-):** Decreases a value or moves backward in a menu.
- **INC (+):** Increases a value or moves forward in a menu.
- **START/ENTER:** Confirms a selection or starts a process. Press and hold to initiate charging/discharging.
- **STATUS:** Displays current charging status and parameters.

6.2 Charging a Battery

1. **Select Program:** Press the **TYPE** button repeatedly until the desired battery chemistry (e.g., LiPo, NiMH) is displayed.
2. **Set Parameters:** Use the **DEC (-)** and **INC (+)** buttons to adjust parameters such as charge current, cell count (for LiXX), or voltage (for Pb). Ensure these settings match your battery's specifications.
3. **Confirm and Start:** Once all parameters are set, press and hold the **START/ENTER** button. The charger will perform a pre-check. If safe, it will ask for confirmation. Press **START/ENTER** again to begin charging.
4. **Monitor Progress:** During charging, you can press the **STATUS** button to cycle through various information screens, including current, voltage, charged capacity, and individual cell voltages (for LiXX).
5. **Completion:** The charger will automatically stop when the battery is fully charged and emit an audible alert. Disconnect the battery safely.

6.3 Discharging a Battery

The discharge function allows you to reduce the battery's voltage to a safe storage level or to test its capacity.

1. **Select Program:** Navigate to the desired battery type using the **TYPE** button.
2. **Select Discharge Mode:** Use the **INC (+)** or **DEC (-)** buttons to find the 'Discharge' option within the selected battery program.
3. **Set Parameters:** Adjust the discharge current and target voltage as required.
4. **Confirm and Start:** Press and hold **START/ENTER** to begin the discharge process.

7. Maintenance

Proper maintenance ensures the longevity and reliable operation of your charger.

- **Cleaning:** Regularly clean the charger's exterior with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure no dust or debris accumulates in the ventilation openings.
- **Storage:** Store the charger in a cool, dry place, away from direct sunlight and extreme temperatures. Disconnect it from all power sources and batteries when not in use.
- **Cable Inspection:** Periodically inspect all cables and connectors for signs of wear, damage, or corrosion. Replace any damaged components immediately.

8. Troubleshooting

This section addresses common issues you might encounter.

Problem	Possible Cause	Solution
Charger does not power on.	No power supply, faulty cable, or power outlet issue.	Check AC/DC power connections. Ensure power outlet is functional. Try a different cable.
"Connection Break" error.	Battery not properly connected, or faulty cable/connector.	Verify main charge leads and balance leads are securely connected to both battery and charger. Inspect cables for damage.
"Input Voltage Error" message.	Input voltage is outside the acceptable range (11-18V DC).	Check the voltage of your DC power source. Ensure it is within the specified range.
"Cell Voltage Error" (for LiXX).	Individual cell voltage is too high or too low, or cell count setting is incorrect.	Verify the cell count setting matches your battery. Check individual cell voltages. Do not charge severely unbalanced or damaged batteries.
Charger gets hot during operation.	Normal during high-power charging, but could indicate poor ventilation.	Ensure the charger has ample space for airflow. Do not cover ventilation openings. If overheating persists, reduce charge current.

9. Specifications

Feature	Detail
Model Number	1489899
Input Voltage (AC)	100-240V AC
Input Voltage (DC)	11-18V DC
Max. Charge Power	240W (4 x 60W)
Charge Current Range	0.1 - 12.0A per channel
Max. Discharge Power	4 x 10W
Discharge Current Range	0.1 - 3.0A per channel
LiXX Battery Types	LiPo, LiFePO, Li-ION, LiHV
LiXX Cell Count	1-6 cells
NiXX Battery Types	NiMH, NiCd
NiXX Cell Count	1-15 cells
Pb Battery Voltage	2-20V
Balancer Current	Max. 500mA/cell

10. Warranty and Support

VOLTCRAFT products are manufactured to high-quality standards and come with a manufacturer's warranty. Please refer to the warranty card included with your product or visit the official VOLTCRAFT website for detailed warranty terms and conditions.
For technical support, troubleshooting assistance, or spare parts, please contact VOLTCRAFT customer service or your authorized dealer. You can typically find contact information on the VOLTCRAFT website or in your product packaging.
Online Resources: For additional information, FAQs, and potential firmware updates, please visit the official VOLTCRAFT website: www.voltcraft.com