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## Mastervolt 44020200

# MasterVolt ChargeMaster 24/20-3 Battery Charger User Manual

Model: 44020200 | Brand: Mastervolt

## 1. INTRODUCTION

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This manual provides essential information for the safe and efficient operation, installation, and maintenance of your MasterVolt ChargeMaster 24/20-3 Battery Charger. Please read this manual thoroughly before installing or using the product.

The MasterVolt ChargeMaster 24/20-3 is designed to provide reliable and efficient charging for your battery systems, featuring advanced 3-step+ charging technology and a memory function to prevent overcharging.

## 2. SAFETY INFORMATION

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**WARNING: Failure to follow these safety instructions may result in serious injury or property damage.**

- Always disconnect power before performing any installation or maintenance.
- Ensure proper ventilation around the charger to prevent overheating.
- Do not expose the charger to water or excessive moisture.
- This device must be installed by a qualified technician in accordance with local and national electrical codes.
- Use only approved cables and connectors.
- Do not operate the charger if it has been damaged in any way.
- Keep out of reach of children.

## 3. PRODUCT OVERVIEW

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The MasterVolt ChargeMaster 24/20-3 is a robust battery charger designed for various applications, particularly suitable for boating environments. It features a 24 V DC/20 amp output and accepts a wide input voltage range of 90-265 V AC, 50/60Hz.

Key features include:

- **3-Step+ Charging Technology:** Ensures fast and complete charging cycles.
- **Memory Function:** Prevents overcharging, especially useful with unstable power supplies.
- **Standard Safety Features:** Provides safe and complete charging.

- **MasterBus Compatible:** Allows for integration into MasterBus systems.

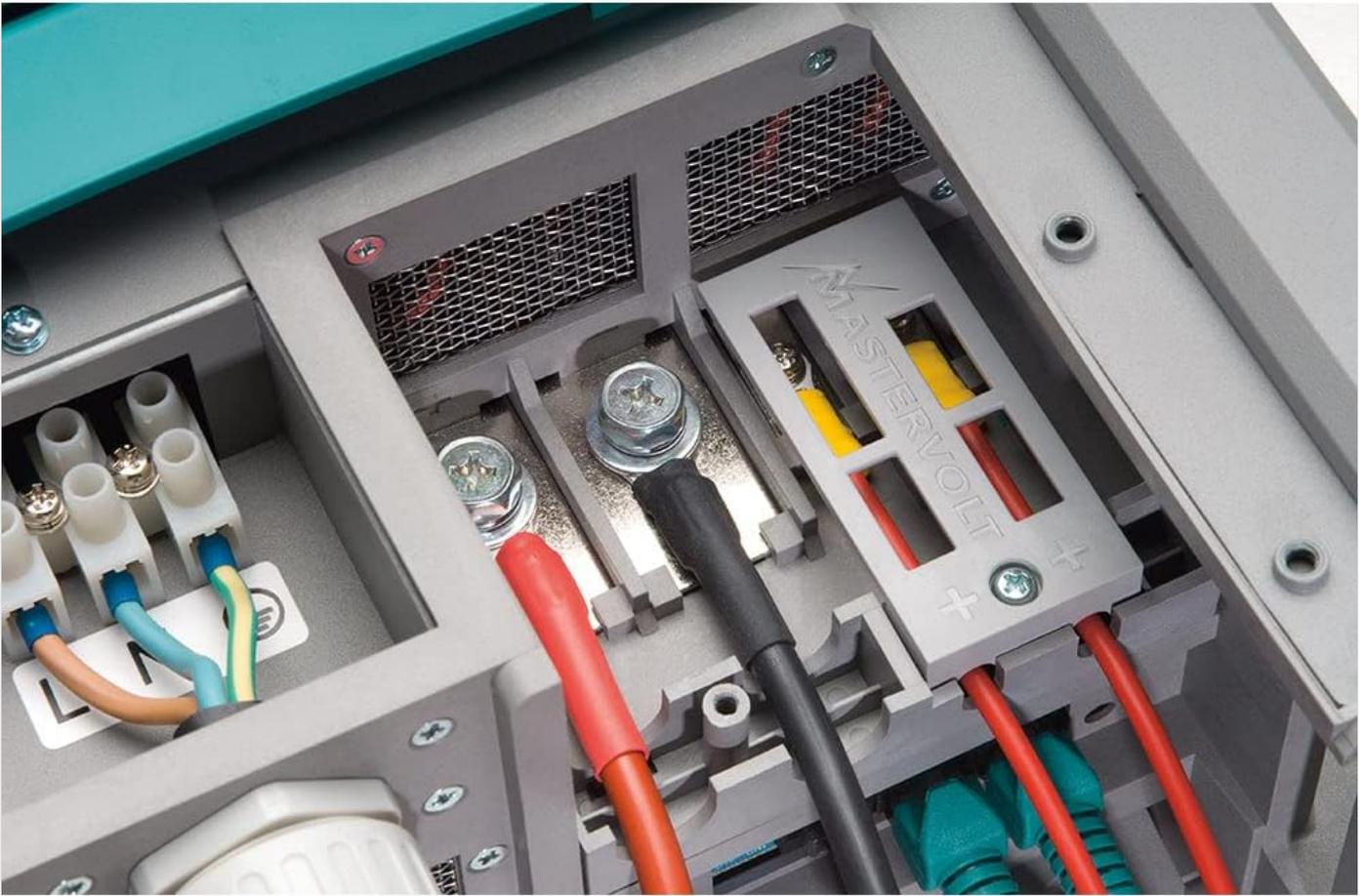


Figure 3.1: Front view of the MasterVolt ChargeMaster 24/20-3 Battery Charger. This image shows the overall design and casing of the unit.

### 3.1. What's in the Box

Upon unpacking, verify that all components are present:

- ChargeMaster battery charger unit
- Battery temperature sensor
- Installation hardware
- Documentation (this manual and other guides)

## 4. SETUP AND INSTALLATION

Proper installation is crucial for the performance and safety of the ChargeMaster. Refer to the detailed installation instructions provided in the separate installation guide for specific wiring diagrams and mounting procedures.

### 4.1. Mounting Location

- Choose a dry, well-ventilated location, protected from direct sunlight and extreme temperatures.
- Ensure sufficient clearance around the unit for airflow, especially around cooling vents.
- Mount the charger securely using the provided installation hardware.

### 4.2. Electrical Connections

All electrical connections must be made by a qualified professional. Ensure all power sources are disconnected before making any connections.

1. **Battery Connections:** Connect the positive (+) and negative (-) battery cables to the corresponding terminals on the charger. Ensure correct polarity.
2. **AC Input Connection:** Connect the AC power cord to the charger's AC input terminal and then to a suitable AC power source (90-265 V AC, 50/60Hz).
3. **Temperature Sensor:** Connect the battery temperature sensor to the designated port on the charger and attach the sensor to one of the batteries for accurate temperature compensation during charging.
4. **MasterBus (Optional):** If integrating into a MasterBus system, connect the MasterBus cable to the appropriate port.



Figure 4.1: Internal view showing various connection terminals within the MasterVolt ChargeMaster. This illustrates where battery and other system cables are connected.



Figure 4.2: Rear view of the MasterVolt ChargeMaster, showing external cable connections for power and batteries. This provides a visual reference for proper wiring.

## 5. OPERATING INSTRUCTIONS

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Once properly installed, operating the ChargeMaster is straightforward. The unit is designed for automatic operation.

### 5.1. Initial Power-Up

1. After all connections are secure, switch on the AC power supply to the charger.
2. The charger will perform a self-test and then begin the charging process automatically, depending on the battery's state of charge.
3. Observe the indicator lights (if present) for status updates. Refer to the full documentation for specific indicator light meanings.

### 5.2. Charging Process

The 3-Step+ charging technology optimizes the charging process:

- **Bulk Phase:** Charges the battery at maximum current until voltage reaches a set level.
- **Absorption Phase:** Charges at a constant voltage, with current gradually decreasing, to fully charge the battery.
- **Float Phase:** Maintains the battery at a safe voltage to compensate for self-discharge, keeping it fully charged.
- **Plus Phase:** An additional phase for optimal battery health and longevity.

The memory function ensures that the charging process resumes correctly even after temporary power interruptions,

preventing overcharging.

## 6. MAINTENANCE

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Regular maintenance ensures the longevity and optimal performance of your ChargeMaster battery charger.

- **Cleaning:** Periodically clean the exterior of the charger with a dry, soft cloth. Do not use abrasive cleaners or solvents. Ensure cooling vents are free from dust and debris.
- **Connections:** Annually check all electrical connections for tightness and corrosion. Loose connections can lead to poor performance or safety hazards.
- **Ventilation:** Ensure that the installation area remains well-ventilated and that nothing obstructs the charger's airflow.
- **Battery Health:** Regularly inspect your batteries for signs of damage, corrosion, or electrolyte levels (if applicable).

**WARNING: Disconnect all power to the charger before performing any maintenance.**

## 7. TROUBLESHOOTING

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This section provides solutions to common issues you might encounter. For more complex problems, contact Mastervolt support or an authorized service center.

Problem	Possible Cause	Solution
Charger not turning on	No AC input power; Blown fuse; Loose connections.	Check AC power supply and circuit breaker; Inspect and replace fuses if necessary; Verify all connections are secure.
Batteries not charging	Incorrect battery connections; Battery fault; Charger fault.	Check battery cable polarity and tightness; Test battery voltage; Contact support if battery and connections are confirmed good.
Charger overheating	Insufficient ventilation; Overload.	Ensure adequate airflow around the unit; Reduce load if possible; Check for blocked vents.
Unusual noises or smells	Internal component failure.	Immediately disconnect power and contact Mastervolt support. Do not attempt to repair.

## 8. SPECIFICATIONS

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Feature	Detail
Model Name	ChargeMaster
Part Number	44020200
Brand	Mastervolt
Output Voltage	24 Volts (DC)
Size / Output Current	20 Amp
Input Voltage	90-265 Volts (AC), 50/60Hz
Item Dimensions (LxWxH)	11 x 15 x 8 inches

Feature	Detail
Item Weight	8.8 Pounds
Material	Plastic
Suggested Users	Boating
Certifications	UL, CE, FCC
Included Components	Battery temperature sensor, ChargeMaster battery charger, Documentation, Installation hardware

## 9. WARRANTY INFORMATION

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The MasterVolt ChargeMaster 24/20-3 Battery Charger comes with a **1 Year Limited Warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use.

For full warranty terms and conditions, please refer to the separate warranty document included with your product or visit the official Mastervolt website. Keep your proof of purchase for warranty claims.

## 10. SUPPORT

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If you require technical assistance, have questions about your product, or need to report an issue, please contact Mastervolt customer support or your authorized Mastervolt dealer.

Manufacturer: Seawide Marine Distribution, Inc.

Please have your product model number (44020200) and serial number (if applicable) ready when contacting support.