

# Mac Plus 24/12-50 + CZone



Product code: 81205205

# Boost Your Service Battery

Too often, service batteries don't get the charge they need. This is a problem made worse by smart alternators and start/stop systems, which result in slow and insufficient charges. The Mac Plus DC-DC charger solves this problem, providing a quick, safe, and consistent charge to your service battery. And, by knowing when the engine is running and providing charge, you can be sure that the Mac Plus will never drain your starter battery.

## Proven Mastervolt Quality

Get peace of mind, knowing that you've got the best on-board. Using the proven Mastervolt 3-step+ charge algorithm, the Mac Plus delivers a quick and easy charge, even to completely flat batteries.

A robust design holds up in even the harshest conditions, with battery temperature optimized charging and high-quality aluminium housing to ensure superior protection against dust and water ingress. The power efficient design also allows the Mac Plus to operate silently and without a fan.

## Total Power

## Flexibility

With a wide DC input range, the Mac Plus allows all DC sources and can charge two batteries from a single alternator or charger. It supports a full range of chemistries and battery types, including lithium. And it also functions seamlessly with modern alternators such as Euro 5 and 6, ensuring proper charging by providing constant power, even when the alternator is inactive.

Parallel configuration of up to ten units will provide over 100 amperes. And advanced high-frequency technology with modern microprocessors ensures minimal power loss when switching from 12V to 24V and vice versa.

Analog voltage sense ports are also available to compensate for voltage drop and maintain proper charging.

## Superior Monitoring & Control

Compatibility with CZone®, NMEA 2000® and MasterBus delivers truly superior monitoring and control, and ensures Mac Plus integrates easily into complete systems. Achieve the best performance possible via various controllers and high quality MOSFETs. And configure the Mac Plus with ease via MasterAdjust, the CZone configuration tool, or even via the on-board DIP switches.

## Features

- Fast and safe charging, even during short trips
- Fanless design for silent operation
- Suitable for flooded, Gel, AGM and Li-Ion batteries (incl. LiFePO4)
- Even charges fully depleted batteries
- Engine run detection protects starter battery
- Adjustable current limits to meet Euro 5/6 requirements
- Voltage stabilization protects sensitive equipment, lights and loads
- Parallel operation to obtain charging capacities well over 100 Amps
- MasterBus, CZone and NMEA 2000 compatible, for intelligent system monitoring and automation
- Temperature compensation and voltage sense for an optimal charging result
- E-Mark/R10 certification for mobile applications
- Power supply mode offers stable power for sensitive loads
- Heavy duty connections for easy installation and quick set up via DIP switches

# Specifications

## Specifications battery charger

Battery temperature sensor	yes, included
Battery voltage sense	yes

## General specifications

Status indicator	yes, 3-color LED
Communication protocol	MasterBus, CZone & NMEA 2000
Output voltage	10-15 V
Nominal output voltage	12 V
Output voltage stabilisation	2 % at extremes of temperatures, load and input
Output voltage ripple (peak peak)	max. 1 %
Max. output power	750 W
Nominal output power	710 W
Max. output current	50 A
Output charge current (3-step mode)	50 A
Nominal input voltage	24 V
Input voltage range	19-30 V
Max. input current	30 A
Galvanic isolation	no
Voltage limited	yes
Efficiency	> 95 % (at nom. input voltage, full load); peak 97 %
Parallel configuration	yes
Alarm contact	yes, through MasterBus
MasterBus powering	no
Engine run signal input	yes (active high/active low)
DIP switches	yes, for basic setup
Dimensions, hwxwd	255 x 165 x 66 mm 10.0 x 6.5 x 2.6 inch
Weight	2 kg 4.4 lb
Compliance	CE, E-Mark, SAE J1171 & ISO 8846 Ignition Protected

## Technical specifications

No-load consumption	< 2 mA
Charge characteristic	3-step+
Battery types	flooded, Gel, AGM, spiral, Lithium Ion, traction, user defined
3-Step charge option	yes (DIP switch settings)
DC consumption	< 5 mA
Connections	3 x M8 terminal for cable diameters of 10-50 mm <sup>2</sup> , (positive input, positive output, joint negative connection) 6-pole screw connection for cable diameters of 0.75-1.5 mm <sup>2</sup> (remote on/off, temperature sensor, voltage measurement)
Temperature range (ambient temp.)	-25 °C to 60 °C; derating > 40 °C -13 to 140 °F
Cooling	natural cooling
Protection degree	IP23
Protections	overload, over temperature, DC short circuit, reversed polarity (fuse)
MasterBus compatible	yes