

Mastervolt Mac Plus series

MASTERVOLT
THE POWER TO BE INDEPENDENT

Charging the service batteries on board of a vehicle or vessel can be challenging. Recharging tends to take a long time and batteries may not receive a full charge. This is a common problem found in boats, service vans, campers and trucks. Smart alternators and start/stop systems make the problem even worse. Traditionally, a service battery is linked to the starter battery by means of a charge relay. The starter battery is located close to the alternator and receives most of the charge current. However, the service battery is usually further away. Long cables cause voltage drop, leading to slow charging, resulting in failing appliances and premature failure of the battery. Modern, fuel efficient engines are equipped with smart alternators, following regulations such as Euro 5 and Euro 6. Instead of a constant output, smart alternators provide a variable voltage; after a brief charging period, voltage is reduced and the charging stops. Furthermore, the energy produced by regenerative braking leads to voltage peaks. Service batteries coupled in the traditional way will receive hardly any charge and may be damaged by these peak voltages. The Mac Plus is your battery's best friend. It monitors your service battery and makes sure it's always fully charged, maximising the lifetime of your battery.

Features

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

Applications

- Boost charge voltage when service battery is located further from charging source or in systems with a smart alternator. When a stable power supply or different system voltage is needed.



Mastervolt DC-DC Converter - Mac Plus

- DC-DC converter with charge function, suitable for smart Euro 5/6 alternators
- E-mark certification for mobile applications
- Parallel configuration for currents of over 100 A possible
- Automatic on/off function prevents empty batteries
- Optimal voltage stabilisation protects sensitive equipment, lighting and loads
- Professional connections
- Compact and easy to install
- M8 connections for robust, vibration-free securing
- Voltage drop compensation for optimal performance, independent of cable length
- Temperature compensation extends battery lifespan



BLA Code	110390	110392	110394	110396
Description	Mac Plus DC/DC 12/12 50A	Mac Plus DC/DC 12/24 30A	Mac Plus DC/DC 24/12 50A	Mac Plus DC/DC 24/24 30A
Specifications Input				
Nominal input voltage	12V	12V	24V	24V
Input range	10–16V DC	10–16V DC	19–30V DC	19–20V DC
Specifications Output				
Nominal output voltage	12V DC*	24V DC*	12V DC*	24V DC*
Output voltage	10–15V DC	20–30V DC	10–15V DC	20–30V DC
Output voltage dimmer*	N/A	N/A	N/A	N/A
Output voltage stabilised	2% at extremes of temperatures, load and input			
Ripple	max. 1% peak peak	max. 1% peak peak	max. 1% peak peak	max. 1% peak peak
Power (max./nominal)	725 / 675 W	725 / 675 W	750 / 710 W	850 / 810 W
Max. current	50A	30A	50A	30A
Parallel configuration	yes	yes	yes	yes
Charge current - 3-step mode	50A	30A	50A	30A
General Specifications				
Galvanic isolation	no	no	no	no
Voltage limited	yes	yes	yes	yes
Efficiency	>90% (at nominal input voltage, full load); 97% peak			
Protected against over load	yes	yes	yes	yes
Protected against over temperature	yes	yes	yes	yes
Dimmer function	N/A	N/A	N/A	N/A
Alarm contact	yes, through MasterBus	yes, through MasterBus	yes, through MasterBus	yes, through MasterBus
Dimensions, H x W x D mm	255 x 165 x 66	255 x 165 x 66	255 x 165 x 66	255 x 165 x 66
Weight kg	2	2	2	2
Approvals	CE, E-mark	CE, E-mark	CE, E-mark	CE, E-mark
Technical Specifications				
3-Step ⁺ charge option	yes (DIP switch settings)	yes (DIP switch settings)	yes (DIP switch settings)	yes (DIP switch settings)
DC consumption	<5 mA	<5 mA	<5 mA	<5 mA
Connections input/output	3 x M8 terminal for cable diameters of 10–50 mm ² , (positive input, positive output, joint negative connection) 6-pole screw connection for cable diameters of 0.75–1.5 mm ² (remote on/off, temperature sensor, voltage measurement)			
Temperature range (ambient temp.)	-25°C–80°C, >40°C derating / -13°F–176°F, >104°F derating			
Cooling	natural cooling	natural cooling	natural cooling	natural cooling
Protection degree	IP23	IP23	IP23	IP23
MasterBus compatible	yes	yes	yes	yes
Options				
EasyView 5 110661	Touch screen panel for reading status and dimmer function settings.			

*Adjustable with MasterAdjust software.