

MASTERVOLT



MARINE
EMERGENCY VEHICLE
INDUSTRIAL
RV

2022



Your most trusted partner

Whether on water or on the road, delivering an optimal user experience is at the heart of ASG's business. It's why we are proud to be the world's leading supplier of products and integrated systems to the marine, RV, and Specialty Vehicle industries. Our broad portfolio of market leading brands in power management, digital control & monitoring, and networked devices are distributed globally to a diverse aftermarket and OEM customer base. ASG is driven, every day, to be the world's most trusted partner to the marine and mobile industries.

ANCOR

Wire
Wire Management
ancorproducts.com

attwood

Lighting
Marine Accessories
Water and Fuel Systems
attwoodmarine.com

BEP
TRUSTED QUALITY

Battery Management
Power Distribution
bepmarine.com

BLUE SEA
SYSTEMS

Battery Management
Circuit Protection
Power Distribution
blueseasystems.com

CZONE

Digital Control
& Monitoring
Onboard
Offboard UX
czone.net

GARELICK

Metal Fabricated
Hardware
garelick.com

MotorGuide

Trolling Motors
motorguide.com

ProMariner

Battery Chargers
promariner.com

Whale

Heating Systems
Pumps
whalepumps.com

MARINCO

AC Shore Power
Marine Accessories
marinco.com

MASTERVOLT

Batteries
Power Conversion
mastervolt.us

LENCO

Actuators
Trim Tab System
lencomarine.com



What makes Mastervolt different:

Mastervolt is a strong, innovation-driven brand. This capacity to innovate is what truly sets Mastervolt apart. Mastervolt leads the marine and mobile industries in autonomous power solutions. Technologically advanced Lithium Ion batteries and fully integrated power conversion equipment provide off-grid power whether on the water or on the road.

I Innovation and Product Development

From power conversion and storage to integrated systems, Mastervolt products are at the forefront of technology. Pioneering research is within the brands DNA, highly skilled engineers are responsible for translating tomorrow's technology into the ultimate performance of today. With comprehensive processes, the Mastervolt team sources and tests the best components and pushes all new product designs to the limits, ensuring the most reliable and complete end product. In essence, customers will receive the highest quality products.

I System Solutions

Whatever the industry or application, Mastervolt products are power solution focused and designed to easily integrate into comprehensive systems. From DC battery power and power conversion products to complete digital switching technologies and monitoring at the touch of a finger, Mastervolt products provide the flexibility and can be fully customized for your applications.

I Worldwide Network

The Mastervolt brand offers a global service. With offices and partners in more than 80 countries, top class brand expertise and support is available throughout the world. Our customers know that wherever they are, efficient support is on hand whether it is a technical enquiry or to track the progress of an order.



2021 **NEW** Products



18

CombiMaster Inverter/Charger

The CombiMaster inverter/charger provides the most power and charging in the series. The 1500W version delivers 1500W of pure sine wave inverter power and 60 amps multi chemistry battery charging. The new 1500W is the smallest form factor in the series. All models provide pure sine wave inverter power and over 60-200 amps multi-chemistry battery charging, plus the intelligent new design is NMEA 2K and MasterBus compatible.

Part # 35511500 12/1500-60 120V



21

PowerCombi Inverter/Charger Kit

PowerCombi Inverter/Charger is a pure sine wave inverter/charger. It is designed to offer AC grid power to devices and charge up to two banks in one low profile design. The new kits are retail packaged and include 1200W or 2000W 12V inverter/chargers, battery temperature sensor and remote panel.

Part # 36212001 12/2000-100 120V Kit

Part # 36211201 12/1200-50 120V Kit



42

ChargeMaster Plus

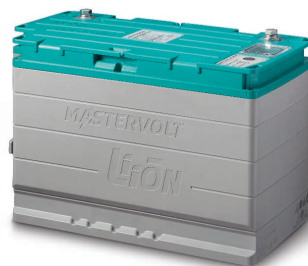
ChargeMaster Plus provides complete three bank charging out of the box, with maximum capacity anywhere in the world due to the global AC input voltage ranges. All ChargeMaster Plus' can be easily connected a MasterBus or CZone NMEA 2K network.

Part # 44310355 12/35-3

Part # 44310505 12/50-3

Part # 44320205 24/20-3

Part # 44320305 24/30-3



68

MLI Ultra Lithium Ion Battery

The newest addition to the MLI Ultra Lithium Ion Battery series, the MLI 1250 is a 100Ah (12V) or 50Ah (24V) drop in replacement, Group 31 battery. With CZone/NMEA, or MasterBus/CAN communication, it is Plug and Play and has an integrated Battery Management System (BMS) with integrated safety features. It can be wired in series for up to 48V. UL Listed.

Part # 66011250 MLI 1250 12V

Part # 66021250 MLI 1250 24V



110

Alpha Pro III —13ft Harness

The new Alpha Pro Regulator kit is a universal regulator for N-type alternators. It transforms every alternator into a fully temp controlled 3-step charger, now shipping with a longer harness with alternator temperature sensor included (41500400).

Part # 45513040



EXPANDED OFFERING

18

CombiMaster Inverter/Charger

The CombiMaster inverter/charger provides the most power and charging in the series. The new 3500W version comes in 12V and can be paralleled stacked in a single system up to 10.5kW. The new 24V models in 3500W & 4500W and 48V 5000W unit can create parallel and series stacked systems to power up to 35kW and be used to power split phase loads. All models provide pure sine wave inverter power and over 60-200A multi-chemistry battery charging, plus the intelligent new design is NMEA 2K and MasterBus compatible.

| | |
|--------------------|-------------------|
| Part # 35513500 | 12/3500-200A 120V |
| Part # 35523500 | 24/3500-100A 120V |
| Part # 35524500-HT | 24/4500-100A 120V |
| Part # 35545000-HT | 48/5000-120A 120V |



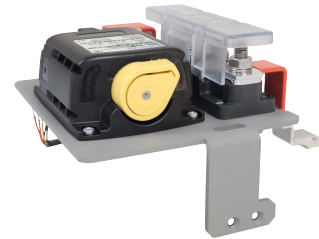
EXPANDED OFFERING

52

Mac Plus

The Mac Plus is a DC:DC converter to supply a stable power supply to batteries. For use when the alternator is inactive and the battery voltage is very low or located a distance away from charging source. The Mac Plus comes with integrated MasterBus (CAN) communication and E-mark certification. It seamlessly charges Lithium Ion, Gel and AGM batteries via a 3-stage charging method and is available in 12V, 24V, 36V & 48V options.

| | |
|-----------------|----------|
| Part # 81205105 | 12/12-50 |
| Part # 81205305 | 12/24-30 |
| Part # 81205205 | 24/12-50 |
| Part # 81205405 | 24/24-30 |
| Part # 81206205 | 12/48-15 |
| Part # 81206405 | 24/48-15 |



69

Ultra Connection Kit

Ultra Connection Kit With the MLI Ultra Relay and Fuse Connect Kit, is an integrated safety switch for use with MLI Ultra Lithium Ion batteries. The kit includes all the required safety accessories in a safe, efficient, and compact way right on top of the MLI Ultra battery. Perfect fit for MLI Ultra 12/2750 and 12/5500 & 24/5500.

| | |
|-----------------|-----|
| Part # 79007712 | 12V |
| Part # 79007724 | 24V |



EXPANDED OFFERING

90

Mastervolt-CZone Waterproof Drop Cable

Adapter cable with integrated waterproof boot for connecting MLI Ultra batteries with CZONE support to the CZONE or NMEA 2000 network.

| | |
|-------------------|--|
| Part # 77061050 | 1.6 ft (0.5m) |
| Part # 77061100 | 3.3 ft (1m) |
| Part # 77061200 | 6.6 ft (2m) |
| Part # 77061500 | 16.4 ft (5m) |
| Part # 6369230060 | Li-Ion Waterproof Field Installable Plug |



108

Alpha Compact Alternators

Alpha Compact "automotive style" alternators provide an easy fit on factory-installed PTO (power take-off) brackets available from most engine manufacturers. Alpha Compact offers lower weight, smaller dimensions and reduced fuel consumptions. Available in 12V and 24V 200A models – specific to Mercedes brackets.

| | |
|-----------------|--------|
| Part # 46228203 | 28/200 |
|-----------------|--------|



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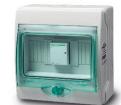
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POWER CONVERSION

Mastervolt Inverter/Chargers



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The Mastervolt Combi Inverter/Chargers are recognized as the best product on the market and offers proven reliability. The Mass Combi Ultra/Pro Inverter/Chargers are based on the well-known Mass Combi range but is even more compact, stronger more efficient and comprehensive.

AC Master & Mass Sine Wave Inverters



22

Mastervolt offers a complete range of inverters from 300 watt to 40 kWatt. The AC Master is ideal for small and medium-sized applications, while Mass Sine Inverters and the advanced Sine Ultra Inverters are mainly intended for larger systems and for professional purposes. Mastervolt offers inverters for 230V/50Hz and 120V/60Hz.

ChargeMaster Plus & Mass Battery Chargers



34

The ChargeMaster and ChargeMaster Plus are suitable for recreational and semi-professional use and safely charges multiple battery banks at the same time.

Mass battery chargers are great for the tougher tasks in professional and semi-professional situations. With its integrated alarm functions and various approvals, the Mass is the best choice for professionals.



POWER CONVERSION

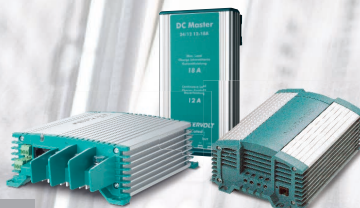
EasyCharge Onboard



48

The EasyCharge onboard battery charger is an entry level model with proven Mastervolt 3-step+ charging in a waterproof epoxy-filled, non-corrosive enclosure.

Mac Plus, Mac, & Magic Series & DC Master DC to DC Converters



50

These versatile converters include an energy saving dimmer function as well as output voltage stabilization. Plus, if there are several power consuming devices onboard, the parallel connection allows for capacity of 40, 60, or more amps.

Transfer Systems



58

The Mastervolt transfer system helps you regulate your shore, generator or inverter power and automatically selects the right power sources at the right time. With Mastervolt you can cook and do laundry at the same time, or watch TV with the air conditioning on full blast.

Ocean Race's grueling and challenging conditions are a testament to the quality engineering and design put into each Mastervolt product aboard.

Mastervolt Inverter/Chargers:

High-quality power supply with first-class comfort, wherever you are

Inverter/Chargers integrate a powerful battery charger, a quiet and efficient inverter and a versatile switching system in one robust, lightweight and compact device. This multi-faceted product offers a carefree power supply for recreational and professional use.

Possible applications vary from launches to yachts, from campers to demo trucks, from holiday homes to remote businesses, and from backup systems to grid connected systems with energy storage. Each Mass Combi, Mass Combi Ultra and Mass Combi Pro Inverter/Charger can be used as an automatic stand-alone device for a non-stop power supply or as part of a larger power system.



MasterBus/CZone Compatible



The endless MasterBus configuration possibilities are ideal for advanced system integration. The MasterBus interface allows direct modification of system parameters with immediate result. For applications that require duplication (series build of systems) CZone communication is ideally suited. You simply design the configuration file and duplicate this to all systems with one click.

Which Inverter/Charger suits you?

Mass Combi Ultra

The Mass Combi Ultra is more compact, stronger and more efficient. In addition to easy installation and higher capacities, the Combi Ultra has various unique benefits such as full capacity in high temperatures, an integrated solar charge regulator, and separate grid power and generator inputs. Up to ten units can be parallel switched plus a 3-phase power supply. Available for systems ranging from 3,000 watt to 40 kW, designed for professional and semi-professional use.

Mass Combi Pro

The Mass Combi Pro is the perfect solution for professional applications. This version has all the Mass Combi Ultra features but without solar input and secondary charger. The Pro provides the optimal balance of strength, versatility and cost.

CombiMaster

This latest Mastervolt innovation delivers unmatched performance at an unprecedented price, and offers the best of both worlds: an advanced battery charger and a quiet inverter combined in one compact device. The CombiMaster is easy to install without expert know-how thanks to plug & play capability. With a single AC input and intuitive LEDs, it is compatible with MasterBus, CZone and NMEA2000, the CombiMaster ranges from 2000 to 3000 Watt. Suitable for recreational and semi-professional use.



Power Assist for extra power

If you require more power than the grid or generator can provide, the Mass Combi series will make up the shortfall by inverting from the battery. The Combi also ensures that the battery is recharged once the peak demand has passed.



Ease of installation

The integrated design of three devices into one, lightweight body and robust mounting clamps give considerable savings in (labor) time and costs.

Exceptional performance



The inverter is quiet, clean and efficient, and offers the full capacity even in extreme ambient temperatures. Pure sine wave energy and a peak capacity of 200% guarantee a problem-free start, even for the heaviest loads.

Not just any battery charger

The built-in battery charger uses Mastervolt's proven 3-step+ charging technology to allow the optimal charging of all battery types, including our advanced Lithium Ion models. The battery charger supplies a maximum charge current, even with a higher charge voltage, and speeds up the complete recharging of your batteries.



Mass Combi Ultra & Mass Combi Pro Inverter/Chargers: Powerful, complete and versatile

The Mass Combi Ultra series comprises several models, varying from 3000 W to 3500 W. For higher capacities up to 35 kW the Mass Combi Ultra can be used in parallel or 3-phase configurations. An efficient and integrated solar charge regulator helps make the most of your solar panels.

The Mass Combi Ultra Inverter/Charger is equipped with the latest technologies. The new inverter technology ensures a uniquely low stand-by use, while an ultra-fast digital signal processor guarantees seamless switching between all available energy sources. Power assist prevents power dips and failures, even with a weak electricity connection or small generator. Moreover, all Mass Combi Ultra Inverter/Charger models are equipped with MasterBus.

Higher yield from solar energy

At Mastervolt we used our knowledge gained in the grid connected solar sector to make a super-efficient built-in MPPT (Maximum Power Point Tracker) solar charge regulator. Compared to most solar charge regulators on the market, the MPPT offers up to 30% more yield from solar panels. The solar panels power 'hidden' consumers and keep your batteries in optimal condition.

'Pro' models

For professional applications, Mastervolt offers a 'Pro' model, featuring all Ultra functions, but without the solar input and slave battery charger.

Mass Combi Ultra Features

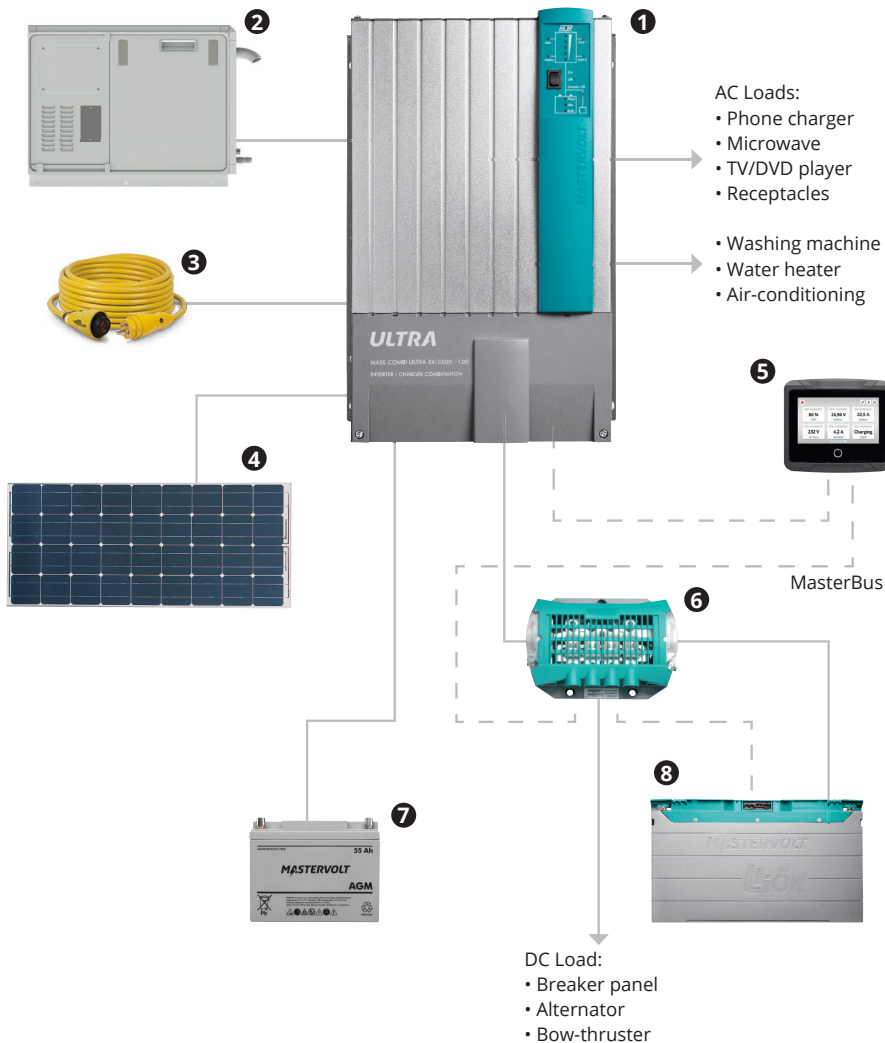
- For professional and semi-professional use
- Quiet, powerful inverter with 200% peak power
- Compact, lightweight and hum-free thanks to HF technology
- Pure sine wave voltage prevents malfunctions and damage to sensitive equipment such as adapters
- High yield and more power from your batteries
- Intelligent 3-step+ battery charger with low DC ripple current for fast charging times and long battery life
- Power Assist: prevents blown fuses
- A dynamic battery voltage window allows you to enjoy AC power for longer without damaging your batteries
- Active Optima Cooling concept prevents unnecessary fan noise
- Charges two individual battery banks simultaneously (Mass Combi Ultra)
- An integrated MPPT solar charge controller allows for 30% more yield from solar power for charging the batteries (Mass Combi Ultra)
- Quick installation and reliable professional connections
- CE and ABYC certified



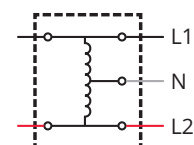
Standard MasterBus System—Mass Combi Ultra and Mass Combi Pro Inverter/Chargers—230V up to 35 kW

- Compact and lightweight inverter/charger combination
- Two AC inputs with seamless transfer between generator and shore power
- Integrated MPPT solar charger regulator
- Parallel & 120/240V Split-Phase operation (with the use of autoformer)

- 1 Mass Combi Ultra Inverter/Chargers
- 2 Generator
- 3 Grid power
- 4 Solar panel
- 5 EasyView 5
- 6 DC Distribution system
- 7 AGM starter battery
- 8 Lithium Ion (LiFePO4) battery



Auto Transformer



120V/240V split-phase operation

For more powerful systems the Mass Combi Ultra and Mass Combi Pro Inverter/Chargers allow parallel use up to 10 units. With 240V input and the use of an auto transformer the units provide 120/240V split-phase. Powering the 120V and 240V ships AC loads.

Best in class performance

The Mass Combi Ultra and Mass Combi Pro Inverter/Chargers can provide continuous inverter power at 105°F (40°C) with a 200% startup surge. The battery charger is best in its class providing a powerful charge to the main house battery bank.

Ease of installation

The carefully designed connections were optimized for installers. Installation and connection have been made quick and easy via a logic layout, solid terminals and by removing the need for cable glands.

Dual AC inputs and outputs

The Mass Combi Ultra and Mass Combi Pro Inverter/Chargers have inputs for generator or mains supply, each optimized for the power source. A robust intelligent transfer system switches seamlessly between AC power, generator and inverter, and ensures a constant power supply. Flickering lights or failure of electronic equipment belong to the past. Separate AC outputs provide the ability to power heavy users via mains and/or generator.

Higher yield from solar power

On the DC side the Mass Combi Ultra Inverter/Chargers has interesting features such as the solar input and the second charger output. Mastervolt has leveraged on the knowledge gained in the grid-connected solar sector to make a super-efficient built-in MPPT solar charge regulator. Compared to most regulators on the market, the MPPT offers a far higher yield from solar power for charging your batteries.

Home comforts

The Mass Combi Ultra and Mass Combi Pro Inverter/Chargers feature separate AC outputs. One is permanently powered to supply critical loads such as refrigerators and audio systems. The other output is for non-preferential loads including water heaters that can be switched off automatically at any desired setting, always to the benefit of the critical loads.

Optimal battery usage

Based on Mastervolt's many years of experience, the Mass Combi Ultra and Mass Combi Pro Inverter/Chargers feature a number of characteristics that ensure you get the most from your batteries in terms of maximum power and lifespan. Key examples include the pure, interference-free DC voltage that prevents unnecessary heating of the batteries and a low 'no load' current that guarantees every Ah is deployed in an optimal way.

Quiet operation

The Mass Combi Ultra and Mass Combi Pro Inverter/Chargers can provide up to 50% of the charging current or inverter capacity without fan cooling. This is perfect for night-time operation; if little power is consumed, the fan stops turning and goes silent. When maximum capacity is required, or the ambient temperature is very high, the Active Optima Cooling concept regulates the fan speed in a linear way, ensuring that it never spins too fast or makes any unnecessary ticking noises.

Mass Combi Ultra & Mass Combi Pro Inverter/Chargers

Specifications – 230V







Mass Combi Ultra
12/3000-150



Mass Combi Ultra
24/3500-100



Mass Combi Ultra
48/3500-50

| Part # | 38013000 | 38023500 | 38343500 |
|---|--|--|--|
| Specifications Sine Wave Inverter | | | |
| Nominal DC voltage | 12V (9.5–16V) | 24V (19–32V) | 48V (38–62V) |
| Output voltage | 180–260V, adjustable | 180–260V, adjustable | 180–260V, adjustable |
| Output waveform | true sine | true sine | true sine |
| Continuous power at 104°F (40°C), cos phi 1 | 3000W | 3500 W | 3500 W |
| Surge capability | 6000W | 7000 W | 7000 W |
| Parallel configuration For larger systems, an external transfer system is required | yes, up to 10 standard | yes, up to 10 standard | yes, up to 10 standard |
| 3-Phase configuration | yes, up to 3x3 | yes, up to 3x3 | yes, up to 3x3 |
| Max. efficiency | ≥ 90% | ≥ 92% | ≥ 93% |
| Energy saving mode consumption | 7 W | 7 W | 7 W |
| Specifications Battery Charger | | | |
| Max. charge current at 104°F (40°C) adjustable | 150A at 14.25V | 100A at 28.5V | 50A at 57V |
| Secondary charger output voltage | 12V | 12/24V selectable, 3-step+ | 12/24V selectable, 3-step+ |
| Secondary charger output current | 10A | 10A | 10A |
| Battery temperature sensor | yes, included | yes, included | yes, included |
| Specifications Transfer System | | | |
| AC input (generator) | 50A (switched) | 50A (switched) | 50A (switched) |
| AC input (mains) | 30A (switched) | 30A (switched) | 30A (switched) |
| AC output 1 | 67A | 67A | 67A |
| AC output 2 | 50A (switched) | 50A (switched) | 50A (switched) |
| Transfer speed | seamless (< 1 ms) | seamless (< 1 ms) | seamless (< 1 ms) |
| Solar Input DC Specifications | | | |
| Input voltage range | 25–50V | 25–100V | n.a. |
| Max. PV peak power | 500 Wp | 500 Wp | n.a. |
| Max. input current | 19A | 19A | n.a. |
| Max. charge current | 30A at 14.25V | 15A at 28.5V | n.a. |
| MPP Tracker | full power at 25–50V | full power at 35–80V | n.a. |
| General Specifications | | | |
| Display/read-out | LED display | LED display | LED display |
| Dimensions, hxxwxd | 18.6" x 12.5" x 7" 472 x 318 x 178 mm | 18.6" x 12.5" x 7" 472 x 318 x 178 mm | 18.6" x 12.5" x 7" 472 x 318 x 178 mm |
| Weight | 33.7 lb / 15.3 kg | 33.7 lb / 15.3 kg | 33.7 lb / 15.3 kg |
| Approvals | CE, E-mark, ABYC, RMRS | CE, E-mark, ABYC, RMRS | CE, E-mark, ABYC, RMRS |
| Technical Specifications | | | |
| Charge characteristic | IUoUo, automatic 3-step+ for AGM/Gel/MLI/flooded/traction/spiral | | |
| Ground relay | yes, configurable | yes, configurable | yes, configurable |
| Temperature range (ambient temp.) | -13°F to 140°F, derating > 104°F (-25°C to 60°C, derating > 40°C) | | |
| Cooling | vario fan | vario fan | vario fan |
| Protection degree | IP23 (vertical mounting) | IP23 (vertical mounting) | IP23 (vertical mounting) |
| Protections | over-temperature, overload, short circuit, high/low battery voltage | | |
| MasterBus compatible | yes | yes | yes |
| Options | | | |
| Temperature Sensors 41500500, 6M 41500800, 15M |  included option | included option | included option |
| EasyView 5 77010310 |  option | option | option |
| Waterproof system monitor with 'daylight readable' color display and intuitive multi-language touchscreen to show the key system information at a glance. There is also a logbook feature for warnings and alarms, along with a buzzer and alarm notifications. The home button gives access to favorite pages. | | | |
| MasterBus USB Interface 77030100 |  option | option | option |
| Communication port between MasterBus and the USB port of your PC; makes possible reading and configuration of your MasterBus system on the PC when combined with MasterAdjust software (free to download). | | | |
| RJ12 communication / sync cable, available lengths: 3.3', 9.8', 19.7', 32.8' or 49.2' |  option | option | option |
| High quality communication cable fitted with RJ12 type modular plugs, suitable for connecting a remote control panel. Also suitable as a sync cable for Mass Combi Ultra or Mass Combi Pro Inverter/Chargers models, both in parallel or 3-phase configurations. | | | |



Mass Combi Pro
12/3000-150
38513000



Mass Combi Pro
24/3500-100
38523500

| | |
|---|--------------------------|
| 12V (9.5–16V) | 24V (19–32V) |
| 180–260V, adjustable | 180–260V, adjustable |
| true sine | true sine |
| 3000W | 3500 W |
| 6000W | 7000 W |
| yes, up to 10 standard | yes, up to 10 standard |
| yes, up to 3x3 | yes, up to 3x3 |
| ≥ 90% | ≥ 92% |
| 7 W | 7 W |
| 150A at 14.25V | 100A at 28.5V |
| n.a. | n.a. |
| n.a. | n.a. |
| yes, included | yes, included |
| 50A (switched) | 50A (switched) |
| 30A (switched) | 30A (switched) |
| 67A | 67A |
| 50A (switched) | 50A (switched) |
| seamless (< 1 ms) | seamless (< 1 ms) |
| n.a. | n.a. |
| n.a. | n.a. |
| n.a. | n.a. |
| n.a. | n.a. |
| n.a. | n.a. |
| LED display | LED display |
| 18.6" x 12.5" x 7" | 18.6" x 12.5" x 7" |
| 472 x 318 x 178 mm | 472 x 318 x 178 mm |
| 33.7 lb / 15.3 kg | 33.7 lb / 15.3 kg |
| CE, E-mark, ABYC | CE, E-mark, ABYC |
| IUoUo, automatic 3-step+ for AGM/Gel/MLI/flooded/traction/spiral | |
| yes, configurable | yes, configurable |
| -13°F to 140°F, derating > 104°F (-25°C to 60°C, derating > 40°C) | |
| vario fan | vario fan |
| IP23 (vertical mounting) | IP23 (vertical mounting) |
| over-temperature, overload, short circuit, high/low battery voltage | |
| yes | yes |
| included option | included option |
| option | option |
| option | option |
| option | option |



CombiMaster Inverter/Chargers **NEW**

The CombiMaster inverter/charger delivers pure sine wave inverter power and multi-chemistry battery charging plus the intelligent new design communicates seamlessly with NMEA 2000, CZone, and MasterBus networks.

Designed with the customer in mind and using the latest technology, the CombiMaster is all about user-friendliness and reliability. But don't let that friendly appearance misguide you: the powerful CombiMaster range drives even the most complex and heavy loads with ease!

With the CombiMaster, power dips and failures belong to the past. The automatic AC transfer system switches seamlessly between generator or mains and inverter output, ensuring a constant power supply. Its Power Assist function prevents tripping of the mains fuse in case you're connected to a weak land line or small generator.

The CombiMaster delivers unmatched performance at an unprecedented price. As you would expect from Mastervolt, the CombiMaster is completed with MasterBus, CZone and

NMEA2000 compatible communication, allowing for a broad range of monitoring and system integration options.

The CombiMaster inverter/charger replaces the current Mass Combi.

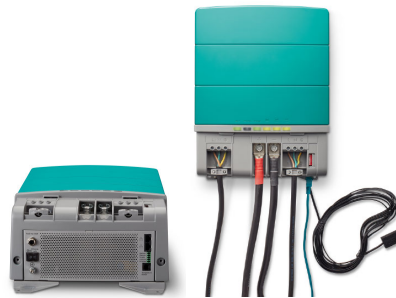


CombiMaster Features

- Dependable quality for leisure and semi-professional applications
- Most compact and lightweight inverter/charger in its class
- Reliable, cost effective and hum-free
- High power rating and >200% peak power to start even the heaviest loads
- Pure sine technology prevents malfunctions and damage to electronic equipment
- Low-loss HF technology allows for longer operation from your batteries
- Powerful and Intelligent 3-step+ battery charger for fast and safe charging
- Fast, automatic switching between mains and inverter mode
- Power assist prevents blown mains fuses.
- Generator compatible
- Quick installation and heavy duty connections
- UL, CE and E-mark certified
- With a DC input voltage range from 10-18V DC and flat battery support at 25% under 10V. The new CombiMaster ensures fast, safe, and efficient charging of your Flooded, AGM, Gel, Li-ion batteries.
- Wide AC input range (90-140V AC) insures functionality of AC devices even with adverse input power conditions
- The new 24V models in 3500W & 4500W and 48V 5000W unit can create parallel and series stacked systems to power up to 35kW and be used to power split phase loads.

Remote Control and Monitoring Options

- MasterBus compatible via SmartRemote or EasyView 5 displays.
- CZone compatible via Control X, Touch 5 or Touch 10.
- NMEA 2000 compatible via 3rd Party MFD.



CombiMaster Inverter/Chargers

**EXPANDED
OFFERING**

Specifications – 120V



CombiMaster
12/1500-60



CombiMaster
12/2000-100



CombiMaster
12/3000-160



CombiMaster
12/3500-200

| Part # | 35511500 | 35512000 | 35513000 | 35513500 |
|---|---|--|---|--|
| General Specifications Sine Wave Inverter | | | | |
| Nominal DC voltage | 12V (10.2–16V) | 12V (10.2–16V) | 12V (10.2–16V) | 12V (10.2–16V) |
| Continuous power at 104°F (40°C) | 1500W | 2000W | 3000W | 3500W |
| Peak power (30 sec) | 2250W | 3000W | 4500W | 5250W |
| Surge power (5 sec) | 3000W | 4000W | 6000W | 7000W |
| Parallel Stacking | no | no | no | yes, up to 3 |
| Synchronize with mains/generator | yes | yes | yes | yes |
| Output voltage | 120V (50/60 Hz, configurable) | | 120V (50/60 Hz, configurable) | |
| Output waveform | pure sine | pure sine | pure sine | pure sine |
| Max. efficiency | 93% | 92% | 90% | 93% |
| Max. ripple on DC (battery at full load) | <15% | <15% | <15% | <15% |
| Battery no-load power consumption | ≤30W | ≤30W | ≤30W | ≤30W |
| Energy saving mode consumption | ≤10W | ≤10W | ≤10W | ≤20W |
| General Specifications Battery Charger | | | | |
| Input voltage range | 90–140V | 90–140V | 90–140V | 90–140V |
| Max. input current | 9 | 16.5 | 25 | 32 |
| Max. charge current at 104°F (40°C) | 60A@14.25V | 100A@14.25V | 160A@14.25V | 200A@14.25V |
| Battery temperature sensor | yes, included | yes, included | yes, included | yes, included |
| Battery voltage sense | yes, automatic | yes, automatic | yes, automatic | yes, automatic |
| Flat battery support (minimum charging) | yes, below 10V @ 25% power | | yes, below 10V @ 25% power | |
| Continuous Battery Charge Output | 60A DC | 100A DC | 160A DC | 200A DC |
| Temp Range | -13°F to 140°F (-25°C to 60°C) | | -13°F to 140°F (-25°C to 60°C) | |
| Specifications Transfer System | | | | |
| AC input | 30A (switched) | 30A (switched) | 30A (switched) | 50A (switched) |
| AC output | 40A | 40A | 40A | 85A |
| AC input fuse | 30A | 30A | 30A | 50A |
| General Specifications | | | | |
| Display/read-out | LED display | LED display | LED display | LED display |
| Dimensions, hwxwd | 14.6" × 11.2" × 6.1" 371 × 284 × 155 mm | 17.6" × 11.2" × 6.1" 448 × 284 × 155 mm | 17.6" × 11.2" × 6.1" 448 × 284 × 155 mm | 22" × 14.2" × 6.7" 559 × 361 × 170 mm |
| Weight | 15.2 lb / 6.9 kg | 20.5 lb/9.3 kg | 20.5 lb / 9.3 kg | 25 lb/11.3 kg |
| Approvals | ABYC A31, UL1236, UL1741, SAEJ1171, FCC class B | | ABYC A31, UL1236, UL1741, SAEJ1171, FCC class B | |
| Technical Specifications | | | | |
| Charge characteristic | IUoUo, automatic / 3-step+ for flooded, Gel/AGM, Lithium configurable | | | |
| Recommended battery capacity | ~ 100–800 Ah (based on gel batteries, may differ for other types) | | ~ 200–1000 Ah (based on gel batteries, may differ for other types) | |
| Ground relay | yes, selectable | yes, selectable | yes, selectable | Yes, always on |
| Temperature range (ambient temp.) | -13°F to 140°F, derating 104°F (-25°C to 60°C, derating > 40°C) | | | |
| Cooling | Forced Air / Fan 80mm | Forced Air / Fan 80mm | Forced Air / Fan 80mm | Forced Air 92 or 120mm |
| Protection degree | IP23 | IP23 | IP23 | IP23 |
| Humidity protection | conformal coating, max. 95% relative humidity, non condensing | | | |
| Protections | over temperature, overload, short circuit, high/low battery voltage | | | |
| Power Assist | yes | yes | yes | yes |
| Power Sharing | yes | yes | yes | yes |
| Communciation | MasterBus, NMEA 2K, CZone (config file needed for NMEA 2K) | | | |

CombiMaster
24/2000-60

35522000

CombiMaster
24/3000-70

35523000

CombiMaster
24/3500-100

35523500

CombiMaster
24/4500-120

35524500

CombiMaster
48/5000-120

35545000

| | | | | |
|---|---|--|------------------------|--------------------------------|
| 24V (20.4–32V) | 24V (20.4–32V) | 24V (20.0–32V) | 24V (20.0–32V) | 48V (40–64V) |
| 2000W | 3000W | 3500W | 5000W | 5000W |
| 3000W | 4500W | 4500W | 7500W | 7500W |
| 4000W | 6000W | 7000W | 9000W | 10000W |
| no | no | yes, up to 7 | yes, up to 7 | yes, up to 7 |
| yes | yes | yes | yes | yes |
| 120V (50/60 Hz, configurable) | | 120V (50/60 Hz, configurable) | | |
| pure sine | pure sine | pure sine | pure sine | pure sine |
| 92% | 90% | 93% | 93% | 93% |
| < 5% | < 5% | < 5% | < 5% | < 5% |
| ≤30W | ≤30W | ≤30W | ≤ 35W | ≤ 35W |
| ≤10W | ≤10W | ≤20W | ≤ 25W | ≤ 25W |
| | | | | |
| 90–140V | 90–140V | 90–140V | 90–140V | 90–140V |
| 16.5 | 25 | 32 | 41.5 | 41.5 |
| 60A@28.5V | 70A@28.5V | 100A@28.5V | 120A@28.5V | 70A @ 57V |
| yes, included | yes, included | yes, included | yes, included | yes, included |
| yes, automatic | yes, automatic | yes, automatic | yes, automatic | yes, automatic |
| Yes, below 20V @ 25% power | | Yes, below 20V @ 25% power | | Yes, below 20V @ 25% power |
| 60A DC | 70A DC | 100A DC | 120A DC | 70A DC |
| -13°F to 140°F (-25°C to 60°C) | | -13°F to 140°F (-25°C to 60°C) | | -13°F to 140°F (-25°C to 60°C) |
| | | | | |
| 30A (switched) | 30A (switched) | 50A (switched) | 50A (switched) | 50A (switched) |
| 40A | 40A | 85A | 85A | 85A |
| 30A | 30A | 50A | 50A | 50A |
| | | | | |
| LED display | LED display | LED display | LED display | LED display |
| 7.6" × 11.2" × 6.1" | 17.6" × 11.2" × 6.1" | 22" × 14.2" × 6.7" | 22" × 14.2" × 6.7" | 22" × 14.2" × 6.7" |
| 48 × 284 × 155 mm | 448 × 284 × 155 mm | 559 × 361 × 170 mm | 559 × 361 × 170 mm | 559 × 361 × 170 mm |
| 20.5 lb / 9.3 kg | 20.5 lb / 9.3 kg | 25 lb/11.3 kg | 27 lb / 12.2 kg | 27 lb / 12.2 kg |
| BYC A31, UL1236, UL1741, SAEJ1171, FCC class B | | ABYC A31, UL1236, UL1741, SAEJ1171, FCC class B | | |
| | | | | |
| IUoUo, automatic / 3-step+ for flooded, Gel/AGM, Lithium configurable | | | | |
| 100–800 Ah (based on gel batteries, may differ for other types) | ~140–1000 Ah (based on gel batteries, may differ for other types) | ~ 200–1000 Ah (based on gel batteries, may differ for other types) | | |
| yes, selectable | yes, selectable | Yes, always on | Yes, always on | Yes, always on |
| -13°F to 140°F, derating 104°F (-25°C to 60°C, derating > 40°C) | | | | |
| Forced Air / Fan 80mm | Forced Air / Fan 80mm | Forced Air 92 or 120mm | Forced Air 92 or 120mm | Forced Air 92 or 120mm |
| IP23 | IP23 | IP23 | IP23 | IP23 |
| conformal coating, max. 95% relative humidity, non condensing over temperature, overload, short circuit, high/low battery voltage | | | | |
| yes | yes | yes | yes | yes |
| yes | yes | yes | yes | yes |
| MasterBus, NMEA 2K, CZone (config file needed for NMEA 2K) | | | | |

CombiMaster Inverter/Chargers

Specifications – 230V

CombiMaster
12/2000-60CombiMaster
12/3000-100CombiMaster
24/2000-40CombiMaster
24/3000-60

| Part # | 35012000 | 35013000 | 35022000 | 35023000 |
|---|--|---|--|---|
| General Specifications Sine Wave Inverter | | | | |
| Nominal DC voltage | 12V (10.2–16V) | 12V (10.2–16V) | 24V (20.4–32V) | 24V (20.4–32V) |
| Continuous power at 104°F (40°C) | 2000V A / 1600 W | 3000V A / 2600 W | 2000V A / 1600 W | 3000V A / 2600 W |
| Peak power (30 sec) | 3000V A / 2400 W | 4500V A / 3900 W | 3000V A / 2400 W | 4500V A / 3900 W |
| Surge power (5 sec) | 4000V A / 3200 W | 6000V A / 5200 W | 4000V A / 3200 W | 6000V A / 5200 W |
| Synchronize with mains/generator | yes | yes | yes | yes |
| Output voltage | 230V 50/60 Hz, configurable | 230V 50/60 Hz, configurable | 230V 50/60 Hz, configurable | 230V 50/60 Hz, configurable |
| Output waveform | true sine | true sine | true sine | true sine |
| Max. efficiency | ≥ 93% | ≥ 93% | ≥ 93% | ≥ 93% |
| Max. ripple on DC (battery at full load) | < 15% | < 15% | < 15% | < 15% |
| Battery no-load power consumption | 20 W on mode / < 1 mA off mode | 30 W on mode / < 1 mA off mode | 20 W on mode / < 1 mA off mode | 30 W on mode / < 1 mA off mode |
| Energy saving mode consumption | 10W | 10W | 10W | 10W |
| General Specifications Battery Charger | | | | |
| Input voltage range | 90–280V power derating below 170V | 90–280V power derating below 170V | 90–280V power derating below 170V | 90–280V power derating below 170V |
| Max. input current | 6A (adjustable) | 10A (adjustable) | 8A | 13A |
| Max. charge current at 104 °F (40 °C) | 60A at 14.25V, configurable | 100A at 14.25V, configurable | 40A at 28.5V, configurable | 60A at 28.5V, configurable |
| Battery temperature sensor | yes, included | yes, included | yes, included | yes, included |
| Battery voltage sense | automatic compensation | automatic compensation | automatic compensation | automatic compensation |
| Specifications Transfer System | | | | |
| AC input | 25A (switched) | 25A (switched) | 25A (switched) | 25A (switched) |
| AC output | 33A | 33A | 33A | 38A |
| AC input fuse | yes | yes | yes | yes |
| Transfer speed | 10 ms for narrow input range, 20 ms for wide range, configurable | | 10 ms for narrow input range, 20 ms for wide range, configurable | |
| Transfer voltage range | narrow input range (170-280V) wide range (90-280V) | | | |
| Transfer frequency range | 40–65 Hz | 40–65 Hz | 40–65 Hz | 40–65 Hz |
| General Specifications | | | | |
| Display/read-out | LED display | LED display | LED display | LED display |
| Dimensions, hwxwd | 14.6" × 11.2" × 6.1" 371 × 284 × 155 mm | 17.6" × 11.2" × 6.1" 448 × 284 × 155 mm | 14.6" × 11.2" × 6.1" 371 × 284 × 155 mm | 17.6" × 11.2" × 6.1" 448 × 284 × 155 mm |
| Weight | 15.2 lb / 6.9 kg | 20.5 lb / 9.3 kg | 15.2 lb / 6.9 kg | 20.5 lb / 9.3 kg |
| Approvals | CE, E-mark, AZ/NZS | CE, E-mark, AZ/NZS | CE, E-mark, AZ/NZS | CE, E-mark, AZ/NZS |
| Technical Specifications | | | | |
| Charge characteristic | IUoUo, automatic / 3-step+ for flooded, Gel/AGM and MLI, configurable | | IUoUo, automatic / 3-step+ for flooded, Gel/AGM and MLI, configurable | |
| Recommended battery capacity | ~100–800 Ah (based on gel batteries, may differ for other types) | ~200–1000 Ah (based on gel batteries, may differ for other types) | ~100–800 Ah (based on gel batteries, may differ for other types) | ~140–1000 Ah (based on gel batteries, may differ for other types) |
| Ground relay | yes, configurable by means of mechanical jumper | | yes, configurable by means of mechanical jumper | |
| Temperature range (ambient temp.) | -13°F to 140°F, derating 104°F (-25°C to 60°C, derating > 40°C) | | | |
| Cooling | vario fan | vario fan | vario fan | vario fan |
| Protection degree | IP23 (vertical mounting) | IP23 (vertical mounting) | IP23 (vertical mounting) | IP23 (vertical mounting) |
| Safety class | IEC protection class I | IEC protection class I | IEC protection class I | IEC protection class I |
| Humidity protection | conformal coating, max. 95% relative humidity, non condensing | | conformal coating, max. 95% relative humidity, non condensing | |
| Protections | over temperature, overload, short circuit, high/low battery voltage | | over temperature, overload, short circuit, high/low battery voltage | |
| Power Assist | yes, will support AC input power from the battery | | yes, will support AC input power from the battery | |
| Power Sharing | yes, allows you to select AC Input fuse setting | | yes, allows you to select AC Input fuse setting | |
| Communciation | MasterBus & CZone | | MasterBus & CZone | |

PowerCombi Inverter/Chargers

Simple. Independent. Flexible

**EXPANDED
OFFERING**




Introducing the new PowerCombi Inverter/Charger from Mastervolt. PowerCombi is a pure sine wave inverter/charger offering grid quality AC power and battery charging in one low profile design. Designed to be an independent inverter/charger, yet can easily be integrated into a CXone/MasterBus network (with additional interface). With a built in transfer switch, 2x surge for 3s and on site dipswitch programming—the PowerCombi offers simple installation with multiple operating modes, and can charge various battery chemistries—including a custom profile for use with Li-ion. Full certifications make it perfect for use in RV's, boats, and specialty vehicles. Add a battery temperature sensor (BTS), remote display and a communication interface for custom applications.



PowerCombi
12V/1200W-50A



PowerCombi
12V/2000W-100A

| Part # | 36211200 | 36212000 |
|---|---|---|
| Part # Kit (Includes Remote, BTS) | 36211201 NEW | 36212001 NEW |
| Specifications | | |
| Continuous Power Rating 77°F (25°C) | 1200 W | 2000 W |
| Continuous Power Rating 104°F (40°C) | 1200 W | 2000 W |
| Surge | 2400 W (3s) | 4000 W (3s) |
| AC Voltage/Frequency | 120V-50/60Hz selectable HF - Pure | 120V-50/60Hz selectable HF - Pure |
| Idle Power Full | 25 W | 36 W |
| Inverter Efficiency | 89% | 89% |
| DC Input Voltage Range | 10.0–15.5V DC | 10.0–15.5V DC |
| Nominal DC Voltage | 12V | 12V |
| Flat battery support (minimum charging) | NO (6V) | NO (6V) |
| Continuous Battery Charge Output | 50A DC | 100A DC |
| DC Output (second) | 20A DC | 20A DC |
| Battery Types | Flooded, Gel, AGM, custom | Flooded, Gel, AGM, custom |
| Transfer Switch (Speed) | 30A (10ms) | 30A (10ms) |
| Dimensions, h x w x d | 15.19" x 9.88" x 4.57" (386 x 251 x 116 mm) | 17.83" x 9.88" x 4.57" (453 x 251 x 116 mm) |
| Weight | 10.0 lb / 4.55 kg | 13.5 lb / 6 kg |
| Approvals | UL458 & Supplement SA/CSA C22.2, UL 1741 no. 107.1-01KKK-A-1822F | |
| Technical Specifications | | |
| Temperature range (ambient temp.) | 4°F to 140°F (-20°C to 60°C) | 4°F to 140°F (-20°C to 60°C) |
| Communications | MasterBus compatible via CZone - MasterBus Interface 77032900 | |
| Options | | |
| Temperature Sensor 41500700 |  | recommended |
| PowerCombi Remote Control 77010700 |  | option |
| Control and monitor your PowerCombi inverter / charger via this easy to use remote monitor. The LCD display is used for setting up the inverter/charger operation, as well as viewing current status or fault messages. | | |
| CZone/MasterBus PowerCombi Interface 77032900 |  | option |
| By adding the CZone/MasterBus PowerCombi Interface to your installation, you can control the PowerCombi via the MasterBus communication network. A RJ45 communication cable is included in the delivery. | | |



Sine Wave Inverters: Enjoy the comforts of home

Your AC installation offers you a wealth of benefits by making the use of any domestic appliance possible, from microwave oven to hair dryer, DVD player to power tools. A Mastervolt inverter allows you to easily convert the voltage of your 12V or 24V battery to 230V/50Hz or 120V/60Hz, so you enjoy all the comforts of home wherever you choose to go.

Mastervolt offers a complete range of inverters from 300 watt to 40 kwatt, for 230V/50Hz as well as 120V/60Hz (American voltage).

Completely independent

Grid power regularly fluctuates and can cause your lights to flicker. Sometimes it may even drop below 180 volt, causing some devices to stop functioning. The Mastervolt sine wave inverter ensures a perfect AC voltage, and makes power problems a thing of the past. The pure sine wave technology also helps protect your equipment against failures, humming or interference on monitors or TV's and ensures a longer lifespan.

Which Mastervolt inverter fits your needs?

Mass Sine Ultra Inverter

This model is intended for professional applications with high power demands, and extends the Mass Sine series. With 4 kW AC power, the Mass Sine Ultra Inverter meets the highest energy requirements.

The latest technology increases the efficiency and enables multiple units to work in parallel and 3-phase configuration.

Mass Sine Inverter

These high quality sine wave inverters have proven themselves in the most extreme conditions for over twenty-five years. Although the dimensions and connections of the various models have remained the same, the technology has evolved, resulting in a fast, efficient, one-on-one replacement with minimal downtime.

AC Master

These affordable sine wave inverters convert 12V or 24V battery voltage into reliable grid power, making it ideal for recreational and semi-professional applications.



COMPACT

No humming with HF technology

Our use of high-frequency switch technology means you can say goodbye to humming transformers and hello to efficiency. Mastervolt inverters are also small and light-weight to ensure easy installation.



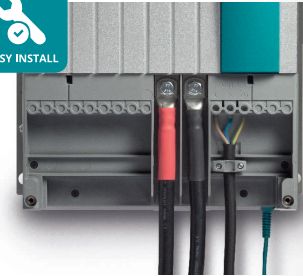
POWERFUL

High peak power during start up

Mastervolt sine wave inverters can deliver high peak power (up to 200%) to equipment that requires extra current for a short period of time while powering up.



EASY INSTALL



Simple and safe to connect

The inverters feature robust connection technology, internal in the larger models and a plug & play socket with cable for the smaller models.



PROLONGED BATTERY LIFE



Efficient use of batteries

A high efficiency when inverting and an automatic economy mode when there is no consumption gives you longer use of your batteries.



Pure sine wave

Mastervolt inverters generate a sine wave shaped output current similar or even better than that of the public grid and perfectly suited for powering sensitive equipment.



POWER QUALITY



MASTERBUS COMPATIBLE



MasterBus compatible

Every Mass Sine (Ultra) inverter can be easily connected to a MasterBus network with only one cable and one connection. You can also choose central, local or remote monitoring, configuration and control of your system.

Mass Sine Ultra and Mass Sine Inverters: For the toughest tasks



Even under the most extreme conditions the products from the Mass series operate faultlessly, giving you round-the-clock output when necessary. With an MTBF of 180,000 hours at full capacity and 24/7 use, the Mass products are ideal for the toughest tasks and any situation that requires a reliable power supply.



Optimal flexibility in system design

Choosing an independent sine wave inverter allows you complete freedom of choice of battery charging equipment. You can freely adapt the rating of these chargers, depending on the desired charge time. In case you want to use renewable energy sources, you may want to choose an MPPT solar charge regulator.

High efficiency

The high efficiency and automatic economy mode is designed to allow digital clocks to work properly and ensure you many more hours of operation from your batteries. The application of high-frequency technology prevents any annoying humming and zooming sounds, while the high peak capacity ensures that the high inrush current required for electrical tools, for example, is seamlessly produced.

Mass Sine Ultra and Mass Sine Features

- For heavy duty work in professional and semi-professional applications
- Full capacity at temperatures up to 104°F (40°C)
- Pure sine wave output prevents failures and damage to connected sensitive equipment
- High peak capacity for the seamless switching on of complex and heavy loads
- Dynamic, battery-specific input current for an optimal use of every type of battery (Mass Sine Ultra Inverter)
- Parallel configuration of up to ten devices for a capacity up to 40 kW (Mass Sine Ultra Inverter)
- 3-Phase configuration for a capacity up to 36 kW (Mass Sine Ultra Inverter)
- Integrated MasterBus (Mass Sine Ultra Inverter) or MasterBus compatible (Mass Sine Inverter)
- Suitable for mobile applications
- Professional connections
- Automatic, reliable and safe operation
- Optional: Masterswitch/Systems switch for automatic selection of the desired energy source

Mass Sine Ultra

With an AC capacity of 4000W in one unit, the Mass Sine Ultra Inverter can satisfy even the greatest energy demands. As ten units can be switched in parallel or 3x3 in a three-stage configuration, the Mass Sine Ultra Inverter can supply a capacity of up to 40 kW. The inverter provides full power at 104°F (40°C) and works smoothly even in extreme conditions such as engine rooms and technical spaces. Like all Mass products, the inverter is supplied in a compact and robust casing. This inverter is the best choice if you are looking for autonomous AC capacity of over 3 kW.

Latest technology

The extremely efficient power electronics save volume and weight with minimal sound levels and a very low ripple voltage which extends the lifespan of your batteries. At the same time, digital technology prevents any annoying flickering and voltage fluctuations.

Make the most of your batteries

The Mass Sine Ultra Inverter is equipped with a dynamic battery voltage window. Taking into account the type of battery and current, this function ensures the inverter can supply AC longer without overtaxing the batteries.

Mass Sine

Mastervolt's Mass Sine inverters have been proving their value in the most extreme conditions for over 25 years.

Clear indicators

The Mass Sine Inverter features easy controls on the device itself. As inverters are often built in, we also supply an effective remote control panel, the C4-RI. In addition, the Mass can be controlled via its intuitive display, the EasyView 5, thanks to the integration of MasterBus communication using a MasterBus Inverter Interface or AC Power Analyser.

Easy and safe connections

The Mass Sine inverters provide robust and professional connections for fast and safe installation.

Mass Sine and Mass Sine Ultra Inverters Specifications – 230V








Mass Sine 12/2000*



Mass Sine 24/800*



Mass Sine 24/1500*

| Part # 230V | 24012000 | 24020800 | 24021500 |
|--|---|--|--|
| General Specifications | | | |
| Nominal battery voltage | 12V | 24V | 24V |
| Recommended battery capacity | >200 Ah | >50 Ah | >150 Ah |
| Output voltage (± 5%) | 230V – 50Hz (± 0.01Hz) | 230V – 50Hz (± 0.01Hz) | 230V – 50Hz (± 0.01Hz) |
| P30 power at 104°F (40°C), cos phi 1 | 2000W | 800 W | 1500 W |
| Continuous power at 104°F (40°C), cos phi 1 | 1800 W | 650 W | 1200 W |
| Peak load | 4000W | 1600 W | 2900 W |
| Output waveform | true sine | true sine | true sine |
| Efficiency | 92% | 92% | 92% |
| Display/read-out | LED display | LED display | LED display |
| Parallel configuration | no | no | no |
| 3-Phase configuration | no | no | no |
| Dimensions, HxWxD | 16.5" x 12.5" x 5.1" 420 x 318 x 130 mm | 12.8" x 8.7" x 4.4" 325 x 220 x 111 mm | 13.4" x 10.3" x 5.1" 340 x 261 x 130 mm |
| Weight | 22.3 lb / 10.1 kg | 8.6 lb / 3.9 kg | 13.7 lb / 6.2 kg |
| Approvals | CE, E-mark, ABYC A-31, RRR | CE, E-mark, ABYC A-31 | CE, E-mark, ABYC A-31 |
| Technical Specification | | | |
| Technology | HF switch mode | HF switch mode | HF switch mode |
| Max. ripple on DC (battery) | 5% RMS | 5% RMS | 5% RMS |
| Input current (nominal load) | 183A | 36A | 68A |
| No load power consumption: • 'on' mode (230V) • energy saving mode | 480 mA – 6 W 50 mA – 0.6 W | 240 mA – 5.6 W 35 mA – 0.8 W | 200 mA – 5 W 25 mA – 0.6 W |
| Minimal DC fuse (slow blow)** | 250A | 63A | 100A |
| Minimal cable size | 70 mm ² | 16 mm ² | 25 mm ² |
| Harmonic distortion typical | <5% | <5% | <5% |
| Cos Phi | all power factors allowed | all power factors allowed | all power factors allowed |
| Temperature range (ambient temp.) | -13°F–176°F, >104°F derating (-25°C–80°C >40°C derating) | | |
| Cooling | natural/forced | natural/forced | natural/forced |
| Transfer System | The Masterswitch/Systemswitch can be connected to all sine wave inverters | | |
| Protection degree | IP23 | IP23 | IP23 |
| Protections | over temperature, over load, short circuit, high/low battery voltage | | |
| MasterBus compatible | with MB Inverter Interface or AC Power Analyser | with MB Inverter Interface or AC Power Analyser | with MB Inverter Interface or AC Power Analyser |
| AC connection | internal | internal | internal |
| Options | | | |
| Model C4-RI 70404110 |  option Remote control on/off for the Mass Sine Inverter. | option | option |
| EasyView 5 77010310 |  option In combination with MasterBus Inverter Interface. Waterproof system monitor with 'daylight readable' color display and intuitive multi-language touchscreen to show the key system information at a glance. There is also a logbook feature for warnings and alarms, along with a buzzer and alarm notifications. The home button gives access to favorite pages. | option | option |
| MasterBus USB Interface 77030100 |  option In combination with MasterBus Inverter Interface. Communication port between MasterBus and the USB port of your PC; makes possible reading and configuration of your MasterBus system on the PC when combined with MasterView System software (free to download). | option | option |
| MasterBus Inverter Interface 77030700 |  option Integrates the Mass Sine Inverter in a MasterBus network in a MasterBus network. | option | option |
| AC Power Analyser 77031200 |  option Integrates the Mass Sine Inverter in a MasterBus network and measures the AC voltage, current and power. | option | option |

* Also available in 60 Hz: 2000W model: Part # **24112000** 800 W model: Part # **24120800** 1500 W model: Part # **24121500**
2500 W model: Part # **24122500** 5000 W model: Part # **24195100**

** DC fuse depends on the cable size.



Mass Sine
24/2500*
24022500



Mass Sine Ultra
24/4000
26024000



Mass Sine
24/5000*
24095100

| 24V | 24V | 24V |
|---|---|--|
| >200 Ah | >350 Ah | >400 Ah |
| 230V – 50Hz (± 0.01Hz) | 230V (± 2%) – 50/60 Hz selectable (± 0.005%) | 230V – 50Hz (± 0.01Hz) |
| 2500 W | — | 5000 W |
| 2000W | 4000W | 4000W |
| 5000 W | 7000 W | 9000 W |
| true sine | true sine | true sine |
| 92% | ≥ 92% | 92% |
| LED display | LED display | LED display |
| no | yes, up to 10 units | no |
| no | yes, up to 3x3 | no |
| 16.5" x 12.5" x 5.1" 420 x 318 x 130 mm | 18.6" x 12.5" x 6.9" 472 x 318 x 178 mm | 18.5" x 12.4" x 10" 470 x 315 x 254 mm |
| 22.3 lb / 10.1 kg | 33.1 lb / 15 kg | 41.9 lb / 19 kg |
| CE, E-mark, ABYC A-31 | CE, E-mark, ABYC A-31 | CE, E-mark, ABYC A-31 |
| HF switch mode | V6 HF switch mode | HF switch mode |
| 5% RMS | 5% RMS | 5% RMS |
| 115A | 200A | 230A |
| 250 mA – 6 W 25 mA – 0.6 W | 660 mA – 16 W 300 mA – 7 W | 250 mA – 6 W 50 mA – 1.2 W |
| 160A | 250A | 1x 250A or 2x 125A |
| 50 mm² | 70 mm² | 2x 70 mm² |
| <5% | <1% | <5% |
| all power factors allowed | all power factors allowed | all power factors allowed |
| -13°F–176°F, >104°F derating (-25°C–80°C >40°C derating) | | |
| natural/forced | natural/forced | natural/forced |
| The Masterswitch/Systemswitch can be connected to all sine wave inverters | | |
| IP23 | IP23 | IP23 |
| over temperature, over load, short circuit, high/low battery voltage | | |
| with MB Inverter Interface or AC Power Analyser | yes | with MB Inverter Interface or AC Power Analyser |
| internal | internal | internal |
| option | n.a. | option |
| option | option | option |
| option | n.a. | option |
| option | n.a. | option |
| option | n.a. | option |

The following models are also available in Quick Connect (OEM) version with a WAGO 770-103 connector and 25 cm cable:

- Mass Sine Inverter
12/2000 230V,
part # 24021002
- Mass Sine Inverter
12/2000 120V,
part # 25012002

AC Master Series Inverters:

Reliable AC power for recreational and semi-professional use



These affordable sine wave inverters convert 12V or 24V battery voltage into reliable grid power, making them ideal for recreational and semi-professional applications.

The AC Master series is easy to install and delivers full output, even under the most demanding conditions. The pure sine wave technology provides an outstanding power quality, ensuring the correct functioning of sensitive equipment. The usage of high frequency switching technology eliminates any annoying humming and buzzing sounds.

Representing complete value for money, these ruggedly built inverters provide essential home comforts when you're far from the nearest grid connection.

Applications

Both recreational and semi-professional use, where grid power varies or is unavailable. Applications include lighting, appliances, electric cooking and power tools. For (mobile) applications in your home, office or service vehicle, or during your holidays.





AC Master Series Features

- Pure sine wave technology protects sensitive equipment
- Delivers full output at high peak power under the most demanding conditions
- Automatic power saving system for extended runtime
- Compact and lightweight design, saving valuable installation time
- Reliable and safe operation; protected against over-temperature, overload, short circuit, high or low battery voltage
- Variable speed fan for quiet operation at low power
- Optional remote control for instant switch off of the inverter and all connected equipment (not available for the 300 and 500 W models).
- Convenient plug connection for all models, 2500/3500 Watt models also hard wired.

In addition, the 2500/3500 Watt models offer:



- Combine two (2) up to 15 units to obtain high power or 3-phase systems
- Integrated transfer system, switches automatically between AC power sources



AC Master Inverters

Specifications – 12V

AC Master
12/700 (120V)AC Master
12/2000 (120V)AC Master
12/300AC Master
12/500

| | | | | |
|---|--|--|---|---|
| Part # | 28510700 | 28512000 | n.a. | n.a. |
| Part # (with UK plug) | n.a. | n.a. | n.a. | n.a. |
| Part # (with NZ/AU plug) | n.a. | n.a. | n.a. | n.a. |
| Part # (with IEC outlet) | n.a. | n.a. | 28010302 | 28010502 |
| General Specifications | | | | |
| Output voltage | 100/110/115/120 V — 50/60 Hz (selectable) | | 230V – 50 Hz (± 0.1%) | 230V – 50 Hz (± 0.1%) |
| Output waveform | true sine | true sine | true sine | true sine |
| Nominal battery voltage | 12V | 12V | 12V | 12V |
| Recommended battery capacity | ≥ 100 Ah | ≥ 200 Ah | ≥ 60 Ah | ≥ 100 Ah |
| Continuous power at 77°F (25°C) , cos phi 1 | 700 W | 2000W | 300 W | 500 W |
| Continuous power at 104°F (40°C), cos phi 1 | 700 W | 2000W | 250 W | 400 W |
| Peak load | < 810 W (1 min.) < 1230 W (1 sec.) | < 2300 W (1 min.) < 3500 W (1 sec.) | 600 W | 800 W |
| AC connection | North American socket with GFCI | North American socket with GFCI | universal | universal |
| Efficiency | 91 % | 92% | 90% | 90% |
| Parallel configuration | n.a. | n.a. | n.a. | n.a. |
| 3-Phase configuration | n.a. | n.a. | n.a. | n.a. |
| Display/read-out | LED indication: battery voltage, load level, status | | LED display | LED display |
| Dimensions, hxxwxd | 7.9" x 13" x 3.3" 200 x 330 x 83 mm | 9.8" x 17.4" x 3.3" 248 x 443 x 83 mm | 8.3" x 5.1" x 2.4" 210 x 130 x 60 mm | 8.3" x 5.1" x 2.4" 210 x 130 x 60 mm |
| Weight | 6 lb / 2.7 kg | 11.5 lb / 5.2 kg | 2.55 lb / 1.16 kg | 2.69 lb / 1.22 kg |
| Alarms | potential free alarm contact | potential free alarm contact | 4 alarm modes | 4 alarm modes |
| Approvals | safety: UL 458, EMC: FCC class B | safety: UL 458, EMC: FCC class B | CE, E-mark, ABYC A-31 | CE, E-mark, ABYC A-31 |
| Technical specifications | | | | |
| Technology | high frequency, input & output fully isolated | | high frequency, input & output fully isolated | |
| Input current (nominal load) | 70A | 200 A | 22.5A | 37.5A |
| No-load power consumption (energy saving mode) | < 0.1A | < 0.1 A | 0.33A – 4 W | 0.33A – 4 W |
| Minimal DC fuse (slow blow) | 100A | 250 A | 2x 40A | 2x 40A |
| Minimal cable size | 25 mm² | 70 mm² | 1.5 meter DC cable delivered as standard | |
| Harmonic distortion typical | < 5% | < 3 % | < 6% | < 6% |
| Cos phi | all power factors allowed | | all power factors allowed | |
| Transfer system | n.a. | n.a. | n.a. | n.a. |
| Temperature range (ambient temp.) | -4°F to 140°F, derating power > 104°F (-20°C to 60°C, derating power > 40°C) | | | |
| Protection degree | IP21, horizontal wall mounting | | IP23, vertical wall mounting | |
| Protections | over-temperature, overload, short circuit, high/low voltage, reverse polarity (fuse) | | over-temperature, overload, short circuit, high/low battery voltage | |
| Cooling | temperature and load controlled fan | | natural/forced | natural/forced |
| MasterBus compatible | yes, using a MasterBus AC Master Interface Part # 77032700 | | no | no |
| Options | | | | |
| AC Master Remote Control* 70405080 |  | option | option | n.a. |
| MasterBus AC Master Interface Integrates the AC Master inverter in a MasterBus network 77032700 |  | option | option | n.a. |

*On/off control for the AC Master sine wave inverter with a clear on/off indicator which indicates when the inverter is active. In addition, the AC Master Remote Control makes it possible to turn the inverter on or off automatically by means of a 12-volt input, for example when switching on the onboard AC power or while starting an engine. The AC Master Remote Control comes with 25 ft (8 m) cable.

AC Master
12/700AC Master
12/1000AC Master
12/1500AC Master
12/2000AC Master
12/2500AC Master
12/3500

28010700

28011000

28011500

28012000

28012500

28013500

28210700

28211000

28211500

n.a.

28212500

28213500

28410700

28411000

28411500

n.a.

28412500

28413500

n.a.

n.a.

n.a.

n.a.

n.a.

n.a.

200/220/230/240V — 50/60 Hz (selectable)

200/220/230/240V — 50/60 Hz (selectable)

230/240V — 50/60 Hz (selectable)

true sine

true sine

true sine

true sine

true sine

true sine

12V

12V

12V

12V

12V

12V

≥ 100 Ah

≥ 130 Ah

≥ 160 Ah

≥ 200 Ah

≥ 270 Ah

≥ 360 Ah

700 W

1000 W

1500 W

2000W

2500 W

3500 W

700 W

1000 W

1500 W

2000W

2500 W

3500 W

< 810 W (1 min.)
< 1230 W (1 sec.)< 1150 W (1 min.)
< 1750 W (1 sec.)< 1730 W (1 min.)
< 2650 W (1 sec.)< 2300 W (1 min.)
< 4000W (1 sec.)< 3000W (1 min.)
< 4000W (1 sec.)< 4500W (1 min.)
< 6000W (1 sec.)plug connection EU
(Schuko) or UKplug connection EU
(Schuko) or UKplug connection EU
(Schuko) or UKplug connection EU
(Schuko)hardwired + plug
connection EU (Schuko)hardwired + plug
connection EU (Schuko)

91%

92%

93%

94%

88%

90%

n.a.

n.a.

n.a.

n.a.

yes, up to 15 units

yes, up to 15 units

n.a.

n.a.

n.a.

n.a.

yes, 3 units

yes, 3 units

LED indication: battery voltage, load level, status

LED indication: battery voltage, load level, status

LED indication: battery voltage, load level, status

7.9" x 13" x 3.3"
200 x 330 x 83 mm7.9" x 14.6" x 3.3"
200 x 372 x 83 mm9.8" x 16.6" x 3.3"
248 x 421 x 83 mm9.8" x 17.4" x 3.3"
248 x 443 x 83 mm11.1" x 17.2" x 5"
283 x 436 x 128 mm11.1" x 19.5" x 5"
283 x 496 x 128 mm

6 lb / 2.7 kg

7.3 lb / 3.3 kg

9.3 lb / 4.2 kg

11.5 lb / 5.2 kg

17.6 lb / 8 kg

22 lb / 10 kg

potential free
alarm contactpotential free
alarm contactpotential free
alarm contactpotential free
alarm contactpotential free
alarm contactpotential free
alarm contact

CE, E-mark, RCM

CE, E-mark, RCM

CE, E-mark, RCM

CE, Safety: EN60950-
1, E-mark: CISPR25,
ISO11452-2, ISO7637-2,
EMC: EN55022, EN55024,
EN61000-3-2, -3-3,
EN61000-4-2,3,4,5,6,8,11

CE, E-mark, RCM

CE, E-mark, RCM

high frequency, input & output fully isolated

high frequency, input & output fully isolated

high frequency, input & output fully isolated

70A

100A

150A

200 A

250A

350A

< 0.1A

< 0.1A

< 0.1A

< 0.1 A

< 1.1A

< 1.4A

100A

125A

175A

250 A

300A

400A

25 mm²35 mm²50 mm²70 mm²95 mm²120 mm²

< 5%

< 5%

< 3%

< 5 %

< 3%

< 3%

all power factors allowed

all power factors allowed

all power factors allowed

n.a.

n.a.

n.a.

n.a.

integrated, automatic (inverter to grid:
8~10 ms, grid to inverter: 16~50 ms). Not
for parallel & 3-phase operation (external
transfer system possible).

-4°F to 140°F, derating power > 104°F (-20°C to 60°C, derating power > 40°C)

IP21, horizontal wall mounting

IP21, horizontal wall mounting

IP21, horizontal wall mounting

over-temperature, overload, short circuit,
high/low voltage, reverse polarity (fuse)over-temperature, overload, short circuit,
high/low voltage, reverse polarity (fuse)over-temperature, overload, short circuit,
high/low voltage, reverse polarity (fuse)

temperature and load controlled fan

temperature and load controlled fan

temperature and load controlled fan

yes, using a MasterBus AC Master Interface
Part # 77032700yes, using a MasterBus AC Master Interface
Part # 77032700yes, using a MasterBus AC Master Interface
Part # 77032700

option

option

option

option

option

option

option

option

option

option



option

option

AC Master Inverters

Specifications – 24V

AC Master
24/700 (120V)AC Master
24/2000 (120V)AC Master
24/300AC Master
24/500

| Part # | 28520700 | 28522000 | 28020300 | 28020500 |
|---|--|---|---|---|
| Part # (with UK plug) | n.a. | n.a. | n.a. | n.a. |
| Part # (with NZ/AU plug) | n.a. | n.a. | n.a. | n.a. |
| Part # (with IEC outlet) | n.a. | n.a. | 28020302 | 28020502 |
| General Specifications | | | | |
| Output voltage | 100/110/115/120 V — 50/60 Hz (selectable) | | 230V – 50 Hz (± 0.1%) | 230V – 50 Hz (± 0.1%) |
| Output waveform | true sine | true sine | true sine | true sine |
| Nominal battery voltage | 24V | 24V | 24V | 24V |
| Recommended battery capacity | ≥ 50 Ah | ≥ 110 Ah | ≥ 30 Ah | ≥ 50 Ah |
| Continuous power at 77°F (25°C), cos phi 1 | 700 W | 2000 W | 300 W | 500 W |
| Continuous power at 104°F (40°C), cos phi 1 | 700 W | 2000 W | 250 W | 400 W |
| Peak load | < 810 W (1 min.) < 1230 W (1 sec.) | < 2300 W (1 min.) < 3500 W (1 sec.) | 600 W | 800 W |
| AC connection | North American socket with GFCI | North American socket with GFCI | universal | universal |
| Efficiency | 93% | 93% | 91% | 91% |
| Parallel configuration | n.a. | n.a. | n.a. | n.a. |
| 3-Phase configuration | n.a. | n.a. | n.a. | n.a. |
| Display/read-out | LED indication: battery voltage, status | LED indication: battery voltage, load level, status | LED display | LED display |
| Dimensions, hwxwd | 7.9" x 13" x 3.3" 200 x 330 x 83 mm | 9.8" x 17.4" x 3.3" 248 x 4432 x 83 mm | 8.3" x 5.1" x 2.4" 210 x 130 x 60 mm | 8.3" x 5.1" x 2.4" 210 x 130 x 60 mm |
| Weight | 6 lb / 2.7 kg | 11.5 lb / 5.2 kg | 2.55 lb / 1.16 kg | 2.69 lb / 1.22 kg |
| Alarms | potential free alarm contact | potential free alarm contact | 4 alarm modes | 4 alarm modes |
| Approvals | safety: UL 458EMC: FCC class B | | CE, E-mark, ABYC A-31 | CE, E-mark, ABYC A-31 |
| Technical Specifications | | | | |
| Technology | high frequency, input & output fully isolated | | high frequency, input & output fully isolated | |
| Input current (nominal load) | 35A | 100A | 11A | 19A |
| No-load power consumption (energy saving mode) | < 0.06A | < 0.05A | 0.16A – 4 W | 0.16A – 4 W |
| Minimal DC fuse (slow blow) | 50A | 125A | 40A | 40A |
| Minimal cable size | 16 mm² | 35 mm² | 1.5 m DC cable delivered as standard | 1.5 m DC cable delivered as standard |
| Harmonic distortion typical | < 5% | < 5% | < 6% | < 6% |
| Cos phi | all power factors allowed | | all power factors allowed | |
| Transfer system | n.a. | n.a. | n.a. | n.a. |
| | | | | |
| Temperature range (ambient temp.) | -4°F to 140°F, derating power > 104°F (-20°C to 60°C, derating power > 40°C) | | | |
| Protection degree | IP21, horizontal wall mounting | | IP23, vertical wall mounting | |
| Protections | over-temperature, overload, short circuit, high/low voltage, reverse polarity (fuse) | | over-temperature, overload, short circuit, high/low battery voltage | |
| Cooling | temperature and load controlled fan | | natural/forced | natural/forced |
| MasterBus compatible | yes, using a MasterBus AC Master Interface Part # 77032700 | | no | no |
| Options | | | | |
| AC Master Remote Control* 70405080 |  | option | option | n.a. |
| MasterBus AC Master Interface Integrates the AC Master inverter in a MasterBus network 77032700 |  | option | option | n.a. |

*On/off control for the AC Master sine wave inverter with a clear on/off indicator which indicates when the inverter is active. In addition, the AC Master Remote Control makes it possible to turn the inverter on or off automatically by means of a 12-volt input, for example when switching on the onboard AC power or while starting an engine. The AC Master Remote Control comes with 25 ft (8 m) cable.



AC Master

24/700

AC Master

24/1000

AC Master

24/1500

AC Master

24/2000

AC Master

24/2500

28020700

28021000

28021500

28022000

28022500

28220700

28221000

28221500

n.a.

28222500

28420700

28421000

28421500

n.a.

28422500

n.a.

n.a.

n.a.

n.a.

n.a.

200/220/230/240V — 50/60 Hz (selectable)

200/220/230/240V — 50/60 Hz (selectable)

230/240V — 50/60 Hz (selectable)

true sine

true sine

true sine

true sine

true sine

24V

24V

24V

24V

24V

≥ 50 Ah

≥ 65 Ah

≥ 80 Ah

≥ 110 Ah

≥ 135 Ah

700 W

1000 W

1500 W

2000 W

2500 W

700 W

1000 W

1500 W

2000 W

2500 W

< 810 W (1 min.)
< 1230 W (1 sec.)< 1150 W (1 min.)
< 1750 W (1 sec.)< 1730 W (1 min.)
< 2650 W (1 sec.)< 2300 W (1 min.)
< 4000 W (1 sec.)< 3000 W (1 min.)
< 4000 W (1 sec.)plug connection EU
(Schuko) or UKplug connection
EU (Schuko) or UKplug connection
EU (Schuko) or UKplug connection
EU (Schuko)hardwired + plug
connection EU (Schuko)

93%

94%

94%

94%

88%

n.a.

n.a.

n.a.

n.a.

yes, up to 15 units

n.a.

n.a.

n.a.

n.a.

yes, 3 units

LED indication: battery
voltage, load level, statusLED indication: battery
voltage, load level, statusLED indication: battery
voltage, load level, statusLED indication: battery
voltage, load level, statusLED indication: battery
voltage, load level, status7.9" x 13" x 3.3"
200 x 330 x 83 mm7.9" x 14.6" x 3.3"
200 x 372 x 83 mm9.8" x 16.6" x 3.3"
248 x 421 x 83 mm9.8" x 17.4" x 3.3"
248 x 443 x 83 mm11.1" x 17.2" x 5"
283 x 436 x 128 mm

6 lb / 2.7 kg

7.3 lb / 3.3 kg

9.3 lb / 4.2 kg

11.5 lb / 5.2 kg

17.6 lb / 8 kg

potential free
alarm contactpotential free
alarm contactpotential free
alarm contactpotential free
alarm contactpotential free
alarm contact

CE, E-mark, RCM

CE, E-mark, RCM

CE, E-mark, RCM

CE, Safety: EN60950-1, E-mark:
CISPR25, ISO11452-2, ISO7637-2,
EMC: EN55022, EN55024, EN61000-
3-2; -3-3, EN61000-4,2,3,4,5,6,8,11

CE, E-mark, RCM

high frequency, input & output fully isolated

high frequency, input & output fully isolated

35A

50A

75A

100 A

125A

< 0.06A

< 0.05A

< 0.05A

< 1.0 A

< 0.7A

50A

63A

100A

160 A

160A

16 mm²16 mm²25 mm²35 mm²50 mm²

< 5%

< 5%

< 5%

< 5 %

< 5%

all power factors allowed

all power factors allowed

all power factors allowed

all power factors allowed

n.a.

n.a.

n.a.

n.a.

integrated, automatic (inverter to
grid: 8~10 ms, grid to inverter: 16~50
ms). Not for parallel & 3-phase
operation (external transfersystem
possible).

-4°F to 140°F, derating power > 104°F (-20°C to 60°C, derating power > 40°C)

IP21, horizontal wall mounting

IP21, horizontal wall mounting

over-temperature, overload, short circuit,
high/low voltage, reverse polarity (fuse)over-temperature,
overload, short circuit,
high/low battery voltageover-temperature, overload, short
circuit, high/low voltage, reverse
polarity (fuse)over-temperature, overload, short
circuit, high/low battery voltage

temperature and load controlled fan

temperature and load controlled fan

yes, using a MasterBus AC Master Interface
Part # 77032700yes, using a MasterBus AC Master Interface
Part # 77032700

option

option

option

option

option

option

option

option

option

option



Mastervolt Battery Chargers:

A long life for your battery

We know how important it is to charge your batteries safely, reliably and quickly, even if the power supply is affected by low quality or limited availability. You also value batteries that have a long lifespan while maintaining their capacity. Mastervolt offers you the best possible solution.

The Mastervolt 3-step+ charging method ensures more power and a longer life for your batteries. Our battery chargers integrate multiple functions making sure your batteries are safely and completely charged, even when they are depleted. Fast battery charging is guaranteed by the efficient use of the available grid or generator power (all Mastervolt battery chargers have a power factor correction).

Which battery charger best meets your needs?

Mastervolt offers four ranges of battery chargers:

Mass

For the toughest tasks in professional and semi-professional situations. With its integrated alarm functions and various approvals, the Mass is the best choice for professionals.

ChargeMaster and ChargerMaster Plus series

The ChargeMaster series is suitable for recreational and semi-professional use. It is easy to install and includes a detailed display and easy controls. The ChargeMaster safely charges multiple battery banks at the same time, anywhere in the world.

The is a new generation of battery chargers that will replace the ChargeMaster in stages. The combines three battery chargers, a battery isolator and VSR in one compact device. This all-in-one solution can charge all batteries, even when you're on the go. CZONE compatible models available.

EasyCharge

Entry level model with proven Mastervolt 3-step+ charging in a waterproof epoxy-filled, non-corrosive enclosure.

EasyCharge Portable

For people on the move, the portable version offers a rugged solution that can be used everywhere.



The best battery charger for every application



The ChargeMaster series can charge multiple battery banks at once. The Mass battery charger has one main outlet to optimally charge a battery bank. Both guarantee a long lifespan for your batteries, even with daily and intensive use. can smoothly charge a combination of multiple battery types, sizes and voltages. The intelligent built-in auxiliary power means that all Mastervolt battery chargers can also charge a completely discharged battery (< 8V).



Charging Lithium Ion Batteries

Mastervolt battery chargers can seamlessly charge Lithium Ion batteries as the Mastervolt battery chargers communicate directly with the Lithium Ion battery via integrated network (or have been adapted to the required charging voltages).



Qualifications

All Mastervolt products comply with one or more of these approvals (see the relevant product specification page for details). If the required qualification is not present, ask your account manager for an addition.

TECH TIP

Choosing the right Battery Charger

Determine:

- How many battery banks do I want to charge?
- The battery charger must have the same voltage as the battery bank.
- Rule of thumb is that 25% of the battery capacity as a charge capacity is sufficient to safely and quickly charge batteries while still supplying power to the consumers (for instance, a battery charger of 50 amps is sufficient for a 200 Ah battery). Increase up to 50% for Mastervolt Gel batteries and 100% for Mastervolt Lithium Ion (LiFePO4) batteries for faster charging.

Mass Series Battery Chargers:

The right choice for demanding conditions



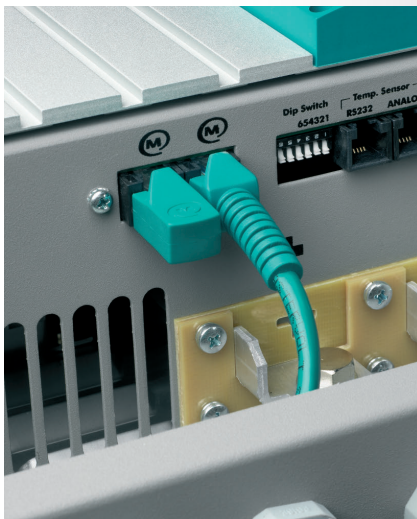
Mass battery chargers are designed for the toughest conditions for professional, semi-professional and recreational purposes. Even under the most extreme conditions the products from the Mass series operate faultlessly, giving you round-the-clock output when necessary.

The sustainability and technologies that underpin the Mass concept have long been proven in practice. With an MTBF of 180,000 hours at full capacity and 24/7 use, the Mass products are ideal for the toughest tasks and any situation that requires a reliable power supply.



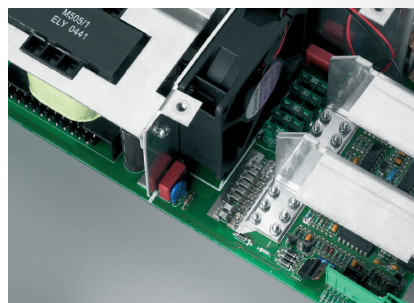
Mass Series Features

- Designed for the most difficult conditions
- Lightweight, stainless steel, anodized aluminium casing
- Coating of internal components prevents damage from dampness or condensation to ensure a longer lifespan
- Insensitive to electromagnetic effects from other devices
- Suitable for every type of battery, also charges flat batteries
- Delivered as standard with temperature sensor
- Full power at temperatures of up to 113°F (45°C)
- Load capacities from 80 to 1000 Ah or more
- Stable and ripple free 24V and 48V power supply, even without batteries
- The Current Control function prevents the breakdown of fuses
- Parallel switching possible using multiple battery chargers
- Connections in accordance with CE, ABYC A-31 and IEC60945
- Certified by RRR, RMRS (does not apply to 24/75 120V)
- Certified by DNV GL (only 24/25, 24/50, 24/75, 24/75 (120V), 24/100 models)
- Certified by Lloyd (only 24/75, 24/100 models)



MasterBus compatible

Mastervolt battery chargers can be easily connected to a MasterBus network with only one cable and one connection. You can also choose central, local or remote monitoring, configuration and control of your system.



Made tough by smart design

The certified Mass battery chargers are very strong, designed to withstand heavy vibrations and shocks. Their premium quality components meet the highest possible specifications, while the smart and extra robust mounting adds to the professional end result.

For professional use: GMDSS

Professional users will benefit from a front display with GMDSS alarm functions. GMDSS stands for Global Maritime Distress and Safety System, an internationally agreed-upon set of safety procedures, types of equipment, and communication protocols that is a requirement for the SOLAS (Safety Of Life At Sea) convention and uses DSC and satellite communication.

This front display is available for:

- Mass 24/25-2 DNV, part # 21709150
- Mass 24/50-2, part # 21709200
- Mass 24/75, Mass 24/100, Mass 24/100-3ph, part # 21709300

Mass Battery Chargers

Specifications – 24V & 48V



Mass
24/75 (120V)











Mass
24/15-2



Mass
24/25-2



Mass
24/25-2 DNV-GL

| Part # | 40120756 | 40020156 | 40020256 | 40720266 |
|---|---|---|---|---|
| General Specifications | | | | |
| Nominal output voltage | 24V | 24V | 24V | 24V |
| Total charge current | 75A at 28.5V | 15A at 28.5V | 25A at 28.5V | 25A at 28.5V |
| Number of outputs | 1 | 2 | 2 | 2 |
| Charge current second output | n.a. | 3A | 3A | 3A |
| Recommended battery capacity | 150–800 Ah | 30–150 Ah | 50–250 Ah | 50–250 Ah |
| Nominal input voltage | 120V (90–130V) 60/50 Hz | 230V (180–265V) 50/60Hz | 230V (180–265V) 50/60Hz | 230V (180–265V) 50/60Hz |
| Power supply mode | yes | yes | yes | yes |
| Display/read-out | LED display | LED display | LED display | LED display |
| Dimensions, HxWxD | 16.5" x 12.5" x 5.1" 420 x 318 x 130 mm | 12.8" x 8.7" x 4.4" 325 x 220 x 111 mm | 12.8" x 8.7" x 4.4" 325 x 220 x 111 mm | 14.4" x 8.7" x 4.4" 365 x 220 x 111 mm |
| Weight | 17 lb / 7.7 kg | 7.3 lb / 3.3 kg | 7.3 lb / 3.3 kg | 7.7 lb / 3.5 kg |
| Approvals* | CE, ABYC A-31, DNV-GL | CE, ABYC A-31, RRR, RMRS | CE, ABYC A-31, RRR, RMRS | CE, ABYC A-31, DNV-GL, RRR, RMRS |
| Technical Specifications | | | | |
| Charge characteristic** | IUoUo, automatic / 3-step+ for Gel/AGM/ flooded/Lithium ion (LiFePO4) | | IUoUo, automatic/3-step+ for Gel/AGM/ flooded/Lithium ion (LiFePO4) | |
| Temperature sensor | yes (included) | yes (included) | yes (included) | yes (included) |
| DC voltage compensation | yes | yes | yes | yes |
| DC consumption | <1 mA | <1 mA | <1 mA | <1 mA |
| Full load consumption | 2770 W | 550 W | 880 W | 880 W |
| Power factor control | >0.95 | >0.95 | >0.95 | >0.95 |
| Temperature range (ambient temp.) | -13°F to 176°F, derating > 113°F (-25°C to 80°C, derating > 45°C) | | | |
| Cooling | vario fan | vario fan | vario fan | vario fan |
| Protection degree | IP23 | IP23 | IP23 | IP23 |
| Protections | over temperature, over load, short circuit, high/low battery voltage | | over temperature, over load, short circuit, high/low battery voltage | |
| MasterBus compatible | yes | yes | yes | yes |
| Charger Status Interface (alarm contact) | yes | yes | yes | yes |
| Options | | | | |
| MasterView Read-out 77010050 |  | option | option | option |
| Remote panel for reading the charge status of your battery charger, including error notifications. | | | | |
| EasyView 5 77010310 |  | option | option | option |
| Waterproof system monitor with 'daylight readable' color display and intuitive multi-language touchscreen to show the key system information at a glance. There is also a logbook feature for warnings and alarms, along with a buzzer and alarm notifications. The home button gives access to favorite pages. | | | | |
| MasterShunt 77020115 |  | option | option | option |
| MasterBus integrated shunt, with detailed information on the status of your batteries for a optimized charging process, incl voltage, current, remaining time and consumption capacity in percentage. | | | | |
| DC Distribution 77020200 |  | option | option | option |
| Smallest distribution model available. It connects up to four DC devices to the DC groups, such as a battery charger, inverter, alternators and solar panels. With the included plug & play cable it can be easily connected to the MasterBus network. | | | | |
| MasterBus USB Interface 77030100 |  | option | option | option |
| Communication port between MasterBus and the USB port of your PC; makes possible reading and configuration of your MasterBus system on the PC when combined with MasterView System software (free to download). | | | | |
| Temperature Sensors 41500500 , 6M 41500800 , 15M |  | included option | included option | included option |
| GMDSS remote panel 70400050 |  | option | option | option |
| Remote monitoring for Mass battery chargers, with GMDSS system monitoring functions. Battery voltage and current are displayed on the digital panel. | | | | |
| Front panel with GMDSS remote panel |  | n.a. | n.a. | option 21709150 |

* Check our website for the certificates per model.

** The charge characteristic can be set to your requirements.



Mass
24/50-2
40020506



Mass
24/75
40020756



Mass
24/100
40021006



Mass
24/100-3ph
40031006



Mass
48/25
40040256



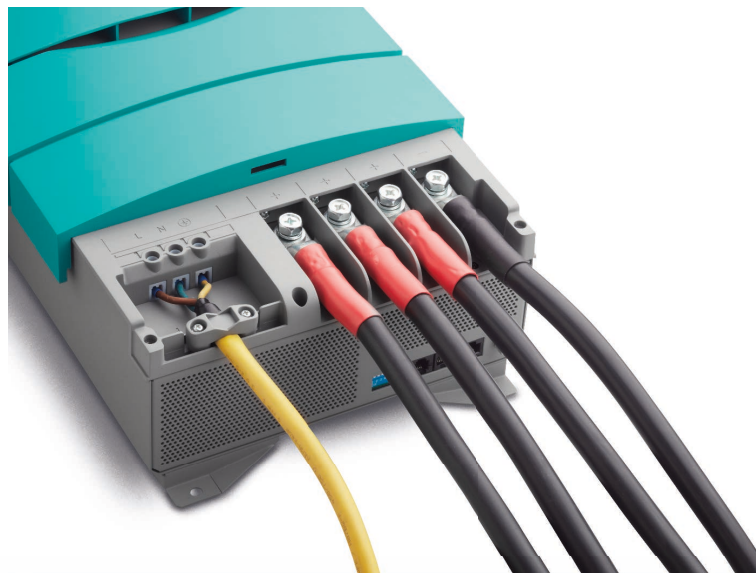
Mass
48/50
40040506

| | | | | | |
|---|--|---|---|---|--|
| 24V | 24V | 24V | 24V | 48V | 48V |
| 50A at 28.5V | 75A at 28.5V | 100A at 28.5V | 100A at 28.5V | 25A at 57V | 50A at 57V |
| 2 | 1 | 1 | 1 | 1 | 1 |
| 3A | n.a. | n.a. | n.a. | n.a. | n.a. |
| 100–500 Ah | 150–750 Ah | 200–1000 Ah | 200–1000 Ah | 100–500 Ah | 100–500 Ah |
| 230V (180–265V) 50/60Hz | 230V (180–265V) 50/60Hz | 230V (180–265V) 50/60Hz | 3x400V (365–550V) 50/60Hz | 230V (180–250V) 50/60Hz | 230V (180–250V) 50/60Hz |
| yes | yes | yes | yes | yes | yes |
| LED display | LED display | LED display | LED display | LED display | LED display |
| 13.4"x10.3" x 5.1" 340 x 261 x 130 mm | 16.5" x 12.5" x 5.1" 420 x 318 x 130 mm | 16.5" x 12.5" x 5.1" 420 x 318 x 130 mm | 16.5" x 12.5" x 5.1" 420 x 318 x 130 mm | 13.4" x 10.3" x 5.1" 340 x 261 x 130 mm | 16.5" x 12.5" x 5.1" 420 x 318 x 130 mm |
| 10.1 lb / 4.6 kg | 17 lb / 7.7 kg | 17 lb / 7.7 kg | 17 lb / 7.7 kg | 10.1 lb / 4.6 kg | 17 lb / 7.7 kg |
| CE, ABYC A-31, DNV-GL, RRR, RMRS | CE, ABYC A-31 / RRR, RMRS, Lloyds, DNV GL | CE, ABYC A-31 / RRR, RMRS, Lloyds, DNV GL | CE, E-mark, ABYC A-31, RRR, RMRS | CE, E-mark, ABYC A-31, RRR, RMRS | CE, E-mark, ABYC A-31, RRR, RMRS |
| IUoUo, automatic/3-step+ for Gel/AGM/ flooded/Lithium Ion (LiFePO4) | | IUoUo, automatic/3-step+ for Gel/AGM/ flooded/Lithium Ion (LiFePO4) | | IUoUo, automatic/3-step+ for Gel/AGM/ flooded/Lithium Ion (LiFePO4) | |
| yes (included) | yes (included) | yes (included) | yes (included) | yes (included) | yes (included) |
| yes | yes | yes | yes | yes | yes |
| <1 mA | <1 mA | <1 mA | <1 mA | <1 mA | <1 mA |
| 1800 W | 2600 W | 3500 W | 3500 W | 1800 W | 3500 W |
| >0.95 | >0.95 | >0.95 | >0.95 | >0.95 | >0.95 |
| -13°F to 176°F, derating > 113°F (-25°C to 80°C, derating > 45°C) | | | -13°F to 176°F, derating > 113°F (-25°C to 80°C, derating > 45°C) | | |
| vario fan | vario fan | vario fan | vario fan | vario fan | vario fan |
| IP23 | IP23 | IP23 | IP23 | IP23 | IP23 |
| over temperature, over load, short circuit, high/low battery voltage | | over temperature, over load, short circuit, high/low battery voltage | | over temperature, over load, short circuit, high/low battery voltage | |
| yes | yes | yes | yes | yes | yes |
| yes | yes | yes | yes | yes | yes |
| option | option | option | option | option | option |
| option | option | option | option | option | option |
| option | option | option | option | option | option |
| option | option | option | option | option | option |
| option | option | option | option | option | option |
| included option | included option | included option | included option | included option | included option |
| option | option | option | option | option | option |
| option | option | option | option | n.a. | n.a. |
| 21709200 | 21709300 | 21709300 | 21709300 | | |

ChargeMaster Plus Series Battery Chargers:

All-in-one solution for faster and safer charging

ChargeMaster Plus is the next generation battery chargers that integrates multiple functions into one single device. Replacing auxiliary chargers, battery isolators and VSR, ChargeMaster Plus reduces system complexity and cost. Designed for versatility, it charges virtually any combination of three batteries at high speed and works anywhere in the world.



ChargeMaster Plus Series Features

- MasterBus, CZone and NMEA communication.
- Multicharger with two outputs, one in/output, DC-DC converter, current limiter and VSR
- Combine Lithium Ion, Gel or AGM, and large or small 12/24V battery banks on a single charger (24V models only)
- Charges multiple batteries while being underway
- Extended specifications: offers 20% more output at 14.4V and 80% charging power at 140°F (60°C)
- Safe Charge: quickly recognize the State of Charge for extended battery life
- Very wide operating range of 80-275V AC, 35-70 Hz
- Compact, easy to connect and quick to install
- Pre-float prevents batteries that are nearly full from overcharging



With the new Battery's best friend architecture, ChargeMaster Plus is capable of charging a multitude of battery chemistries, sizes and voltages. All batteries are charged with the fast and safe 3-step+ charge method.

Other unique features are:

- Revival mode: automatically revives even fully depleted batteries
- Multi voltage: charge 12V starter battery in a 24V system, without additional components (24V models only).
- Priority charge: redirect available power to the lowest battery, for faster charging.
- Smart Input: charge all three batteries from one single alternator for continuous charging on the go.

Global charging



The ChargeMaster Plus handles worldwide AC voltages and frequencies. Resisting large voltage fluctuations and high temperatures, it keeps working in harsh environments. For marine and mobile markets, ChargeMaster Plus is CE, ABYC, UL, SAE, CEC and RCM/C-Tick compliant.

System simplicity



Nowadays, equipment must be self-explaining. The ChargeMaster Plus displays the charge phase of all three outputs in an understandable way. Robust and ergonomic connections save installation time. An integrated VSR eliminates the need for additional components and ensures that the alternators energy is funnelled through to the batteries.

Powerful connections

NEW CZone® Integration



In modern applications, all electrical components work together. The CAN-based MasterBus enables the ChargeMaster Plus to communicate with displays, shunts and power systems. Models with the addition "CZone integrated" do not only support MasterBus, but also support CZone and NMEA communication, without the need of additional interfaces. The ChargeMasters Plus series can be configured via MasterBus or will accept a CZone configuration file just like any other CZone device. Other communication standards like ModBus, CANopen, LinBus, etc. are supported via additional interfaces. This wide range of communication interfaces makes the ChargeMaster Plus ideally suited for system integration. All models of the ChargeMaster Plus series can operate as a power supply for delicate communication equipment, or during the construction phase of a boat.



TECH TIP

ChargeMaster Plus simplifies charging systems. Charging faster and safer than ever, this all-in-one charging solution offers best value for money.



ChargeMaster Plus Battery Chargers

Specifications –
12V & 24V



**EXPANDED
OFFERING**



ChargeMaster Plus
12/35-3








ChargeMaster Plus
12/50-3



ChargeMaster Plus
12/75-3



ChargeMaster Plus
12/100-3

| Part # | 44310305 | 44310505 | 44310755 | 44311005 |
|---|--|-----------------|---|-----------------|
| General Specifications | | | | |
| Nominal output voltage | 12V | 12V | 12V | 12V |
| Max. charge current per output | 35V | 50V | 75A | 100A |
| Smart In-/Output output voltage | 12V | 12V | 12V | 12V |
| Smart In-/Output output current | n.a. | n.a. | 5-40A (adjustable) | 5-10A at 12V |
| Smart In-/Output input current | n.a. | n.a. | max. 40A | max. 40A |
| Secondary output voltage | n.a. | n.a. | n.a. | n.a. |
| Secondary output current | n.a. | n.a. | n.a. | n.a. |
| Max. AC current (230 V / 120 V) | 2.4A/4.9A | 3.5A/7A | 6.5A / 13A | 8.5A / 17A |
| Total charge current | 35A at 14.4V | 50A at 14.4V | 75A at 14.4V | 100A at 14.4V |
| Number of outputs | 3 (max.) | 3 (max.) | 3 (max.) | 3 (max.) |
| Recommended battery capacity | 70-300 Ah | 140-400 Ah | 320-800 Ah | 400-1000 Ah |
| Nominal input voltage | 120/230V (80-275V) 50/60 Hz | | 120/230V (80-275V) 50/60 Hz | |
| AC connection | screw terminals | screw terminals | screw terminals | screw terminals |
| Power supply mode | yes | yes | yes | yes |
| Display/read-out | LED | LED | LED | LED |
| Dimensions, hwxwd | 11.5" X 8.3" X 4.1" (291 X 210 X 105 mm) | | 15.1" x 9.8" x 5" (384 x 250 x 127 mm) | |
| Weight | 5.5 lb / 2.5 kg | 5.5 lb / 2.5 kg | 13 lb / 5.9 kg | 13 lb / 5.9 kg |
| Approvals | CE, ABYC, UL1236, SAE J1171, ISO 8846, CEC, RCM/C-Tick | | | |
| Technical Specifications | | | | |
| Charge characteristic <small>Charge characteristic can be set to your requirements</small> | IUoUo, automatic, 3-step+ for Gel/AGM/ Lithium Ion (LiFePO4)/traction/spiral | | IUoUo, automatic / 3-step+ for Gel/AGM/Lithium Ion (LiFePO4)/traction/spiral | |
| Temperature compensation | -17 mV/°F (-30 mV/°C) temperature sensor included | | -17 mV/°F (-30 mV/°C) temperature sensor included | |
| Voltage compensation | through MasterShunt | | through MasterShunt | |
| DC consumption | < 2 mA (MasterBus off) | | < 2 mA (MasterBus off) | |
| Current Control function | yes, through MasterBus | | yes, through MasterBus | |
| Power factor | > 0.98 | > 0.98 | > 0.98 | > 0.98 |
| Temperature range (ambient temp.) | -13°F to 176°F, derating > 104°F (-25°C to 80°C, derating > 40°C) | | -13°F to 176°F, derating > 104°F (-25°C to 80°C, derating > 40°C) | |
| Cooling | vario fan | vario fan | vario fan | vario fan |
| Protection degree | IP23, vertical mounting | | IP23, vertical mounting | |
| Protections | over-temperature, overload, short circuit, high/low battery voltage, ignition protection | | | |
| Communication | MasterBus, CZone, NMEA | | MasterBus, CZone, NMEA | |
| Charger Status Interface (alarm contact) | yes, using a Multipurpose Contact Output (part # 77030500) | | yes, using a Multipurpose Contact Output (part # 77030500) | |
| Options | | | | |
| MasterView Read-out 77010050 |  | option | option | option |
| Remote panel for reading the charge status of your battery charger, incl. error notifications. | | | | |
| EasyView 5 77010310 |  | option | option | option |
| Waterproof system monitor with ‘daylight readable’ color display and intuitive multi-language touchscreen to show the key system information at a glance. There is also a logbook feature for warnings and alarms, along with a buzzer and alarm notifications. The home button gives access to favorite pages. | | | | |
| MasterShunt 77020115 |  | option | option | option |
| MasterBus integrated battery monitor, with detailed information on the status of your batteries for a optimized charging process, incl. voltage, current, remaining time and consumption capacity in percentage. | | | | |
| DC Distribution 77020200 |  | option | option | option |
| Smallest distribution model available. It connects up to four DC devices to the DC groups, such as a battery charger, inverter, alternators and solar panels With the included plug & play cable it can be easily connected to the MasterBus network. | | | | |
| MasterBus USB Interface 77030100 |  | option | option | option |
| Communication port between MasterBus and the USB port of your PC; makes possible reading and configuration of your MasterBus system on the PC when combined with MasterView System software (free to download). | | | | |



ChargeMaster Plus
24/20-3

44320205



ChargeMaster Plus
24/30-3

44320305



ChargeMaster Plus
24/40-3

44320405



ChargeMaster Plus
24/60-3

44320605



ChargeMaster Plus
24/80-2

44320805



ChargeMaster Plus
24/110-2

44321105

| | | | | | |
|--|--|---|--|---|---|
| 24V | 24V | 24V | 24V | 24V | 24V |
| 20A | 30A | 40A | 60A | 80A | 100A |
| 12 or 24V | 12 or 24V | 12 or 24V | 12 or 24V | n.a. | n.a. |
| n.a. | n.a. | 5-20A at 24V (adjustable) | 5-20A at 24V (adjustable) | n.a. | n.a. |
| n.a. | n.a. | 10A at 12V max. 20A at 24V | 10A at 12V max. 20A at 24V | n.a. | n.a. |
| n.a. | n.a. | n.a. | n.a. | 14.25/28.5V (12/24V) | 14.25/28.5V (12/24V) |
| n.a. | n.a. | n.a. | n.a. | 15A at 12V / 20A at 24V (adjustable) | 15A at 12V / 20A at 24V (adjustable) |
| 2.8A/5.6A | 4.1A / 8.4A | 6.8A / 13.5A | 10.2A / 20.4A | 11.75 A / 23 A | 15.75 A / 31.5 A |
| 20A at 28.8V | 30A at 28.8V | 40A at 28.8V | 60A at 28.8V | 80 A at 28.8 V | 110 A at 28.8 V |
| 3 (max.) | 3 (max.) | 3 (max.) | 3 (max.) | 2 (max.) | 2 (max.) |
| 160-400 Ah | 200-500 Ah | 160-400 Ah | 200-500 Ah | 280-700 Ah | 400-1000 Ah |
| 120/230V (80-275V) 50/60 Hz | 120/230V (80-275V) 50/60 Hz | 120/230V (80-275V) 50/60 Hz | 120/230V (80-275V) 50/60 Hz | 120/230V (80-275V) 50/60 Hz | 120/230V (80-275V) 50/60 Hz |
| screw terminals | screw terminals | screw terminals | screw terminals | screw terminals | screw terminals |
| yes | yes | yes | yes | yes | yes |
| LED | LED | LED | LED | LED | LED |
| 11.5" X 8.3" X 4.1" (291 X 210 X 105 mm) | 11.5" X 8.3" X 4.1" (291 X 210 X 105 mm) | 15.1" x 9.8" x 5" (384 x 250 x 127 mm) | 15.1" x 9.8" x 5" (384 x 250 x 127 mm) | 15.1" x 9.8" x 5" (384 x 250 x 127 mm) | 15.1" x 9.8" x 5" (384 x 250 x 127 mm) |
| 5.5lb / 2.5 kg | 5.5 lb / 2.5 kg | 13 lb / 5.9 kg | 13 lb / 5.9 kg | 13.9 lb / 6.3 kg | 13.9 lb / 6.3 kg |
| CE, ABYC, UL1236, SAE J1171, ISO 8846, CEC, RCM/C-Tick | | | CE, ABYC, UL1236, SAE J1171, ISO 8846, CEC, RCM/C-Tick | | |
| IUoUo, automatic, 3-step+ for Gel/AGM/ Lithium Ion (LiFePO4)/traction/spiral | | IUoUo, automatic, 3-step+ for Gel/AGM/ Lithium Ion (LiFePO4)/traction/spiral | | IUoUo, automatic, 3-step+ for AGM/Gel/flooded/ Lithium Ion and a user defined option | |
| -17 mV/°F (-30 mV/°C) temperature sensor included | | -17 mV/°F (-30 mV/°C) temperature sensor included | | -76 mV/°F (-60 mV/°C) temperature sensor included | |
| through MasterShunt | | through MasterShunt | | through automatic compensation or MasterShunt | |
| < 2 mA (MasterBus off) | | < 2 mA (MasterBus off) | | < 2 mA (MasterBus off) | |
| yes, through MasterBus | | yes, through MasterBus | | through MasterBus or CZone | |
| > 0.98 | | > 0.98 | | > 0.98 | |
| -13°F to 176°F, derating > 104°F (-25°C to 80°C, derating > 40°C) | | -13°F to 176°F, derating > 104°F (-25°C to 80°C, derating > 40°C) | | -13°F to 176°F, derating > 104°F (-25°C to 80°C, derating > 40°C) | |
| vario fan | vario fan | vario fan | vario fan | vario fan | vario fan |
| IP23, vertical mounting | IP23, vertical mounting | IP23, vertical mounting | IP23, vertical mounting | IP23, vertical mounting | IP23, vertical mounting |
| over-temperature, overload, short circuit, high/low battery voltage, ignition protection | | | | | |
| MasterBus, CZone, NMEA | | MasterBus, CZone, NMEA | | MasterBus, CZone, NMEA | |
| yes, using a Multipurpose Contact Output (part # 77030500) | | yes, using a Multipurpose Contact Output (part # 77030500) | | yes, using a Multipurpose Contact Output (part # 77030500) | |
| option | option | option | option | option | option |
| option | option | option | option | option | option |
| option | option | option | option | option | option |
| option | option | option | option | option | option |
| option | option | option | option | option | option |

ChargeMaster Series Battery Chargers:

Charge your batteries quickly and completely



Make the most of your batteries with the ChargeMaster series, plugging in and charging anywhere in the world. Mastervolt's ChargeMaster guarantees fast and complete charging of your batteries no matter where you are. And thanks to Mastervolt's innovative 3-step+ charging process, batteries also perform better and last longer.



ChargeMaster Series Features

- For recreational and semi-professional use
- Suitable for any type of battery, including Lithium Ion batteries
- 3-Step+ charging technology for fast and complete charging, also charges depleted batteries
- Memory function prevents overcharging in case of unreliable mains
- Safe and complete charging due to standard safety features
- Charging capacity up to 1000 Ah battery banks
- Easy to connect and quick to install
- Can charge multiple battery banks simultaneously
- Built-in system functionality (MasterBus) in combination with other Mastervolt products
- Clear control panel
- Supplies your system without battery



All ChargeMasters can be easily connected to a MasterBus network with only one cable and one connection (with the exception of the ChargeMaster 12/10, ChargeMaster 12/15-2 and ChargeMaster 24/6). What's more, you have the option for central, local or remote monitoring, configuration and control of your system.

Clear Display

A clearly lit display on the ChargeMaster provides all essential information: charge current, charge voltage, charge phase and battery content measurement and/or battery condition measurement as a percentage of available Ah capacity. The read-out panel also provides an indication of MasterBus communication. Three buttons adjacent to the read-out panel allow for easy operating of the entire system.

The ChargeMaster is available in various models to guarantee you the ideal battery charger for any situation and demand.

Powerful connections **NEW** CZone® Integration



In modern applications, all electrical components work together. The CAN-based MasterBus enables the ChargeMaster to communicate with displays, shunts and power systems. Models with the addition "CZone integrated" do not only support MasterBus, but also support CZone and NMEA communication, without the need of additional interfaces. The ChargeMasters series can be configured via MasterBus or will accept a CZone configuration file just like any other CZone device. Other communication standards like ModBus, CANopen, LinBus, etc. are supported via additional interfaces. This wide range of communication interfaces makes the ChargeMaster ideally suited for system integration. All models of the ChargeMaster series can operate as a power supply for delicate communication equipment, or during the construction phase of a boat.

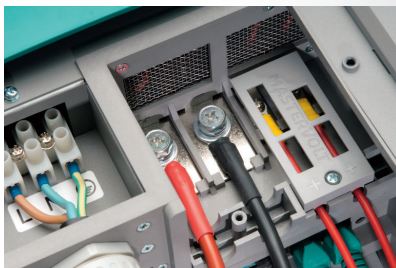
Charging your batteries with every voltage

The Mastervolt ChargeMaster supplies a maximum capacity wherever you are via auto-ranging. Auto-ranging ensures perfect fully automatic operation anywhere in the world, regardless of the available mains voltage (90-265V AC, 50 or 60 Hz). The 3-step+ charging technology guarantees fast and complete charging, while the cos phi 1 regulation gets the most out of limited generator capacity.



Robust connections

Solid metal-to-metal connectors equipped with strain relief prevent corrosion and overheating.



Charging multiple battery banks













The ChargeMaster series has three equal charge outputs. Those of the smaller ChargeMaster models are pre-installed with two meters of cable for a plug & play solution, while the heavier models have one full output (for example for your service battery) and two outputs of 10A, ideal for your starter batteries.

DC power supply

Even if the batteries are not connected, Mastervolt ChargeMaster battery chargers can provide a constant DC output allowing you to turn on lights or keep the fridge cold.

ChargeMaster Battery Chargers

Specifications – 12V & 24V

| | | | | | |
|--|---|---|---|---|---|
| |  |  |  |  |  |
| | ChargeMaster 12/10 | ChargeMaster 12/15-2 | ChargeMaster 12/25-3 | ChargeMaster 12/35-3 | ChargeMaster 12/50-3 |
| Part # (UL Certified Part #) | 43011000 | 43011500 | 44010250 | 44010350 | 44010500 |
| General Specifications | | | | | |
| Nominal output voltage | 12V | 12V | 12V | 12V | 12V |
| Total charge current | 10A at 14.25V | 15A at 14.25V | 25A at 13.25V | 35A at 14.4V | 50A at 14.4V |
| Number of battery outlets | 1 | 2 | 3 | 3 | 3 |
| Charge current second output | n.a. | 15A | 25A | 35A | 50A |
| Charge current third output | n.a. | n.a. | 25A | 35A | 50A |
| Recommended battery capacity | 25–100 Ah | 30–150 Ah | 50–250 Ah | 70–350 Ah | 100–500 Ah |
| Nominal input voltage | 230V (180–265V) 50/60Hz | 230V (180–265V) 50/60Hz | 120/230V (90–265V) 50/60Hz | 120/230V (90–265V) 50/60Hz | 120/230V (90–265V) 50/60Hz |
| AC connection | connector | connector | 6.5 ft (2 m) AC cable | connector strips | connector strips |
| Power supply mode | no | no | yes | yes | yes |
| Display/read-out | 1 LED | 1 LED | LED display | LED display | LED display |
| Dimensions, HxWxD | 7.1" x 4.8" x 2" 180 x 121 x 50 mm | 8.1" x 4.8" x 2" 206 x 121 x 50 mm | 9.2" x 5.2" x 2.4" 234 x 132 x 60 mm | 11.5" x 8.3" x 5.2" 291 x 210 x 131 mm | 11.5" x 8.3" x 5.2" 291 x 210 x 131 mm |
| Weight | 2.2 lb / 1 kg | 2.2 lb / 1 kg | 4 lb / 1,8 kg | 9 lb / 4 kg | 9 lb / 4 kg |
| Fastening | 4x screw | 4x screw | 4x screw | mounting bracket (included) or 4x screw | |
| Approvals | CE, ABYC A-31, RRR, e-mark | CE, ABYC A-31, RRR | CE, ABYC A-31, SAE J1171/ISO 8846 ignition protected, RRR | CE, ABYC A-31, SAE J1171/ISO 8846 ignition protected, RMRS, RRR | CE, ABYC A-31, SAE J1171/ISO 8846 ignition protected, RMRS, RRR |
| Technical Specifications | | | | | |
| Charge characteristic* | UoUo, automatic / 3-step+ for Gel/AGM/flooded/Lithium Ion (LiFePO4) | | | | |
| Temperature compensation | no | no | yes | yes | yes |
| Voltage compensation | automatic | automatic | automatic | automatic | automatic |
| DC consumption | <1 mA | <1 mA | <2 mA | <5 mA | <5 mA |
| Full load consumption (230V AC) | 170 W | 250 W | 450 W | 575 W | 825 W |
| Current Control function | no | no | no | yes, through MasterBus | yes, through MasterBus |
| Power factor control | ≥0.95 | ≥0.95 | ≥0.98 | ≥0.98 | ≥0.98 |
| Temperature range (ambient temp.) | -13°F to 140°F > 104°F, derating (-25°C to 60°C > 40°C, derating) | | | | |
| Cooling | natural cooling | vario fan | vario fan | vario fan | vario fan |
| Protection degree | IP65 | IP21 | IP23 | IP23 | IP23 |
| Protections | over temperature, over load, short circuit, high/low battery voltage | | | | |
| MasterBus compatible | no | no | yes | yes | yes |
| Options | | | | | |
| MasterView Read-out 77010050 |  | n.a. | n.a. | option | option |
| Remote panel for reading the charge status of your battery charger, including error notifications. | | | | | |
| EasyView 5 77010310 |  | n.a. | n.a. | option | option |
| Waterproof system monitor with 'daylight readable' color display and intuitive multi-language with touchscreen to show the key system information at a glance. There is also a logbook feature for warnings and alarms, along with a buzzer and alarm notifications. The home button gives access to favorite pages. | | | | | |
| MasterShunt 77020115 |  | option | option | option | option |
| MasterBus integrated battery monitor, with detailed information on the status of your batteries for a optimized charging process, incl. voltage, current, remaining time and consumption capacity in percentage. | | | | | |
| DC Distribution 77020200 |  | n.a. | n.a. | option | option |
| Smallest distribution model available. It connects up to four DC devices to the DC groups, such as a battery charger, inverter, alternators and solar panels With the included plug & play cable it can be easily connected to the MasterBus network. | | | | | |
| MasterBus USB Interface 77030100 |  | n.a. | n.a. | option | option |
| Communication port between MasterBus and the USB port of your PC; makes possible reading and configuration of your MasterBus system on the PC when combined with MasterView System software (free to download). | | | | | |
| Multipurpose Contact Output 77030500 |  | n.a. | n.a. | option | option |
| MasterBus controllable potential-free contact, with alarm notification on the onboard system (low voltage or no AC), usable as CSI alarm contact. | | | | | |
| Temperature Sensors 41500500, 6M 41500800, 15M |  | included option | included option | included option | included option |

* The charge characteristic can be set to your requirements.

For detailed specifications, dimensional drawings, 3D files, images, certificates and manuals see mastervolt.us/chargers.

ChargeMaster
24/6ChargeMaster
24/12-3ChargeMaster
24/20-3ChargeMaster
24/30-3

43020600

44020120

44020200

44020300

24V

24V

24V

24V

6A at 28.5V

12A at 26.5V

20A at 28.8V

30A at 28.8V

1

3

3

3

n.a.

12A

20A

30A

n.a.

12A

20A

30A

25-70 Ah

24-120 Ah

40-200 Ah

60-300 Ah

230V (180-265V)
50/60Hz120/230V (90-265V)
50/60Hz120/230V (90-265V)
50/60Hz120/230V (90-265V)
50/60Hz

socket

6.5 ft (2 m) AC cable

connector strips

connector strips

no

yes

yes

yes

1 LED

LED display

LED display

LED display

7.1" x 4.8" x 2"
180 x 121 x 50 mm9.2" x 5.2" x 2.4"
234 x 132 x 60 mm11.5" x 8.3" x 5.2"
291 x 210 x 131 mm11.5" x 8.3" x 5.2"
291 x 210 x 131 mm

2.2 lb / 1 kg

4 lb / 1.8 kg

9 lb / 4 kg

9 lb / 4 kg

4x screw

4x screw

mounting bracket (included) or 4x screw

CE, ABYC A-31,
RRR, e-markCE, ABYC A-31,
SAE J1171/ISO 8846
ignition protected, RRRCE, ABYC A-31,
SAE J1171/ISO 8846
ignition protected,
RMRS, RRRCE, ABYC A-31,
SAE J1171/ISO 8846
ignition protected,
RMRS, RRR

UoUo, automatic / 3-step+ for Gel/AGM/flooded/Lithium Ion (LiFePO4)

no

yes

yes

yes

automatic

automatic

automatic

automatic

<1 mA

<2 mA

<2.5 mA

<2.5 mA

210 W

435 W

660 W

925 W

no

no

yes, through
MasterBusyes, through
MasterBus

>0.95

≥0.98

≥0.98

≥0.98

-13°F to 140°F > 104°F, derating (-25°C to 60°C > 40°C, derating)

natural cooling

vario fan

vario fan

vario fan

IP65

IP23

IP23

IP23

over temperature, over load, short circuit, high/low battery voltage

no

yes

yes

yes

n.a.

option

option

option

n.a.

option

option

option

option

option

option

option

n.a.

option

option

option

n.a.

option

option

option

n.a.

option

option

option

included
optionincluded
optionincluded
optionincluded
option

EasyCharge Battery Chargers

Waterproof fixed-mount battery chargers

The fixed-mount, waterproof units are fully sealed in an epoxy-filled, non-corrosive enclosure, and built to IP68 waterproofing standards, easily meeting global regulations like CE, CSA, CEC, and ABYC. The outputs are completely isolated, and can be used in either series or parallel for higher voltage or current, including 12V or 24V outputs. Highly efficient and simple to use, these chargers are designed for harsh environments, and are fully salt, shock and vibration tested. Currently, 6A single bank and 10A dual bank types models are available.

A key feature is the 'sense and send' technology, which allows the chargers to detect which batteries need the most charge and prioritize accordingly. The battery chargers have the ability to charge flooded, AGM and Gel batteries, with a universal input (120–230V) for total worldwide freedom.



- Entry level model with Mastervolt 3-step+ charge characteristic
- Suitable for charging Gel, AGM and flooded batteries
- Full power up to 104°F (40°C)
- Quick charging function to extend battery life
- Includes cable & Euro plug
- Can charge one or two battery banks
- Sense-Send™ (10A model): determines which battery is being charged first
- Series and parallel configuration
- Stain resistant and waterproof
- International certification

EasyCharge Specifications



EasyCharge
6A



EasyCharge
10A

| | | |
|---|---|-----------------------------------|
| Part # (with UK plug) | 43310602 | 43321002 |
| General Specifications | | |
| Total charge current | 6A at 12V | 10A at 12V 5A at 24V |
| Recommended battery capacity: charge (based on 50% discharged battery) | to 120 Ah | to 120 Ah |
| Nominal input voltage | 120/230V (90-265V), 50/60 Hz | 120/230V (90-265V), 50/60 Hz |
| AC connection | 4 ft cable + Euro plug | 4 ft cable + Euro plug |
| DC connection | ring terminals | ring terminals |
| Dimensions, HxWxD | 3" x 6" x 2" 76 x 152 x 51 mm | 5" x 7" x 2" 127 x 178 x 51 mm |
| Weight | 4 lb / 1.8 kg | 6.2 lb / 2.8 kg |
| Approvals | CE, ABYC | CE, ABYC |
| Technical Specifications | | |
| Charge characteristic | IUoUo, automatic 3-step+ for Gel/AGM/flooded | |
| Temperature range (ambient temp.) | -4°F to 122°F (-20°C to 50°C) | -4°F to 122°F (-20°C to 50°C) |
| Protection degree | IP68 | IP68 |
| Protections | spark free, short circuit, reverse polarity, over voltage, current limited, over-temperature | |
| MasterBus compatible | no | no |





Mastervolt DC-DC Converters: For 12V, 24V and 48V

A DC-DC converter can provide other voltages than applied in your basic system. By using a DC-DC converter, other voltages can be reached. They also ensure that all your equipment has a stable power supply with the right voltage.

Mac Plus & Magic Series

- Professional use
- Converter and 3-step battery charger
- Parallel switchable
- Adjustable and programmable output voltage
- Voltage stabilisation for a longer lifespan of halogen lights, etc
- Dimmer function for Mac & Magic models
- Mac Plus: optimal charging in Euro 5/6 applications

The **Mac Plus** is ideal for charging service batteries in vehicles with a smart Euro 5/6 alternator.

The Mac Plus charges the batteries quickly, even when the alternator is inactive and the battery voltage very low. The automatic start/stop function ensures that empty starter batteries become a thing of the past. The Mac Plus comes with integrated MasterBus (CAN) communication and E-mark certification. It seamlessly charges Lithium Ion, Gel and AGM batteries via the tried and tested Mastervolt 3-stage charging method.

The **Mac/Magic** models can regulate the voltage both up and down to ensure an optimal voltage stabilisation, even when the battery voltage fluctuates due to heavy loads. The galvanic isolation between input and output prevents disruptions to, for instance, communication equipment.

DC Master Series

- Recreational and semi-professional use
- Easy to install using included mounting bracket
- Excellent price/performance ratio
- Available in isolated and non-isolated version

Non-isolated or isolated

The non-isolated Mac (Plus) and DC Master models have an electrical connection between the input and output.

Features:

- Low costs
- Efficient: low heat generation
- Compact
- Suited to applications with negative earthing

The isolated Magic and DC Master models provide galvanic isolation between input and output circuits.

Features:

- Extra touch-proof
- Interference suppression for sensitive equipment
- Available with negative or positive grounding



Programmable via laptop or PC



Remote control the Mac or Magic via your laptop or PC or configure your personal preferences.

The device has a communication port and easy installation with a PC-Link and MasterAdjust software.

Euro 5/6 solutions



Charging service batteries in Euro 5/6 applications? The Mac Plus provides constant power to the service battery, even when the alternator is inactive.

3-Step battery charger



Connected to the 12V or 24V main battery, the converter can also be used as an advanced 3-step+ battery charger for Gel, AGM, flooded or Lithium Ion batteries

Energy-saving dimmer function



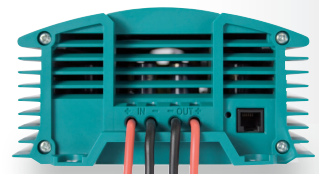
Many standard light dimmers convert part of the energy to heat and also lose unnecessary energy. The Mastervolt Magic converters regulate the power supply efficiently and without excessive heat build-up, for optimal safety (multiple Magic converters can be used for multiple lamps).

Parallel operation



Lots of consumers on board? The parallel configuration of several units will provide you over 100 amps. Advanced high-frequency technology with modern microprocessors ensures minimum power loss when switching from 24V to 12V and vice versa.

Solid connections



Galvanized brass connection block with screw terminal or chrome-plated fast-on for DC in/out for the Mac/Magic models. The robust M8 connections of the Mac Plus prevent any loosening due to vibrations.

Mac Plus DC-DC Converters

**EXPANDED
OFFERING**

Specifications



Mac Plus 12/12V-50






Mac Plus 12/24V-30



Mac Plus 24/12V-50



Mac Plus 24/24V-30

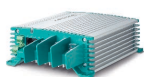
| | | | | |
|--|--|---|--|---|
| Part # | 81205100 | 81205300 | 81205200 | 81205400 |
| Part #  | 81205105 NEW | 81205305 NEW | 81205205 NEW | 81205405 NEW |
| Specifications Input | | | | |
| Nominal input voltage | 12V | 12V | 24V | 24V |
| Input range | 10–16V DC | 10–16V DC | 19–30V DC | 19–30V DC |
| 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 stabilisation | 2% at extremes of temperatures, load and input | | 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 | > 95% (at nom. input voltage, full load); 97% peak | | > 95% (at nom. input voltage, full load); 97% peak | |
| Protections | DC short circuit, overload, over-temperature, reversed polarity (fuse) | | DC short circuit, overload, over-temperature, reversed polarity (fuse) | |
| 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, HxWxD | 10" x 6.5" x 2.6" 255 x 165 x 66 mm | 10" x 6.5" x 2.6" 255 x 165 x 66 mm | 10" x 6.5" x 2.6" 255 x 165 x 66 mm | 10" x 6.5" x 2.6" 255 x 165 x 66 mm |
| Weight | 4.4 lb / 2 kg | 4.4 lb / 2 kg | 4.4 lb / 2 kg | 4.4 lb / 2 kg |
| Approvals | CE, E-Mark, SAE J1171 & ISO 8846 Ignition Protected | CE, E-Mark, SAE J1171 & ISO 8846 Ignition Protected | CE, E-Mark, SAE J1171 & ISO 8846 Ignition Protected | CE, E-Mark, SAE J1171 & ISO 8846 Ignition Protected |
| 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.) | -13°F–140°F, >104°F derating (-25°C–60°C, >40°C derating) | | -13°F–140°F, >104°F derating (-25°C–60°C, >40°C derating) | |
| Cooling | natural cooling | natural cooling | natural cooling | natural cooling |
| Protection degree | IP23 | IP23 | IP23 | IP23 |
| MasterBus compatible / CZone Compatible | yes / yes | yes / yes | yes / yes | yes / yes |
| Options | | | | |
| EasyView 5 77010310  | option | option | option | option |
| Temperature Sensors 41500500 , 6M 41500800 , 15M  | included option | included option | included option | included option |

* Adjustable with MasterAdjust software.

For detailed specifications, dimensional drawings, 3D files, images, certificates and manuals see mastervolt.us.



Mac Plus 12/48V-15



Mac Plus 24/48V-15

| 81206205 NEW | 81206405 NEW |
|--|---|
| 36V/48V | 36V/48V |
| 10-52V DC | 20-52V DC |
| 48V DC | 48V DC |
| 20-30V DC | 20-30V DC |
| n.a. | n.a. |
| 2% at extremes of temperatures, load and input | |
| max. 1% peak peak | max. 1% peak peak |
| 850 / 810 W | 850 / 810 W |
| 30A | 30A |
| yes | yes |
| 30A | 30A |
| no | no |
| yes | yes |
| > 95% (at nom. input voltage, full load); 97% peak | > 95% (at nom. input voltage, full load); 97% peak |
| DC short circuit, overload, over-temperature, reversed polarity (fuse) | |
| n.a. | n.a. |
| yes, through MasterBus | yes, through MasterBus |
| 10" x 6.5" x 2.6" 255 x 165 x 66 mm | 10" x 6.5" x 2.6" 255 x 165 x 66 mm |
| 4.4 lb / 2 kg | 4.4 lb / 2 kg |
| CE, E-Mark, SAE J1171 & ISO 8846 Ignition Protected | CE, E-Mark, SAE J1171 & ISO 8846 Ignition Protected |
| yes (DIP switch settings) | yes (DIP switch settings) |
| <5 mA | <5 mA |
| 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) | |
| -13°F–140°F, >104°F derating (-25°C–60°C, >40°C derating) | |
| natural cooling | natural cooling |
| IP23 | IP23 |
| yes / yes | yes / yes |
| option | option |
| included option | included option |

Mac Plus series:

Robust DC-DC charger guarantees optimal condition of your service battery

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.

To solve these issues, Mastervolt introduces the Mac Plus DC-DC chargers, available in 12V or 24V. The Mac Plus monitors the service battery and compensates the voltage loss. The proven 3-step charge method ensures a quick and safe charge. Moreover, by stabilizing the charge voltage, Mac Plus protects your service battery and sensitive equipment.

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

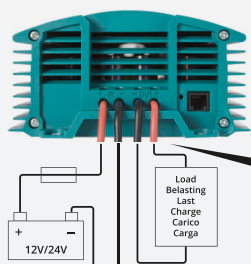
MAC & Magic Converters

Specifications



| | Mac 24/12-20 | Magic 24/12-20 | Magic 24/24-20 | Magic 12/12-20 | Magic 12/24-10 |
|--|---|---------------------------------------|---|---|---|
| Part # | 81200100 | 81300100 | 81300200 | 81300400 | 81300300 |
| Specifications Input | | | | | |
| Nominal input voltage | 24V | 24V | 24V | 12V | 12V |
| Input range | 20–32V DC | 19–32V DC | 19–32V DC | 11–16V DC | 11–16V DC |
| Input range, 3-step charge mode | — | 24–32V DC | 24–32V DC | 12–16V DC | 12–16V DC |
| Lower input set point | — | 20V DC* | 20V DC* | 10V DC* | 10V DC* |
| Delay lower input set point | — | 30 sec.* | 30 sec.* | 30 sec.* | 30 sec.* |
| Specifications Output | | | | | |
| Nominal output voltage | 13.6V DC* | 13.6V DC* | 27.2V DC* | 13.6V DC* | 27.2V DC* |
| Output voltage | 10–15V DC | 10–15V DC | 20–28.5V DC | 10–15V DC | 20–28.5V DC |
| Output voltage dimmer* | 4–13V DC | 4–13V DC | 8–26V DC | 4–13V DC | 8–26V DC |
| Output voltage stabilisation | 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 | max. 1% peak peak |
| Power (max./nominal) | 300 / 270 W | 300 / 300 W | 580 / 580 W | 300 / 300 W | 300 / 300 W |
| Max. current | 20A | 20A | 20A | 20A | 10A |
| Parallel configuration | yes | yes | yes | yes | yes |
| Charge current – 3-step mode | 16A | 16A | 16A | 16A | 8A |
| General Specifications | | | | | |
| Galvanic isolation | no | yes | yes | yes | yes |
| Voltage limited | yes | yes | yes | yes | yes |
| Efficiency | >90% (at nominal input voltage, full load); 92% peak | | | | |
| Protections | over-load & over-temperature | | | | |
| Dimmer function | yes, by external momentary switch via fast-on connection, to be activated by DIP-switch setting | | | | |
| Alarm contact | no | yes (fast-on connector) | | yes (fast-on connector) | |
| Dimensions, HxWxD | 7.5" x 5.1" x 2.4" 190 x 130 x 61 mm | 8.9" x 6.1"x3.2" 227 x 154 x 81 mm | 8.9" x 6.1" x 3.2" 227 x 154 x 81 mm | 8.9" x 6.1" x 3.2" 227 x 154 x 81 mm | 8.9" x 6.1" x 3.2" 227 x 154 x 81 mm |
| Weight | 2.2 lb / 1.0 kg | 4 lb / 1.8 kg | 4 lb / 1.8 kg | 4 lb / 1.8 kg | 4 lb / 1.8 kg |
| Approvals | CE | CE | CE | CE | CE |
| Technical Specifications | | | | | |
| 3-Step charge option | yes (DIP switch settings) | yes (DIP switch settings) | yes (DIP switch settings) | yes (DIP switch settings) | yes (DIP switch settings) |
| DC consumption | <30 mA | <115 mA | <115 mA | <115 mA | <115 mA |
| Connections input/output | screw terminals, maximum wire size 16 mm² / AWG5 | | | | |
| Temperature range (ambient temp.) | -13°F–140°F, >104°F derating (-25°C–60°C, >40°C derating) | | | | |
| Cooling | natural cooling | maintenance free vario fans | maintenance free vario fans | maintenance free vario fans | maintenance free vario fans |
| Protection degree | IP21 | IP21 | IP21 | IP21 | IP21 |
| MasterBus compatible | yes, in combination with a MasterBus Serial Interface (Part # 77030450) | | | | |
| Options | | | | | |
| EasyView 5 77010310 | option | option | option | option | option |
| | Waterproof system monitor with 'daylight readable' color display and intuitive multi-language touchscreen to show the key system information at a glance. There is also a logbook feature for warnings and alarms, along with a buzzer and alarm notifications. The home button gives access to favorite pages. | | | | |
| Temperature Sensors 41500500 , 6M 41500800 , 15M | included option | n/a | n/a | n/a | n/a |

* Adjustable with MasterAdjust software.



Magic as power supply

The Magic models can be fully used as a stabilised power supply: From 12 to 24V, from 24 to 12V or from 24 to 24V. Inputs and outputs are galvanically isolated.

For detailed specifications, dimensional drawings, 3D files, images, certificates and manuals see **mastervolt.us**.



DC Master Specifications Non-Isolated



| | 24/12-3A | 24/12-6A | 24/12-12A | 24/12-24A |
|--------------------------------------|--|-------------------------------------|------------------------------------|------------------------------------|
| Part # | 81400100 | 81400200 | 81400300 | 81400330 |
| Input Specifications | | | | |
| Nominal input voltage | 24V | 24V | 24V | 24V |
| Input range | 20–32V DC | 20–32V DC | 20–32V DC | 20–32V DC |
| Output Specifications | | | | |
| Nominal output voltage | 13.6V | 13.6V | 13.6V | 13.6V |
| Maximum power | 82 W | 136 W | 245 W | 408 W |
| Nominal power | 41 W | 82 W | 164 W | 326 W |
| Current max. 2 minutes* / continuous | 6A / 3A | 10A / 6A | 18A / 12A | 30A / 24A |
| DC consumption | < 15 mA | < 15 mA | < 15 mA | < 15 mA |
| General Specifications | | | | |
| Dimensions, HxWxD | 2.6" x 3.4" x 2" 67 x 87 x 50 mm | 3.5" x 3.4" x 2" 89 x 87 x 50 mm | 5" x 3.4" x 2" 127 x 87 x 50 mm | 5" x 3.4" x 2" 167 x 87 x 50 mm |
| Weight | 0.5 lb / 200 gr | 0.6 lb / 270 gr | 0.9 lb / 405 gr | 1.4 lb / 635 gr |
| Approvals | CE, E-mark | CE, E-mark | CE, E-mark | CE, E-mark |
| Galvanic isolation | no | no | no | no |
| Stabilized | yes | yes | yes | yes |
| Connections input/output | fast-on | fast-on | fast-on | fast-on |
| Temperature range (ambient temp.) | -13°F to 176°F, >86°F derating (-25°C to 80°C, >30°C derating) | | | |
| Cooling | natural cooling | natural cooling | natural cooling | natural cooling |
| Protection degree | IP53 | IP53 | IP53 | IP53 |

Isolated



| | 12/12-3A | 12/12-6A | 24/12-3A | 24/12-6A |
|--------------------------------------|--|------------------------------------|-------------------------------------|------------------------------------|
| Part # | 81500600 | 81500700 | 81500100 | 81500200 |
| Input Specifications | | | | |
| Nominal input voltage | 12V | 12V | 24V | 24V |
| Input range | 10–15.5V DC | 10–15.5V DC | 20–32V DC | 20–32V DC |
| Output Specifications | | | | |
| Nominal output voltage | 13.6V | 13.6V | 13.6V | 13.6V |
| Maximum power | 54 W | 108 W | 82 W | 136 W |
| Nominal power | 41 W | 82 W | 41 W | 82 W |
| Current max. 2 minutes* / continuous | 4A / 3A | 8A / 6A | 6A / 3A | 10A / 6A |
| DC consumption | < 15 mA | < 15 mA | < 15 mA | < 15 mA |
| General Specifications | | | | |
| Dimensions, HxWxD | 3.5" x 3.4" x 2" 89 x 87 x 50 mm | 5" x 3.4" x 2" 127 x 87 x 50 mm | 3.5" x 3.4" x 2" 89 x 87 x 50 mm | 5" x 3.4" x 2" 127 x 87 x 50 mm |
| Weight | 0.6 lb / 290 gr | 1 lb / 440 gr | 0.6 lb / 290 gr | 1.1 lb / 505 gr |
| Approvals | CE, E-mark | CE, E-mark | CE, E-mark | CE, E-mark |
| Galvanic isolation | yes | yes | yes | yes |
| Stabilized | yes | yes | yes | yes |
| Connections input/output | fast-on | fast-on | fast-on | fast-on |
| Temperature range (ambient temp.) | -13°F to 176°F, >86°F derating (-25°C to 80°C, >30°C derating) | | | |
| Cooling | natural cooling | natural cooling | natural cooling | natural cooling |
| Protection degree | IP53 | IP53 | IP53 | IP53 |

* Two minutes of extra power for short power boosts.



12/24-3A
81400400



12/24-7A
81400500



48/12-6A
81400600



48/12-9A
81400700



48/12-20A
81400800

| | | | | |
|-------------|-------------|-----------|-----------|-----------|
| 12V | 12V | 48V | 48V | 48V |
| 10-15.5V DC | 10-15.5V DC | 40-62V DC | 40-62V DC | 40-62V DC |

| | | | | |
|---------|---------|---------|----------|-----------|
| 27.2V | 27.2V | 13.6V | 13.6V | 13.6V |
| 109 W | 245 W | 109 W | 132 W | 326 W |
| 82 W | 191 W | 82 W | 108 W | 272 W |
| 4A / 3A | 9A / 7A | 8A / 6A | 11A / 9A | 24A / 20A |
| <15 mA | <25 mA | <15 mA | <15 mA | <25 mA |

| | | | | |
|-------------------------------------|--------------------------------------|-------------------------------------|------------------------------------|------------------------------------|
| 3.5" x 3.4" x 2" 89 x 87 x 50 mm | 6.6" x 3.4" x 2" 167 x 87 x 50 mm | 3.5" x 3.4" x 2" 89 x 87 x 50 mm | 5" x 3.4" x 2" 127 x 87 x 50 mm | 5" x 3.4" x 2" 217 x 87 x 50 mm |
| 0.6 lb / 290 gr | 1.3 lb / 610 gr | 0.6 lb / 270 gr | 0.8 lb / 370 gr | 1.7 lb / 765 gr |
| CE, E-mark | CE, E-mark | CE, E-mark | CE, E-mark | CE, E-mark |
| no | no | no | no | no |
| yes | yes | yes | yes | yes |
| fast-on | fast-on | fast-on | fast-on | fast-on |

-13°F to 176°F, >86°F derating (-25°C to 80°C, >30°C derating)

| | | | | |
|-----------------|-----------------|-----------------|-----------------|-----------------|
| natural cooling | natural cooling | natural cooling | natural cooling | natural cooling |
| IP53 | IP53 | IP53 | IP53 | IP53 |



24/12-12A
81500300



24/12-24A
81500350



24/24-3A
81500400



24/24-7A
81500500

| | | | |
|-----------|-----------|-----------|-----------|
| 24V | 24V | 24V | 24V |
| 20-32V DC | 20-32V DC | 20-32V DC | 20-32V DC |

| | | | |
|-----------|-----------|---------|---------|
| 13.6V | 13.6V | 27.2V | 27.2V |
| 245 W | 408 W | 109 W | 245 W |
| 164 W | 326 W | 82 W | 191 W |
| 18A / 12A | 30A / 24A | 4A / 3A | 9A / 7A |
| <15 mA | <15 mA | <15 mA | <25 mA |

| | | | |
|----------------------------------|--------------------------------------|------------------------------------|--------------------------------------|
| 6.6" x 3.4" x 2" 167x87x50 mm | 8.5" x 3.4" x 2" 217 x 87 x 50 mm | 5" x 3.4" x 2" 127 x 87 x 50 mm | 8.5" x 3.4" x 2" 217 x 87 x 50 mm |
| 1.3 lb / 590 gr | 1.7 lb / 785 gr | 1.1 lb / 440 gr | 1.8 lb / 820 gr |
| CE, E-mark | CE, E-mark | CE, E-mark | CE, E-mark |
| yes | yes | yes | yes |
| yes | yes | yes | yes |
| fast-on | fast-on | fast-on | fast-on |

-13°F to 176°F, >86°F derating (-25°C to 80°C, >30°C derating)

| | | | |
|-----------------|-----------------|-----------------|-----------------|
| natural cooling | natural cooling | natural cooling | natural cooling |
| IP53 | IP53 | IP53 | IP53 |

Complete package DC Master



'Click'

All DC Master converters come with a mounting bracket, screws and fast-ons.

For detailed specifications, dimensional drawings, 3D files, images, certificates and manuals see **mastervolt.us**.

Mastervolt Transfer Systems: Manages AC power sources

A Mastervolt transfer system forms the heart of your AC system and regulates the power supply from the electricity grid, generator or inverter. It also automatically selects the right energy source at the right time.

Mass Systemswitch: The complete system solution

The Mass Systemswitch automatically transfers three available AC power sources to the right outputs. As well as providing more comfort on board, the automatic transfer also has a safety function: the transfer relay prevents short-circuiting between the various AC sources. The Mass Systemswitch 10 and 16 each have four outputs: 'generator only', 'power', 'shortbreak' and 'inverter only', while the Mass Systemswitch 6 has three (3) outputs: 'power', 'shortbreak' and 'inverter only'.

- Three AC inputs; for example inverter, grid power and generator
- Three or four outlets to AC power groups
- Automatic switching
- Power transfer from 4.5 kW to 16 kW, input/output from 25A to 63A
- Information source for central energy management via MasterBus network
- MasterBus compatible

Masterswitch: The simple solution

Masterswitch offers you the choice of two energy sources, such as the inverter or grid power, with one of the inputs always having priority. The Masterswitch is available in multiple capacities, and all models are suitable for use with a generator by means of an adjustable transfer delay.

- Two AC inputs; for example grid power and inverter
- Adjustable transfer delay for generators

- One outlet to AC power group
- Automatic switching
- Power transfer up to 25 kW, input/output from 20A to 125A

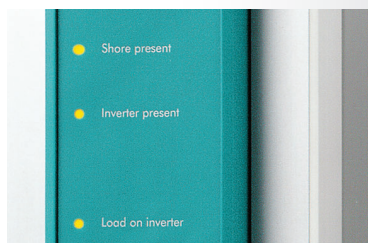




Smart electronics

The intelligent electronics control the switching to ensure an optimal energy management. Its double pole relay is durable and extremely safe.

LED indications on Systemswitch



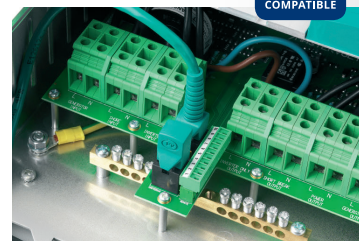
Read-out of the basic functions on the display, including indication of available power source, generator, grid power or inverter and 'load on inverter' function.

Central Energy Management



The Easy View 5 with intuitive controls and color touchscreen shows key system information at a glance. Provided with a multi-language menu, the home button gives easy access to your favorite pages. System alerts and alarms are tracked through the logbook feature.

Suitable for MasterBus



As the Mass Systems switch is suitable for MasterBus, all information can also be read-out on, for instance, a EasyView display, including the status of the charge current and the inverter.



Transfer Systems

Specifications



Mass Systemswitch
16 kW



Masterswitch
5 kW



Masterswitch
3 kW (120V)



Masterswitch
10 kW

| Part # | 55008205 | 55006010 | 55006000 | 55006015 |
|---|---|--|---|--|
| General Specifications | | | | |
| Nominal input voltage | 230V (50/60Hz) | 230V (50/60Hz) | 120V (50/60 Hz) | 230V (50/60Hz) |
| Input voltage range | 200-250V AC | 200-250V AC | 100-125V AC | 200-250V AC |
| Number of inputs | 3 | 2 | 2 | 2 |
| Number of outputs | 4 | 1 | 1 | 1 |
| Dimensions, HxWxD | 13.4" x 10.3" x 5.7" 340 x 261 x 144 mm | 7.9" x 4.3" x 4.5" 200 x 110 x 115 mm | 7.9" x 4.3" x 4.5" 200 x 110 x 115 mm | 7.9" x 4.3" x 4.5" 200 x 110 x 115 mm |
| Weight | 11 lb / 5 kg | 2.6 lb / 1.2 kg | 2.6 lb / 1.2 kg | 2.9 lb / 1.3 kg |
| Technical Specifications | | | | |
| Connection for remote control | yes | no | no | no |
| MasterBus compatible | yes | no | no | no |
| LED indication on cabinet | indication voltage sources present and 'load on inverter' mode | no | no | no |
| Nominal input current generator | 63A | 20A | 25A | 40A |
| Nominal input current shore | 40A | 20A | 25A | 40A |
| Nominal input current inverter | 25A | n.a. | n.a. | n.a. |
| Earth leakage switch | no | n.a. | n.a. | n.a. |
| Generator input switch | continuous monitoring of voltage and frequency | no | no | no |
| Time delay generator input | 0-10 sec (adjustable) | 0-10 sec (adjustable) | 0-10 sec (adjustable) | 0-10 sec (adjustable) |
| Nominal current shortbreak output | 25A | n.a. | n.a. | n.a. |
| Nominal current power output | 40A | 20A | 20A | 40A |
| Nominal current generator output | 63A | n.a. | 25A | n.a. |
| Automatic circuit breakers | no, system dependent | no, system dependent | no, system dependent | no, system dependent |
| Power consumption (AC all inputs) | 33W | 7W | 7W | 7W |
| Power consumption (only inverter power) | <1W | 0W | 0W | 0W |
| Temperature range (specified) | -23°F to 140°F (-31°C to 60°C) | | -23°F to 140°F (-31°C to 60°C) | |
| Temperature range (allowed) | -13°F to 158°F (-25°C to 70°C) (may not meet the specified tolerances) | | -13°F to 158°F (-25°C to 70°C) (may not meet the specified tolerances) | |
| Temperature range (storage/non operating) | -76°F to 176°F (-60°C to 80°C) | -76°F to 176°F (-60°C to 80°C) | -76°F to 176°F (-60°C to 80°C) | -76°F to 176°F (-60°C to 80°C) |
| Relative humidity | maximum 95%, non condensing | | maximum 95%, non condensing | |
| Transfer time | switch on 12-22 ms / switch off 4-19 ms | | switch on 12-22 ms / switch off 4-19 ms | |
| Frequency watch | yes | no | no | no |
| Cable size | 0.5-10 mm²/AWG 20-7, remote control: 0.14-2.5 mm²/AWG 26-13 | 0.5-10 mm²/AWG 20-7 | 0.5-10 mm²/AWG 20-7 | 0.5-10 mm²/AWG 20-7 |
| Protection degree | IP23 | IP55 | IP55 | IP55 |

Advantages of the Mastervolt transfer system

- Activating and selecting 230V sources: Grid power, inverter and generator (adjustable to amperage of grid power, for instance 6A)
- Prevents parallel connection between inverter and other 230V sources, avoiding damage to the inverter
- Fully compatible with Mastervolt systems, and suitable for installations from other brands, other generators and/or inverters



Masterswitch
7 kW (120V)

55106100



Masterswitch
25 kW

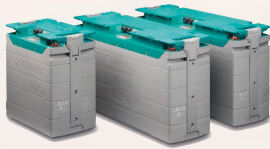
55003500

| | |
|---|---|
| 120 V (50/60 Hz) | 230V (50/60Hz) |
| 100-125V AC | 200-250V AC |
| 2 | 2 |
| 1 | 1 |
| 7.9" x 6.1" x 5.8" 200 x 154 x 148 mm | 11.5" x 9.5" x 6.6" 291 x 241 x 168 mm |
| 2.5 lb / 5.5 kg | 8.4 lb / 3.8 kg |
| no | no |
| no | no |
| no | no |
| 60A | 125A |
| 60A | 125A |
| n.a. | n.a. |
| n.a. | n.a. |
| no | no |
| 0-10 sec (adjustable) | 0-10 sec (adjustable) |
| n.a. | n.a. |
| 40A | 125A |
| 60A | n.a. |
| no, system dependent | no, system dependent |
| 7W | 7W |
| 0W | 0W |
| -23°F to 140°F (-31°C to 60°C) | |
| -13°F to 158°F (-25°C to 70°C) (may not meet the specified tolerances) | |
| -76°F to 176°F (-60°C to 80°C) | -76°F to 176°F (-60°C to 80°C) |
| maximum 95%, non condensing | |
| switch on 12-22 ms / switch off 4-19 ms | |
| no | no |
| 0.5-10 mm²/AWG 20-7 | 0.5-10 mm²/AWG 20-7 |
| IP55 | IP55 |



BATTERIES

MLI Ultra Lithium Ion Batteries



68

Top quality Lithium Ion batteries. High capacity and specifically developed for extremely short charging cycles. Equipped with various functions including a Battery Management System and MasterBus communication.

MVG Gel Series



70

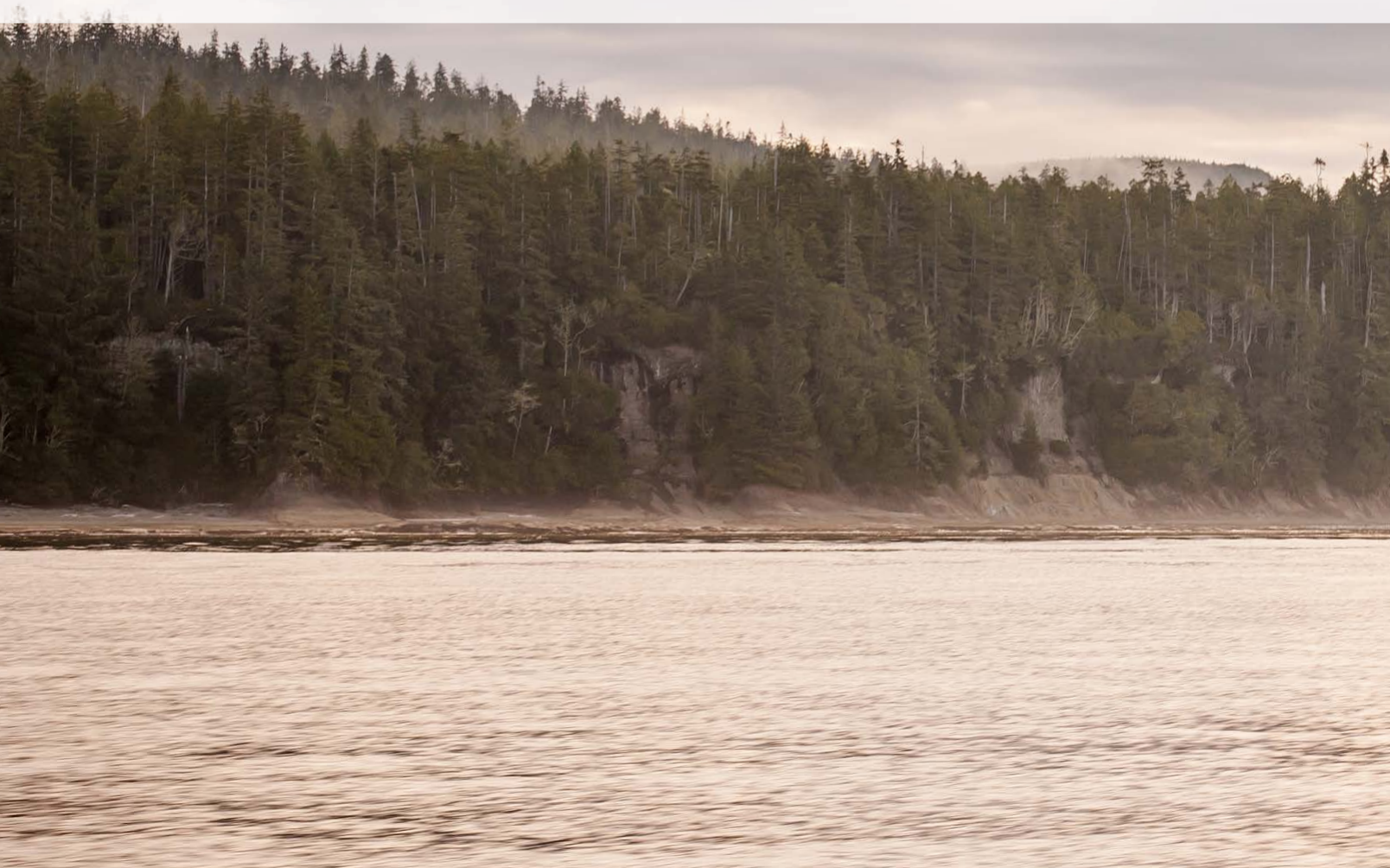
Ideal as service battery and for cyclic use. For medium to large 12V and 24V systems with a high number of charging and discharging cycles. Charges very quickly.

MVSV 2 Volt Gel Series



71

Robust Gel batteries designed for large systems and intensive use. Charge quickly and are extremely durable. Suitable for horizontal and vertical placement and problem-free deep discharge.



BATTERIES

AGM Series



72

The excellent starter function makes this battery an ideal replacement for traditional open batteries. Also suitable for light cyclic use.

AGM Slimline Series



72

Universal and very slim battery with exceptionally small footprint. Saves up to 15% in volume and weight.

AGM 6 Volt Series



72

Alternative solution regarding placement and size for composing high capacity 12/24/48V battery sets.

Battery Terminals and Covers



73

Your battery set is not complete without a proper connection with the electrical onboard system. Mastervolt supplies battery terminals, which combined with the correct covers, connect your batteries safely.



Professional boaters rely on Mastervolt batteries to power through difficult applications in tough environments.



Mastervolt Batteries: The right choice for power storage

Mastervolt makes selecting the right battery simple. Whether you choose a low priced battery such as the AGM or an innovative and technologically advanced Lithium Ion (LiFePO₄) battery, Mastervolt has the right battery for every application.

Mastervolt has divided its entire battery range of 36 types into seven series and five different battery technologies. Each series has its specific benefits.

All Mastervolt batteries offer you these advantages:

- Maintenance-free
- Built for safety—no gassing
- Easy to install
- Designed for cyclic use (charge/discharge)
- Minimum self-discharge
- Two-year warranty

Issues to take into account:

- Determining the correct battery capacity for your new battery/batteries is very important. For support and more information see **mastervolt.us/batteries**.
- Choosing the right battery charger guarantees the maximum lifespan for your batteries. Mastervolt's modern 3-step+ charge technology charges your batteries safely and quickly. For more information see **mastervolt.us/chargers**.
- A battery monitor is the best way to make the most of your batteries. Go to **mastervolt.us/batterymonitor** for more information.

To choose the right battery, go to the table on the opposite page.



Which battery is best for your application?

| | | 1 | 2 | 3 | 4 |
|---|----------------------------|-----------------|-------------------|----------------------|-------------------|
| | Traditional open batteries | MLI Lithium Ion | MVG semi-traction | MVSV 2V Gel traction | AGM semi-traction |
| Maintenance-free | – | ★★★★ | ★★★★ | ★★★★ | ★★★★ |
| No gas formation during charging | ★ | ★★★★★ | ★★★ | ★★★ | ★★★ |
| Low self discharge while inactive | – | ★★★ | ★★★★ | ★★★★ | ★★★★ |
| Lifespan with complete discharge | ★ | ★★★★★ | ★★★ | ★★★★ | ★★ |
| Lifespan with limited discharge | ★★ | ★★★★★ | ★★★★ | ★★★★ | ★★★ |
| Resilience to excessive charge current | ★★ | ★★★★★ | ★★★ | ★★★★ | ★★ |
| Suitable for prolonged high discharge current | ★★★ | ★★★★★ | ★★★ | ★★★ | ★★★ |
| Suitable for selection of battery bank with high capacity | ★★ | ★★★★★ | ★★★ | ★★★★★ | ★★ |
| Suitable for E-propulsion | ★ | ★★★★★ | ★★★ | ★★★★ | ★★★★ |
| Suitable for starting motors | ★★ | ★★★★ | ★★★ | ★★ | ★★★★ |
| Shock-resistance | ★ | ★★★★ | ★★★★ | ★★★★ | ★★★★ |
| Number of charge/discharge cycles | ★ | ★★★★★ | ★★★ | ★★★★ | ★★ |
| Temperature-resistance | ★ | ★★★★★ | ★★★★ | ★★★★ | ★★ |
| Installation angle/angle of inclination | – | ★★★★ | ★★★★ | ★★★★ | ★★★★ |
| Return on investment with limited use | ★ | ★★★ | ★★★ | ★★★★ | ★★★ |
| Return on investment with intensive use | ★ | ★★★★★ | ★★★ | ★★★★ | ★★ |
| Product warranty | ± 1 year | 2 year | 2 year | 7 year pro rata | 2 year |
| Worldwide service | ★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |

★★★★★ = excellent ★★★★ = very good ★★★ = good ★★ = adequate ★ = inadequate – = poor

1 Lithium Ion batteries



Lithium Ion batteries have a high energy density, offering savings of up to 70% in volume and weight compared to traditional lead-acid batteries. They are perfect for cyclic applications, making over 2000 cycles with very deep (80%) discharges, effectively storing 5 times as much energy over its lifespan compared to lead-acid.

The Mastervolt MLI range is top of the line. It offers large capacity batteries designed for extreme duty cycling, with all possible features such as integrated Battery Management System (BMS) plus MasterBus/CAN and CZone/NMEA communication.

2 Gel batteries



In Gel batteries, the electrolyte is absorbed by a Gel. This type of battery is entirely maintenance-free and has no gas formation with normal use. As no extra ventilation is required, Gel batteries can be installed anywhere. They are ideal as service battery and for cyclical use, and can be charged very quickly.

3 Traction batteries



This robust Gel battery is designed for regular and deep discharging (> 1000 full cycles), and is ideal for large systems that require intensive use and a very long lifespan.

4 AGM batteries



In AGM batteries, the electrolyte (mixture of water and sulphuric acid) is largely absorbed in glass material. This type of battery is entirely maintenance-free and there is no gas formation with normal use. Not requiring any ventilation, these batteries can be installed anywhere. Their construction gives a very fast discharge at very high currents so AGM batteries are ideal for systems that require high currents (for instance when starting an engine). The battery poles can be unscrewed and this type of battery can be combined with every standard battery terminal.

Lithium Ion Batteries

Lithium Ion is the battery technology of today. Do you want to be the fastest or best performing? Do you want to save energy or burn less fuel? Do you want your investment to last longest? Do you want to be 'out there' longest without getting anxious about your energy? Then Lithium Ion (LiFePO4) is your choice of batteries.



A few of its outstanding features

- Space and weight savings up to 70%
- Three times the lifespan of traditional batteries (2000 cycles)
- Extremely fast charging and discharging
- High efficiency: not wasting energy
- Safe operation
- MasterBus, CZone and NMEA 2000 communication



Safest Lithium Ion technology available

The term Lithium Ion encompasses multiple chemistries, having slightly different compositions of materials. These differences result in variations of energy and power density, lifespan, cost and safety. As safety is our primary concern, Mastervolt chooses to use only the safest available Lithium Ion chemistry, Lithium-iron phosphate (LiFePO4).

MLI Series

Large capacity series, fully equipped for extreme cycling, like running airconditioning, pumps or electric motors for long periods of time with short intermittent charging.

The MLI series is designed to be able to enjoy all the best properties of Lithium Ion technology in the harshest conditions (high charge/discharge currents, flooded environment, mechanical shock or vibrations). To do this, the MLI batteries bring two things on top of Lithium-iron phosphate cells: a sturdy, waterproof housing and the best Battery Management System (BMS). The BMS ensures optimal use of each individual cell, even during fast charge and discharge, and has integrated battery monitoring to always have the best information on the state of your battery. Last but not least, it has MasterBus/CAN and CZone/NMEA communication to the Mastervolt battery charger or to any CZone/NMEA based product to ensure the best possible recharging and lifetime of the battery.

TECH TIP

Performance Ready

The beating heart of the electrical system onboard all boats participating in the Volvo Ocean Race was formed by two Mastervolt MLI Ultra 24/5000 Lithium Ion (LiFePO4) batteries, which performed seamlessly throughout the race. Choose indestructible Mastervolt Lithium Ion batteries, like the Volvo Ocean Race boats.

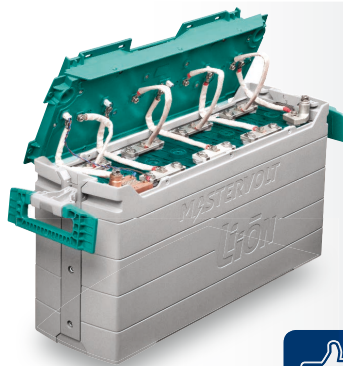


Suitable for large battery banks

The MLI series is ideal for electric and hybrid applications, and can be connected in parallel unlimited. The built-in common-rail technology offers an easy series connection of multiple MLI Ultra batteries.

TECH TIP

The NEW MLI 1250 is designed to be extremely easy to install without any additional components. Both 12V and 24V models are IP65 and have built-in Battery Management System (BMS) and safety features which make it a straight forward replacement for most existing lead acid batteries



Safe operation

The Mastervolt MLI series is equipped with an integrated Battery Management System (BMS) and communication through MasterBus/CAN and CZone/NMEA. Even in the harshest cycling conditions this guarantees efficient and safe operation of the battery. The MLI batteries come with an integrated automatic safety switch. Safety always comes first.



Superior performance

Mastervolt Lithium Ion (LiFePO4) batteries have a realistic lifespan of over 2000 cycles at a depth of discharge (DOD) of 80%. This means five times more energy storage than lead acid batteries thanks to features such as extremely high efficiency, the almost complete absence of self discharge and the minimal build-up of the infamous 'memory effect'.



Weight reduction

As speed and performance are crucial aspects, a Lithium Ion (LiFePO4) battery – which takes up 70% less weight than similar lead acid batteries – offers considerable benefits. A vessel or vehicle with a capacity of 20 kWh on board, can easily save up to 500 kg and achieve a substantially better performance.



Easy installation

The MLI series includes two integrated handles with a recess for the correct and practical installation of the cables. The battery poles are easily accessible and completely protected, so no extra isolation covers are needed. The MLI batteries make a great 'drop-in replacement' for a system with lead-acid batteries, because no system changes or additional components are required.

MLI Lithium Ion Series — CZone® / MasterBus Compatible



- Top performance, heavy duty Lithium Ion batteries
- Ideal for running heavy loads for long periods and short charge times
- Saves up to 70% in space and weight
- Three times the lifespan of traditional batteries (2000 cycles)
- High cycle efficiency
- Fast charging up to half an hour
- High discharge rate up to 2.5C
- CZone® / NMEA, or MasterBus / CAN communication
- Integrated Battery Management System (BMS)
- Integrated battery monitoring (Ah consumed, state of charge)
- Series connection up to 10 batteries possible
- Waterproof electronics cabinet
- Extremely safe LiFePO4 chemistry
- Tested and certified according to UN38.3



Specifications

| | MLI Ultra 12/1250 | MLI Ultra 24/1250 | MLI Ultra 12/2750 | MLI Ultra 12/5500 | MLI Ultra 24/5500 |
|--|---|---|--|--|--|
| Part # | 66011250 | 66021250 | 66012750 | 66015500 | 66025500 |
| General Specifications | | | | | |
| Nominal battery voltage | 13.2V | 26.4V | 13.2V | 13.2V | 26.4V |
| Nominal battery capacity | 100 Ah | 50 Ah | 200 Ah | 400 Ah | 200 Ah |
| Nominal battery energy capacity | 1250 Wh | 1250 Wh | 2750 Wh | 5500 Wh | 5500 Wh |
| Max. charge current | 100A (1 C) | 50A (1 C) | 500A (1 C) | 500A (1.4 C) | 500A (1 C) |
| Continuous discharge current | 200A (2 C) | 100A (2 C) | 500A (2.5 C) | 500A (1.4 C) | 500A (2.5 C) |
| Peak discharge current | 500A (5C) for 10s | 250A (5C) for 10s | 1800A (9 C) for 10s | 1800A (4.5 C) for 10s | 1800A (9 C) for 10s |
| Cycle life | 3500 cycles at 80% DOD | | 3500 cycles at 80% DOD at 77°F (25°C), max. C3 charge and C2 discharge | | |
| Battery monitoring | integrated | integrated | integrated | integrated | integrated |
| Communication | MasterBus, CZone, NMEA | MasterBus, CZone, NMEA | MasterBus, CZone, NMEA | MasterBus, CZone, NMEA | MasterBus, CZone, NMEA |
| Battery terminals | M6 | M6 | M8 | M8 | M8 |
| Mounting position | upright (recommended) or either long side | | upright (recommended) or either long side | | |
| Max. outer dimensions, l x w x h (incl. terminals/grip handles) | 12.9" x 6.7" x 9.3" 327 x 171 x 235 mm | 12.9" x 6.7" x 9.3" 327 x 171 x 235 mm | 13.4" x 7.8" x 14" 341 x 197 x 355 mm | 24.5" x 7.8" x 14" 622 x 197 x 355 mm | 24.5" x 7.8" x 14.0" 622 x 197 x 355 mm |
| Weight | 30 lb / 15 kg | 30 lb / 15 kg | 59.5 lb / 27 kg | 125.7 lb / 57 kg | 125.7 lb / 57 kg |
| Technical Specifications | | | | | |
| Battery chemistry | Lithium Iron Phosphate | Lithium Iron Phosphate | Lithium Iron Phosphate | Lithium Iron Phosphate | Lithium Iron Phosphate |
| Protection degree | IP65 | IP65 | IP65 (electronics cabinet) | IP65 (electronics cabinet) | IP65 (electronics cabinet) |
| Parallel connection | yes, unlimited | yes, unlimited | yes, unlimited | yes, unlimited | yes, unlimited |
| Series connection | yes, up to 4 batteries | yes, up to 2 batteries | yes, up to 10 batteries. Systems over 48V require a separate battery box to prevent access to high voltage parts | | |
| Protections | over voltage, under voltage, over temperature | | over voltage, under voltage, over temperature | | |
| Safety relay/with Bracket | n.a | n.a | Required part # 7700-BSS (12V) / 7702-BSS (24V) and with bracket 79007712 (12V) / 79007724 (24V) | | |
| Safety relay controls | integrated | integrated | integrated | integrated | integrated |

TECH TIP

Safety Relays

Safety relays are required for proper install of Lithium Ion (LiFePO4) Batteries MLI 2750 and MLI 5500. Follow installation instructions for installing Lithium Ion Batteries. See new integrated brackets on page 69.



Related Products



Battery Monitors
page 97



Terminals & Covers
page 73

Ultra Connection Kit **NEW**

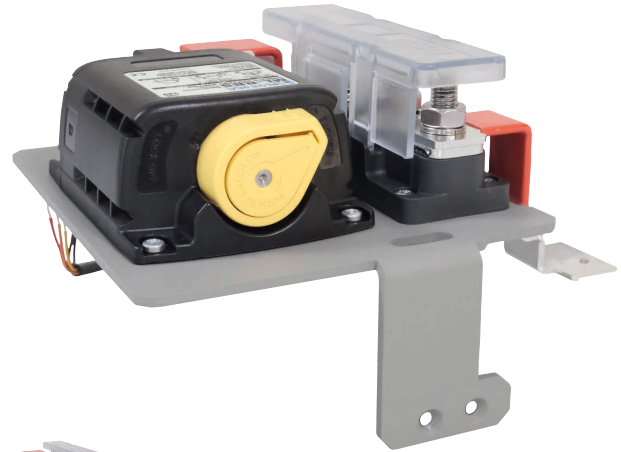
With the MLI Ultra Relay and Fuse Connect Kit, you can easily install all the required safety accessories in a safe, efficient, and compact way right on top of the MLI Ultra battery. Without the need for power tools, you can get your system, safe and ready in just a few simple steps.

- Fast and easy installation.
- All necessary safety accessories in one kit*.
- Pre-assembled on an easy to mount bracket.
- Perfect fit for MLI Ultra 12/2750 and 12/5500.

* The T-fuse itself is not included in the kit. Order the right fuse rating (max. 300 A) based on the requirements of your installation.

Part # 79007712 12V, includes relay

Part # 79007724 24V, includes relay



12V



24V

| Part # | 79007712 | 66021250 |
|--------------------------|--|-------------------|
| General Specifications | | |
| Compatibility | MLI Ultra 12/2750, MLI Ultra 12/5500 | MLI Ultra 24/5500 |
| Max. current | 300A | 300A |
| Operating temperature | -13 °F to 122 °F (-25 °C to 50 °C) | |
| Dimensions | total height increases by 65 mm / 2.5 inch | |
| Weight | total weight increases by (0.0 lb) 2 kg | |
| Delivered with | mounting bracket, safety relay, T-fuse holder, busbar conductor (2x) | |
| Technical Specifications | | |
| Safety relay | 12V DC - 500A | 24V DC - 500A |
| Max. voltage | 64V | 64V |

TECH TIP

Design Considerations

Only create multiple battery systems with batteries of the same type and capacity.

- If connected in series, then two units can be protected by one safety relay.
- If connected in parallel, then each unit requires its own safety relay.



Use with the following Blue Sea Systems T-fuses: (not included)

| Part # | Fuse Rating | Continuous Current | 5 Minutes overload current |
|----------|-------------|--------------------|----------------------------|
| 5121-BSS | 400A | 300A | 400A |
| 5120-BSS | 350A | 260A | 350A |
| 5119-BSS | 300A | 225A | 300A |
| 5118-BSS | 250A | 185A | 250A |
| 5117-BSS | 225A | 170A | 225A |

MVG Gel Series

- Perfect service battery for medium and large 12V and 24V systems
- Extremely long lifespan
- No gas formation with normal use
- Fast recharge, high charge current possible
- For intensive cycle use with a high number of charge/discharge cycles
- Very low self discharge
- High return on investment



| | MVG 12/25 | MVG 12/55 | MVG 12/85 | MVG 12/120 | MVG 12/140 | MVG 12/200 |
|----------------------------------|--|---|---|---|---|--|
| Part # | 64000250 | 64000550 | 64000850 | 64001200 | 64001400 | 64002000 |
| Nominal battery voltage | 12V | 12V | 12V | 12V | 12V | 12V |
| Nominal battery capacity C20* | 25 Ah | 55 Ah | 85 Ah | 120 Ah | 140 Ah | 200 Ah |
| Max charge current | 12.5A | 27.5A | 42.5A | 60A | 70A | 100A |
| CCA to DIN | 110A | 230A | 270A | 450A | 540A | 630A |
| CCA to SAE | 175A | 380A | 450A | 760A | 920A | 1100A |
| Battery terminal | A-type | A-type | A-type | A-type | A-type | A-type |
| Max. outer Dimensions** LxWxH | 6.6" x 6.9" x 5" 167 x 176 x 126 mm | 10.3" x 5.4" x 9.1" 261 x 136 x 230 mm | 13" x 6.7" x 9.3" 330 x 171 x 236 mm | 20.2" x 7.4" x 8.8" 513 x 189 x 223 mm | 20.2" x 8.8" x 8.8" 513 x 223 x 223 mm | 20.4" x 10.8" x 9.4" 518 x 274 x 238 mm |
| Weight | 21.2 lb / 9.6 kg | 41.9 lb / 19 kg | 71.9 lb / 32.6 kg | 90.4 lb / 41 kg | 108 lb / 49 kg | 154.3 lb / 70 kg |

* C20 = battery capacity at a discharge time of 20 hours, till 10.5V per battery. **Including terminals and grip handles

Related Products



Battery Monitors
page 97



Terminals & Covers
page 73



MVSV 2 Volt Gel Series

- Ideal for large systems that require intensive use and a very long lifespan
- For intensive cycle use with a high number of charge/discharge cycles
- Charges quickly
- Extremely sustainable battery for large installations
- Robust build for longer lifespan
- Deep discharging without problems
- Can be installed horizontally or vertically



| | MVSV 280 | MVSV 420 | MVSV 500 | MVSV 580 | MVSV 750 | MVSV 1000 |
|----------------------------------|---|---|---|---|---|---|
| Part # | 68000280 | 68000420 | 68000500 | 68000580 | 68000750 | 68001000 |
| Nominal Battery Voltage | 2V | 2V | 2V | 2V | 2V | 2V |
| Nominal Battery Capacity C10* | 280 Ah | 420 Ah | 500 Ah | 580 Ah | 750 Ah | 1000 Ah |
| Max. Charge Current | 140 Ah | 210 Ah | 250 Ah | 290 Ah | 375 Ah | 500 Ah |
| Battery Terminal | F-M8 | F-M8 | F-M8 | F-M8 | F-M8 | F-M8 |
| Max. Outer Dimensions** LxWxH | 5" x 8.2" x 15.7" 126 x 208 x 399 mm | 5" x 8.2" x 20.3" 126 x 208 x 515 mm | 5.8" x 8.2" x 20.3" 147 x 208 x 515 mm | 6.6" x 8.2" x 20.3" 168 x 208 x 515 mm | 5.8" x 8.2" x 27.2" 147 x 208 x 690 mm | 8.3" x 7.6" x 27.2" 212 x 193 x 690 mm |
| Weight | 50.7 lb / 23 kg | 66.1 lb / 30 kg | 77.2 lb / 35 kg | 86 lb / 39 kg | 108 lb / 49 kg | 146 lb / 66 kg |

* C10 = battery capacity at a discharge time of 10 hours, till 1.80V per cell. **Including terminals and grip handles



| | MVSV 1250 | MVSV 1500 | MVSV 1650 | MVSV 2200 | MVSV 2700 |
|----------------------------------|---|--|--|--|--|
| Part # | 68001250 | 68001500 | 68001651 | 68002200 | 68002700 |
| Nominal Battery Voltage | 2V | 2V | 2V | 2V | 2V |
| Nominal Battery Capacity C10* | 1250 Ah | 1500 Ah | 1650 Ah | 2200 Ah | 2700 Ah |
| Max. Charge Current | 625 Ah | 750 Ah | 825 Ah | 1100 Ah | 1350 Ah |
| Battery Terminal | F-M8 | F-M8 | F-M8 | F-M8 | F-M8 |
| Max. Outer Dimensions** LxWxH | 8.3" x 9.3" x 27.2" 212 x 235 x 690 mm | 8.3" x 10.9" x 27.2" 212 x 277 x 690 mm | 8.3" x 10.9" x 30" 212 x 277 x 759 mm | 8.5" x 15.7" x 32.1" 216 x 400 x 816 mm | 8.4" x 19.3" x 32.1" 214 x 489 x 816 mm |
| Weight | 176 lb / 80 kg | 209 lb / 95 kg | 254 lb / 115 kg | 353 lb / 160 kg | 437 lb / 198 kg |

* C10 = battery capacity at a discharge time of 10 hours, till 1.80V per cell. **Including terminals and grip handles

Related Products



Battery Monitors
page 97



Terminals & Covers
page 73

AGM Series

- Excellent starter function
- Perfect upgrade for flooded lead acid batteries
- Same initial power surge in an AGM 12/90 Ah as in a 180 Ah flooded lead-acid battery
- Glass-fiber technology ensures low internal resistance
- Use of thicker plates extends lifespan
- Can be combined with every standard battery terminal
- Also for medium cyclical use



| | AGM 12/55 (group 24) | AGM 12/70 (group 27) | AGM 12/90 (group 31) | AGM 12/130 | AGM 12/160 (group 4D) | AGM 12/225 (group 8D) | AGM 12/270 (group Super 8D) |
|-------------------------------|---|---|---|---|---|---|--|
| Part # | 62000550 | 62000700 | 62000900 | 62001300 | 62001600 | 62002250 | 62002700 |
| Nominal Battery Voltage | 12V | 12V | 12V | 12V | 12V | 12V | 12V |
| Nominal Battery capacity C20* | 55 Ah | 70 Ah | 90 Ah | 130 Ah | 160 Ah | 225 Ah | 270 Ah |
| Max charge current | 15.3 Ah | 19.5 Ah | 25.5 Ah | 36 Ah | 45 Ah | 63 Ah | 76.5 Ah |
| CCA to DIN | 250A | 290A | 360A | 590A | 550A | 680A | 750A |
| CCA to SAE | 400A | 460A | 570A | 940A | 870A | 1080A | 1200A |
| Battery terminal | M6 | M8 | M8 | M8 | M8 | M8 | M8 |
| Outside Dimensions** LxWxH | 10.1" x 5.2" x 7.9" 257 x 132 x 200 mm | 13.7" x 6.6" x 7" 348 x 167 x 178 mm | 13" x 6.8" x 8.7" 330 x 173 x 220 mm | 16.1" x 6.9" x 8.9" 408 x 176 x 228 mm | 19.1" x 6.7" x 9.5" 485 x 170 x 242 mm | 20.6" x 9.4" x 8.8" 522 x 240 x 224 mm | 20.6" x 10.6" x 8.9" 522 x 268 x 226 mm |
| Weight | 37.5 lb / 17 kg | 46 lb / 21 kg | 62 lb / 28 kg | 83 lb / 37.6 kg | 93 lb / 42.3 kg | 140 lb / 63.5 kg | 161 lb / 73 kg |

* C20 = battery capacity at a discharge time of 20 hours, till 10.5V per battery. **Including terminals and grip handles

AGM SlimLine Series

- Ideal universal and very slim battery; Suitable for starter functions
- Compressed AGM technology
- Saves up to 15% in volume and weight
- Miniscule footprint; 2x 200 Ah for a 200 Ah battery footprint
- Convenient M6 connections



| | AGM-SL 12/150 | AGM-SL 12/200 |
|-------------------------------|--|--------------------------------------|
| Part # | 63001500 | 63001851 |
| Nominal Battery Voltage | 12V | 12V |
| Nominal Battery capacity C20* | 150 Ah | 200 Ah |
| Max charge current | 43 Ah | 53 Ah |
| CCA to DIN | 490A | 580A |
| CCA to SAE | 790A | 930A |
| Battery terminal | M6 | M6 |
| Max. outer Dimensions** LxWxH | 22" x 4.3" x 11" 560 x 110 x 280 mm | 22" x 5" x 11" 560 x 126 x 280 mm |
| Weight | 89 lb / 40.5 kg | 113 lb / 51.2 kg |

* C20 = battery capacity at a discharge time of 20 hours, till 10.5V per battery.

**Including terminals and grip handles

AGM 6 Volt Series

- Offers an alternative solution in placement and dimensioning
- Easy configuration of 12/24/48V battery banks, with high capacity
- Double pole for easy installation
- No gas formation with normal use
- Can be combined with every standard battery terminal





| | AGM 6/260 | AGM 6/400 |
|-------------------------------|--|--|
| Part # | 61002600 | 61004000 |
| Nominal Battery Voltage | 6V | 6V |
| Nominal battery capacity C20* | 260 Ah | 400 Ah |
| Max charge current | 72 Ah | 110 Ah |
| CCA to DIN | 590 Ah | 620 Ah |
| CCA to SAE | 1040 Ah | 1100 Ah |
| Battery terminal | A-type + stud M10 | A-type + stud M10 |
| Max. outer Dimensions** LxWxH | 11.6" x 7.1" x 11.7" 295 x 180 x 298 mm | 11.6" x 7.1" x 16.9" 295 x 180 x 428 mm |
| Weight | 78.3 lb / 35.5 kg | 116.8 lb / 53 kg |

* C20 = battery capacity at a discharge time of 20 hours, till 10.5V per battery.

**Including terminals and grip handles

Battery Terminals and Covers

| Terminal Part # | Description | | Cover Part # | Cover Color | Description |
|-----------------|----------------------|---|--------------|-------------|--|
| 68061100 | with M10 thread plus |  | 68457302 | red | 457N3V02, for Part #'s 68061100 & 68061300 |
| 68061300 | with M12 thread plus | | | | |
| 68061200 | with M10 thread min |  | 68457314 | black | 457N3V14, for Part #'s 68061200 & 68061400 |
| 68061400 | with M12 thread min | | | | |



Related Products



Battery Monitors
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DIGITAL CONTROL & MONITORING

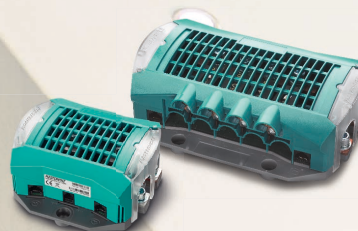
EasyView 5 MasterBus Display



82

The EasyView 5 features a sharp, waterproof display which is clearly readable in daylight. Thanks to the color touchscreen and multi-language menu, the display is a pleasure to operate. Easily customizable favorite pages show all relevant system information at a glance.

MasterBus Network Components



84

Basic components of a MasterBus network, used for all Mastervolt products. This system is perfectly suited for the integration of digital switching with the power electronics from Mastervolt.



DIGITAL CONTROL & MONITORING

MasterBus Interfaces



86

The wide range of interfaces increases the versatility of your MasterBus network. Allows connection of multiple components to efficiently distribute information to or from your MasterBus network.

MasterBus Accessories



90

Extra components for building and maintaining your MasterBus network.

Digital Control & Monitoring





76


See CZone® spread for more information.






Entertainment  ON

Batteries  92%

Anchor Light  ON

Saloon Lights  80%



Check out our
CZone video

CZone® Digital Control and Monitoring

CZone digital control and monitoring simplifies installation of electrical systems through the replacement of complicated, cumbersome traditional wiring. CZone is perfect for Marine and Mobile applications and replaces switch and fuse panels with networked digital interfaces providing ultimate control of onboard electrical systems.

With one touch, CZone's intelligent management simplifies operation by combining multiple circuits through Mode selection and offers effortless Monitoring oversight of key systems and components while retaining advanced Control of specific circuits and functions.

CZone can take care of all the little things, leaving more time for the user to focus on what they value. Whether you are preparing the boat for the evening's entertaining, hitting the open road away from stable power, or focusing on getting the job done, let CZone do the thinking.

Simplicity

CZone simplifies your boat or vehicle's onboard electrical system making it easier and more enjoyable.

Innovation

CZone offers system-wide functionality of your onboard systems onto a single screen or wireless device, while offering industry leading integration with suppliers from marine navigation displays, power storage and generation, and appliances like air-conditioning and more.

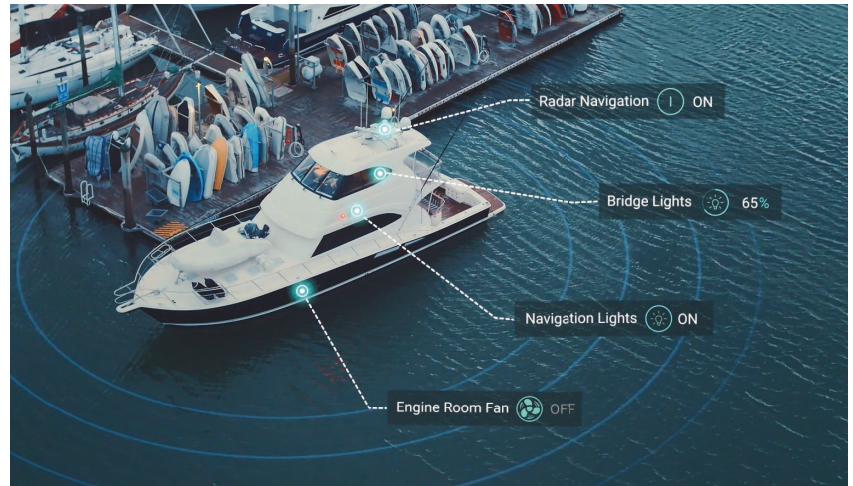
Reliability

CZone has proven durability, with over 10 years of installations in harsh marine environments through over 200 dedicated boat builders and technical installers.

Modes

Modes offer a predefined system state at a single touch. Modes will turn on or off specified circuits based on the user's preference and the mode of operation required.

Modes can introduce logic to handle functions based specifically for that mode of operation, whether it be integrated components like generator auto-start, or varied lighting configurations. If it needs power, Modes can take care of it in a single function.



Complete Control

CZone offers leading system control of onboard systems, from Modes selection that transforms the entire system at a single touch, wirelessly via iPad or Keyfob, or remotely via satellite or data networks. Full direct control is accessible using intuitive touch screen interfaces or through integrated marine Chartplotter & Fishfinder displays, or programmable digital switches for individual or group functions.



Monitoring & System Alarms

CZone digital control and monitoring offers peace of mind by consolidating system information and presenting alarms when things aren't right. Monitor tank level senders, gas or temperature sensors, low power source voltage or reversed polarity. CZone's advanced monitoring ability means no irregularity in the system goes by without you knowing about it. Keep alerted to major system events with onboard alarm notifications.

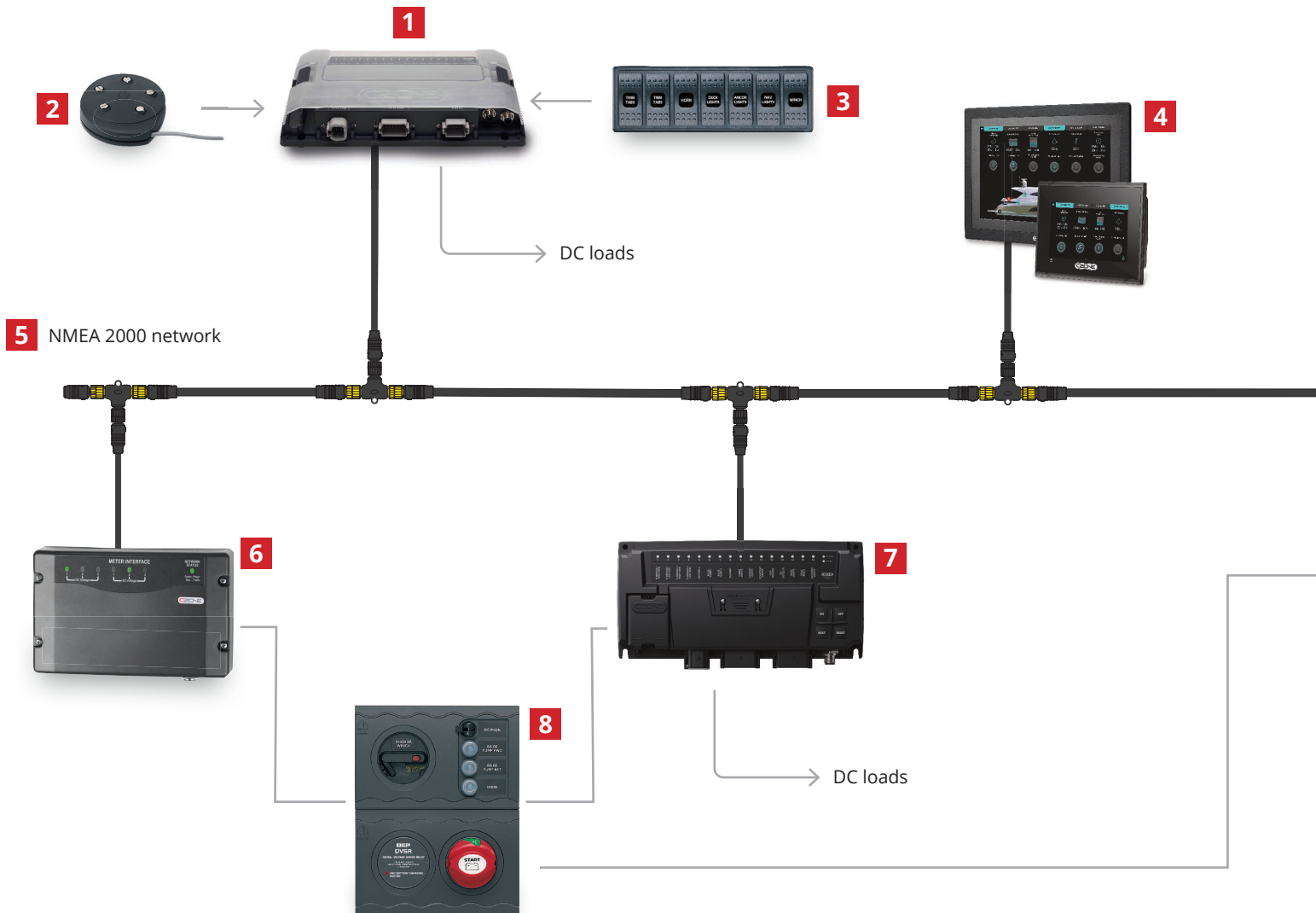
Check out the complete
CZone Digital Control &
Monitoring product line
in our new CZone catalog
or visit czone.net.



The Fully Integrated System

CZone and Mastervolt now work together on a common network to simplify the operation of your vessel

For years, CZone has operated on a dedicated network, and Mastervolt has operated on a separate network (MasterBus). The two networks could only be joined through a bridge interface that had to be purchased and installed separately. Now, the two technologies are coming together to operate on a single common network. This advanced integration allows for a single user interface and shared configuration files that simplify programming and installation. Now you can control and monitor all AC and DC loads, as well as the power conversion system from a single source.



- | | |
|---|-------------------------------------|
| 1 Combination Output Interface (COI) | 6 Meter Interface |
| 2 Ultrasonic tank sender | 7 Control X |
| 3 Switch cluster | 8 Battery distribution panel |
| 4 Displays | |
| 5 NMEA 2000 network | |



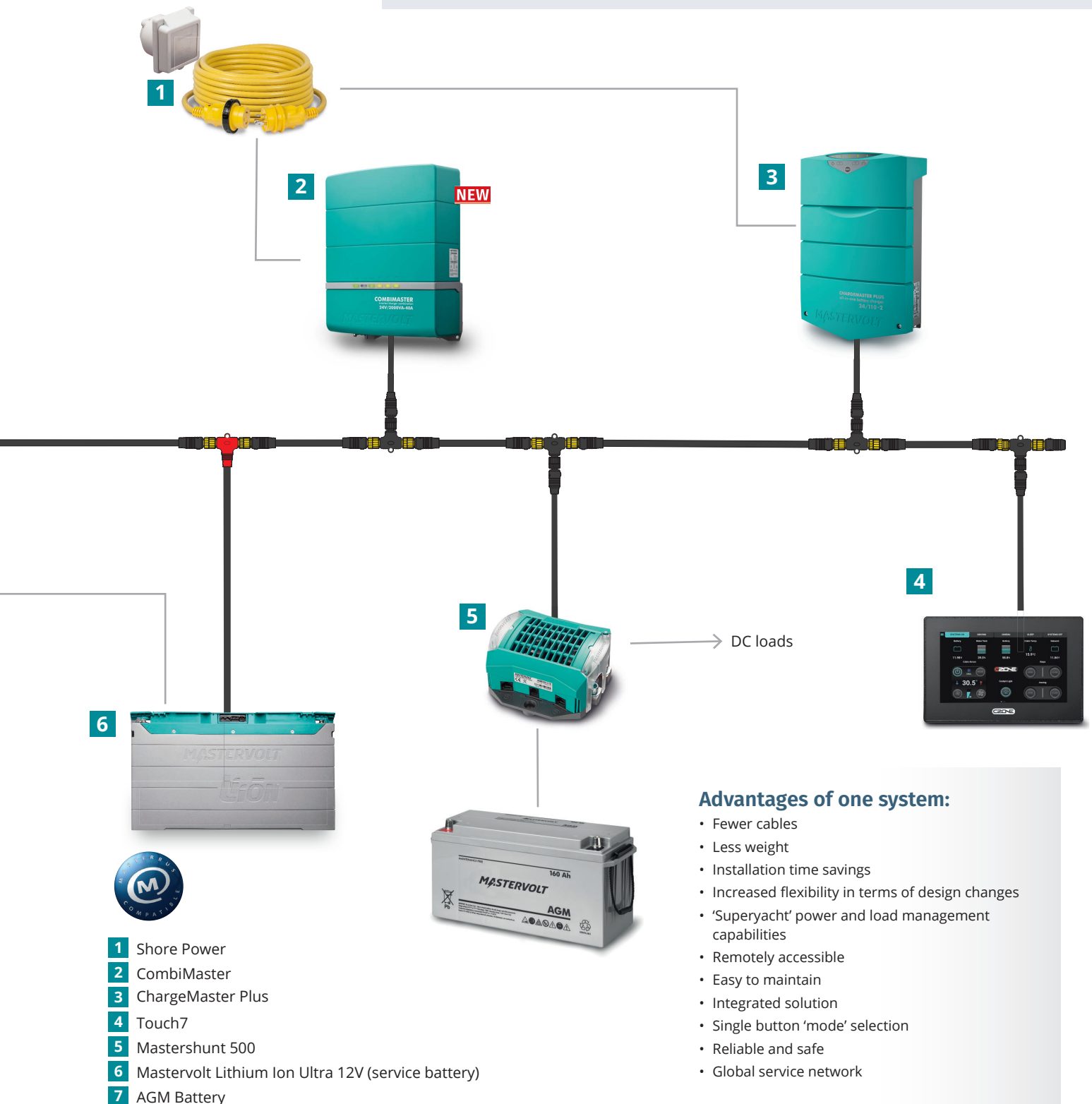
CZone Ready Products

The following products have been updated to be compatible with CZone, NMEA 2K and MasterBus.



CombiMaster Inverter/Charger
ChargeMaster Plus Battery Charger
MLI Ultra Batteries
MasterShunt 500 CZone

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p.84



The intelligent simplicity of MasterBus

The advanced functions of custom made systems are now within easy reach thanks to the MasterBus platform (single communication protocol with high-speed CANbus technology). The intelligent, one-cable MasterBus network greatly simplifies wiring, saving you valuable space and weight. Additionally, you can automate and customize your system to meet all your requirements.

As owners demand high levels of onboard luxury and comfort, professional and recreational applications need to carry more equipment which in turn takes up more space. This makes it all the more essential to intelligently install equipment in the available space - and that is where the MasterBus communication network of Mastervolt comes in.

The wide range of interfaces and modules allows you to connect any equipment you wish to your MasterBus system and manage, monitor or operate it locally, centrally or even from your home. The galvanic isolation of the MasterBus network ensures a safe and stable network.

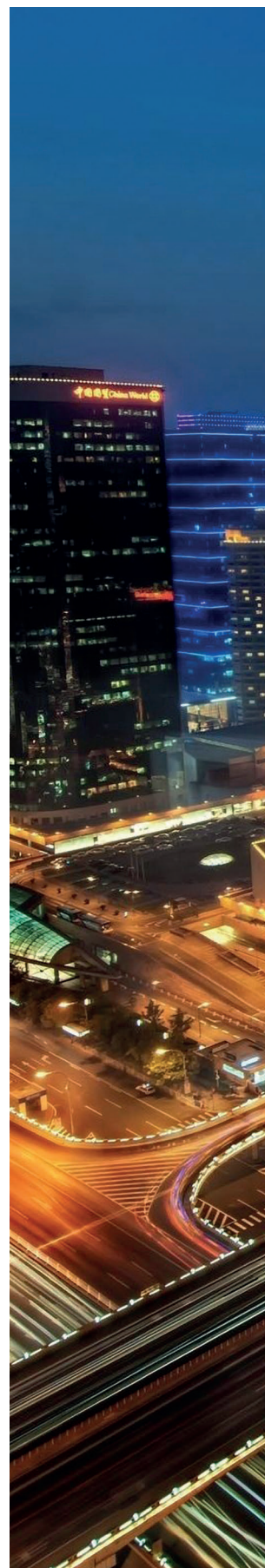


Professional Perspective

MasterBus also makes life easier for designers, builders and installers of power systems with less material, less work, less fuss and an easy testing method. Additionally, it is available in ten languages and offers the same user interface for all (Mastervolt) products, such as battery chargers, inverters, Combis, batteries or other devices. All control panels have an identical layout, with or without PC software.

Easy Maintenance

Replacing a component can often lead to complex configuration problems. Not with Mastervolt. The MasterBus network 'recognizes' any replacement directly and automatically asks whether you want to keep the same or change your configuration. You stay well informed and with everything under control.





MasterBus Displays:

Monitor & control your MasterBus network



Fast and clear information about your onboard electrical system is vital. Usually multiple panels are required to read the details of an expansive electrical system, and the interpretation of these panels and how they relate to one another is left to the user. Mastervolt puts an end to this undesirable situation by using a clear communication platform (MasterBus) and the smart EasyView 5 display.

EasyView 5

Waterproof System Monitor with intuitive touchscreen.

Controlling your Mastervolt system has never been easier!

The EasyView 5 features a sharp, waterproof display which is clearly readable in daylight. Thanks to the color touchscreen and multi-language menu, the display is a pleasure to operate. Easily customizable favorite pages show all relevant system information at a glance.

Applications

The EasyView 5 completes any MasterBus system. With its handy functionality and compact size, the EasyView is ideal for yachts, vehicles and stationary systems. Applicable in various markets such as marine, mobile (recreational and professional), infrastructure, offshore, off grid and industrial. The possibilities are endless!

Features

- Waterproof, 'daylight readable' color display
- Intuitive touch control
- Customizable favorite pages
- Log book for warnings and alarms
- Buzzer and Home button
- Easy mounting: front mount, wall mount or retrofit
- MasterBus powered, or 12V/24V input
- Easy updating through MasterBus and USB



Some examples of the many possibilities:



Customize Favorites

Customize favorite pages to meet your specific needs for information and control, to show information in the most convenient way.



Adjust Parameters

Use the EasyView 5 to adjust frequently used settings, like the shore fuse or to switch on your inverter.



Modify System Settings

In the system page you will find every possible system setting.



Alarms and Logs

No surprises! The EasyView 5 helps to keep your system in top condition by assisting you with alerts. Logging of the alarms provides valuable insight in the operation of your system.

| EasyView 5 | |
|---------------------------------|--|
| Part # | 77010310 |
| General specifications | |
| Power supply | MasterBus powered, or 12V/24V input |
| Resolution | 480 x 272 pixels |
| Colour depth | 16 bits |
| Display/read-out | 4.3 inch high contrast display with capacitive touch control |
| Languages on display | ENG, NL, DE, SP, IT, FRA, FIN, SWE, DEN, NOR |
| Mounting | front mount, wall mount and MasterView Easy retrofit |
| Alarms | buzzer integrated |
| Dimensions, h x w x d | 4.4" x 5.0" x 1.7" 113 x 127 x 43 mm |
| Weight | 0.7 lb / 0.315 kg |
| Delivered with | UV protection cover, wall mount casing, MasterBus cable |
| Technical specifications | |
| MasterBus connection | yes |
| Power consumption | < 160 mW (idle mode) |
| Connections | 2x MasterBus, USB, 12V/24V |
| Protection degree | IP67; waterproof front |

SmartRemote — MasterBus Compatible



Compact single device display

With the SmartRemote display, checking your Mastervolt or CZone product has never been easier.

Mastervolt offers an extensive range of touch displays for both CZone and MasterBus networks. These displays offer advanced monitoring and control of multiple devices within your energy system.

The new SmartRemote display is different, in many ways:

- Controls a single device
- Shows four important parameters of the connected device
- Allows simple settings such as enable/disable or adjusting a shore fuse setting;
- Fun to use.

Ease of Installation

The SmartRemote display can be panel mounted or may be integrated into a Blue Sea Systems Custom 360 bezel, and fixed using the included locking ring. Connection is as easy as 1-2-3: just connect the included network cable to a CZone or MasterBus device*. In case multiple devices are present on the bus, simply detect the device you wish to monitor.

Applications

The SmartRemote completes any MasterBus or CZone system. With its handy functionality and compact size, the SmartRemote is ideal as a remote panel in entry level power systems or as a dedicated device monitor / control in larger systems. Applications include yachts, vehicles and stationary systems.

* The SmartRemote currently supports the CombiMaster, MLI, ChargeMaster Plus and MasterShunt



Features

- Clear, back lit color display
- Shows essential information and basic settings for a single device
- Easy mounting, plug and play
- Blue Sea Systems Custom 360 panel compatibility
- Bus powered—no power supply needed

| SmartRemote | |
|-------------------|---|
| Part # | 77010600 |
| Power supply | bus powered, < 160 mW (idle mode) |
| Interfaces | MasterBus & CZone / NMEA 2000 |
| Resolution | 320 x 240 pixels - 16 bits color |
| Display | 2.8 inch |
| Mounting | panel mount (cutout: Ø 52 mm, 4 screws included) - Blue sea 360 panel mount |
| Dimensions, hwxwd | 2.8" x 2.8" x 1.16" - Ø 2" 72 x 72 x 29.4 mm - Ø 52 mm |
| Weight | 0.16 lb / 0.075 kg |
| Delivered with | MasterBus cable, CZone-MasterBus drop cable 1m, user's manual |
| Protection degree | IP20 |

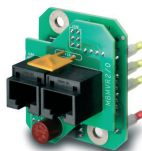
MasterView Read-out

Remote panel for reading the charge status of your battery charger, including error notifications.



| MasterView Read-out | |
|----------------------|--------------------------|
| Part # | 77010050 |
| Display | 7 LEDs |
| Dimensions, hwxw | 2.4" x 2.6" (60 x 65 mm) |
| Weight | 0.15 lb / 70 g |
| MasterBus connection | yes |
| Powered by | MasterBus |
| Power consumption | 144 mW |
| Protection degree | IP21 |

If your dashboard is full and does not offer space for the EasyView display, this module allows you to integrate the MasterView Read-out into your own control panel.



| MasterView Read-out OEM | |
|-------------------------|----------|
| Part # | 77010030 |

MasterBus Network Components



MasterShunt 500 CZone

MasterShunt is the heart of every battery powered energy system. This integrated battery monitor shares information about the battery bank with other MasterBus, CZone or NMEA 2000 enabled devices such as battery chargers, inverter/chargers, and displays. No surprises: allowing complete automation of your system, MasterShunt improves comfort, prolongs battery life and extends your runtime.



The MasterShunt 500 provides all information needed for monitoring your battery bank and control of your system, such as voltage, current, state of charge and time remaining. All information is made available to the system by a single MasterBus or CZone cable. Extremely accurate measurement of current flow over state of charge enables the MasterShunt to precisely determine the time remaining.

Programmable events and an integrated real time clock make it possible to fully automate your system. Examples are to start your generator automatically when the battery bank is low (or just delaying at night!), or to automatically generate a warning at a certain depth of discharge. The proven MasterShunt design has been upgraded to obtain an even higher level of accuracy and control. Taking into account battery specific parameters, MasterShunt takes reading accuracy to a whole new level.

The MasterShunt allows freedom of choice with regards to fuse type, rating and location. The battery monitor is supplied with an internal bus bar, to be used in situations where an external fuse holder is selected. In case the MasterShunt is installed close to the battery, the bus bar may be replaced by either an ANL type or Class T main fuse, saving both space and cost.

Features

- MasterBus, CZone and NMEA 2000 communication)
- Fits in a CZone system including setup tools and configuration file
- Digital shunt providing the energy system with extensive information and historical data
- Very accurate and reliable determination of State of Charge (SOC)
- Service mode prevents memory loss during system maintenance
- Realistic and precise indication of the time remaining
- Smart MasterBus powering mode reduces idle consumption to a bare minimum
- For higher current, multiple MasterShunt models may be installed in parallel
- MasterConnect system makes connecting to the DC Distribution product very easy
- Straight forward, easy to install
- Freedom of choice for fuse type, rating and location. Suitable for T-fuse and ANL-fuse (to be ordered separately)
- Robust housing with isolation of the DC connections

| MasterShunt 500 | |
|----------------------|---|
| Part # | 77020115 |
| Dimensions (HxWxD) | 5.9" x 5.9" x 2.5" (150 x 150 x 65 mm) |
| Weight | 1.54 lb / 0.7 kg |
| Battery types | Gel, AGM, flooded, Lithium Ion |
| Battery voltage | 12V, 24V or 48V DC |
| Current | 300A continuously, 400A for 10 minutes, 500A for 5 minutes, and 600A for 2 minutes |
| MasterBus powering | yes, includes Smart MasterBus Powering* |
| Idle consumption | 23 mA (normal operation), <1 mA (power saving, MasterBus off) |
| System functionality | alarm, timers, auto start/stop for the generator |
| System information | e.g. time remaining, voltage, current, state of charge |
| Programmable alarms | warning low voltage, warning low state of charge, high voltage |
| Protection degree | IP21 |
| Main fuse | Bus bar included in MasterShunt, Class T fuse or ANL fuse to be ordered separately |
| Delivered with | MasterShunt, temperature sensor, MasterBus terminator, isolation cover for DC connections, CZone-MasterBus drop cable |

* Switched off for CZone or NMEA 2000 communication



DC Distribution 500

The DC Distribution 500 is the smallest distribution model available. It connects up to four DC devices, such as a battery charger, inverter, alternator and solar panels. With the plug & play cable it can be easily connected to the MasterBus network. The MasterView panel gives all fuses logical names, to ensure you receive understandable error notifications (for example: battery charger fuse defect).

| DC Distribution 500 | |
|---------------------|---|
| Part # | 77020200 |
| Dimensions (HxWxD) | 5.9" x 7.9" x 2.5" (150 x 216 x 65 mm) |
| Weight | 2.6 lb / 1.2 kg |
| Battery voltage | 12V, 24V or 48V DC |
| Current | 300A continuous / 500A for 5 minutes |
| MasterBus powering | no |
| Standard fuses | 80 A (2x), 160 A and 125 A - ANL type (deviating values can be ordered separately) |
| Spare fuse | 125A ANL type |
| Alarm | fuse monitoring |
| Protection degree | IP21 |
| Delivered with | four standard fuses and one spare fuse, hex tool, MasterBus terminator, MasterBus cable, cable protections for DC connections |

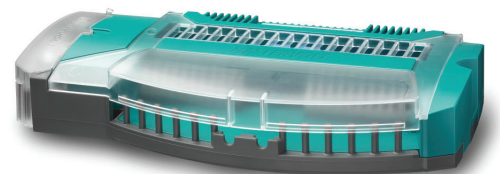


Digital DC 10x10A

As the pinnacle of system intelligence, the Mastervolt Digital DC 10x10A has ten 10A outputs for all functions including lighting, pumps, electronics, etc. It comes standard with intelligent alarm functions and luxury options include:

- Follow me home (light stays on for a specific time)
- Delayed dimming of lights (including ten built-in dimmers)
- Alarm signal for overload
- Every output has a hardware and software fuse
- Reset the fuses via the MasterBus network
- Possibility of higher currents (up to 100A) with parallel switching of multiple outputs
- Logical Blocks

| Digital DC 10x10A | |
|-------------------------------|--|
| Part # | 77020400 |
| Dimensions (HxWxD) | 1.6" x 9.0" x 4.3" (40 x 229 x 110 mm) |
| Weight | 1.7 lb / 750 g |
| MasterBus powering | yes |
| Power consumption | < 2 mA at 12/24V |
| Protection degree | IP21 |
| DC Output | |
| Connection | cable max. 4 mm ² |
| Maximum software fuse current | 10A per channel |
| Hardware fuse current | 15A per channel |
| DC Input | |
| Connections | max. 95 mm ² or directly connected to MasterShunt or DC Distribution |
| Maximum current | 100A |
| Supply voltage | 8-30V DC |



MasterBus Interfaces



Mastervolt offers a wide range of interfaces to increase the versatility of your MasterBus network. Connect multiple components to distribute information to your MasterBus products or connect products that require information from the MasterBus network, such as a NMEA 2000 or Modbus network, and vice versa.

All interfaces (and modules) can be installed in various ways, from DIN rails to surface mounting. Available in ten languages: English, Dutch, German, French, Spanish, Italian, Norwegian, Swedish, Finnish and Danish.



MasterBus CANopen Interface

The MasterBus CANopen Interface facilitates transparent, 2-way communication between MasterBus and the CANopen standard, which is adopted in many automotive and industrial automation applications.

Programmability: MasterAdjust conventional configuration or string-based mapping

Data communicated: all MasterBus information and control items

Part # 77032600



MasterBus Philippi Interface

The MasterBus Philippi Interface makes it possible to view and control Mastervolt products on a Philippi PSM2 display. Mastervolt products use the CAN-based MasterBus protocol to communicate between products. Similar, the company Philippi uses the PBUS protocol. The MasterBus Philippi Interface connects these worlds.

Programmability: automatic & manual configuration

Data communicated: selection of most popular values per product

Part # 77031850



MasterBus/Czone USB Interface

The MasterBus USB Interface enables you to read and configure the MasterBus/Czone network via your PC.

Part # 77030100



MasterBus Modbus Interface

The MasterBus Modbus Interface can provide all information from the 'closed' MasterBus network for other monitoring and operating systems by means of the Modbus protocol.

Part # 77030800



MasterBus AC Master Interface

By adding the AC Master Interface to your installation, you can now control your AC Master inverter via our MasterBus communication network. The AC Master Interface is suitable for all AC Master inverters with a RJ11 serial interface (all 700 W models and up). A communication cable is included in the delivery.

Part # 7032700



MasterBus Inverter Interface

The MasterBus Inverter Interface integrates the Mastervolt Mass Sine Inverter in a MasterBus network and allows it to be operated and monitored via EasyView 5 or PC.

Part # 77030700



MasterBus NMEA2000 Interface

The MasterBus NMEA2000 Interface provides the MasterBus network with NMEA2000 information and vice versa.

Part # 77031800



MasterBus FireCAN Interface

The MasterBus FireCAN Interface connects the vehicle's central communication system to the MasterBus network. FireCAN is a standardized CANbus protocol for electronic applications in fire fighting vehicles, that incorporates manufacturer-specific components.

Part # 77032400



GPRS Module

Communicate with your system via mobile phone, allowing you to monitor current information or operate the system by remote control via a text message or easy shortcuts. Alarm notifications per text message are optional.

Part # 77031000



MasterBus Serial Interface

The MasterBus Serial Interface connects conventional Mastervolt products to MasterBus. Data becomes permanently available to allow configuration, operation and monitoring via EasyView 5 or PC. Suitable for Masterlink BTM-III, Mac and Magic DC-DC converters.

Part # 77030450

NOTE: Please note that in some countries (or specific network operators) the G2/GPRS networks are being switched off. For the Asia Pacific area and the Americas, this is already in progress, and the GPRS module will no longer be available in these areas. For Europe, the GPRS module will remain available for the time being. It is expected that in Europe, end 2020, the G2/GPRS network will no longer be supported.



Switch Input 3 PCB

Switch Input 3 makes Carling switches compatible with MasterBus. Multiple functions can be easily linked with this module.

Part # 77031300



Switch Input 4 PCB

Provides LED indications for additional information. For example: The LED will blink when a connected lamp fails.

Part # 77031400

Specifications for MasterBus Interfaces on page 89.





Digital Input

Connect up to four switches to the MasterBus network. Delivery includes connection cables.

Part # 77030900



Digital AC 1x6A

Switches all AC loads, no matter where they are. Loads up to 6A can be directly switched, higher loads should be switched via an external relay.

Part # 77031500



Multipurpose Contact Output

This potential-free programmable contact can be customized and programmed to give your MasterBus network unprecedented possibilities. Use it, for example, to control a ventilator, or to operate a generator. Potential free contact: NO-C-NC – 1 A/ 30 V DC

Part # 77030500



MasterBus Tank Level Interface

This interface converts analog sensor input signals to MasterBus data. Selectable input signals: 4-20 mA, 0-300 Ω , 8-70V DC.

Part # 77030300



MasterBus Power Interrupter

The MasterBus Power Interrupter switches off parts of the MasterBus network. This reduces the no-load consumption and is useful if a large system will not be used for an extended period.

Part # 77031550



MasterBus Repeater

The MasterBus Repeater doubles the maximum length of your MasterBus network.

Part # 77031100



AC Power Analyser

The AC Power Analyser is a multi-functional measuring device which can visualize the AC current and AC voltage, frequency, Cos Phi and power inside the system. Can also be used as MasterBus interface for the Mass Sine Inverter series, and offers a free programmable potential-free contact. Use it to connect AC power devices such as generators or isolation transformers to the MasterBus network.

Part # 77031200



CZone® MasterBus Bridge Interface

The CZone MasterBus Bridge Interface physically connects the MasterBus and CZone networks together, enabling the two networks to communicate and act as one. This provides seamless control and monitoring of Mastervolt power electronics from CZone displays or partner products.

Part # 80-911-0072-00

Wireless Interface

Allows your iPad® to interface with an onboard digital switching system for full monitoring and control of the electrical equipment via a clear and intuitive display. The interface acts as a hub for the seamless connection between the two popular digital switching protocols of MasterBus and CZone.

Part # 80-911-0090-00 Wireless Interface
 Part # 80-911-0095-00 WI MasterBus Connector
 (required for MasterBus connection)



MasterBus Interface Specifications

| Part # | MasterBus powering | Dimensions HxWxD | Weight | Protection Degree | Delivered with |
|----------------|--------------------|--|--|-------------------|--|
| 77032600 | no | 2.6" x 3.1" x 1.3" 66 x 78 x 32 mm | 0.15 lb / ± 70 g | IP21 | CANopen adapter cable (100 mm, M12 5-pin connector) and MasterBus terminator |
| 77031850 | no | 2.6" x 3.1" x 1.3" 66 x 78 x 32 mm | 0.15 lb / ± 70 g | IP21 | Connection cable (100 mm), MasterBus cable, MasterBus terminator |
| 77030100 | yes* | 2.6" x 3.1" x 1.3" 66 x 78 x 32 mm | 0.18 lb / ± 80 g | IP21 | USB connection cable, MasterBus cable, MasterBus Terminator, user's manual |
| 77030800 | no | 2.6" x 3.1" x 1.3" 66 x 78 x 32 mm | 0.18 lb / ± 80 g | IP21 | MasterBus cable, MasterBus Terminator, user's manual |
| 77030700 | no | 2.6" x 3.1" x 1.3" 66 x 78 x 32 mm | 0.18 lb / ± 80 g | IP21 | Interface connection cable, MasterBus cable, MasterBus Terminator, user's manual |
| 77030450 | no | 2.6" x 3.1" x 1.3" 66 x 78 x 32 mm | 0.18 lb / ± 80 g | IP21 | Interface connection cable, MasterBus cable, MasterBus Terminator, user's manual |
| 77031800 | no | 2.6" x 3.1" x 1.3" 66 x 78 x 32 mm | 0.2 lb / ± 70 g | IP21 | NMEA connection cable, MasterBus cable, MasterBus Terminator, user's manual |
| 77031300 | no | 2" x 3.4" x 2.3" 54 x 86 x 58 mm (incl. mounting frame) | 0.08 lb / 35 g (incl. MasterBus Terminator) | IP21 | MasterBus Terminator, user's manual; switches and mounting frame not included |
| 77031400 | no | 2.2" x 4.7" x 2.6" 56 x 120 x 65 mm (incl. mounting frame) | 0.1 lb / 45 g (incl. MasterBus Terminator) | IP21 | MasterBus Terminator, user's manual; switches and mounting frame not included |
| 77030900 | no | 2.6" x 3.1" x 1.3" 66 x 78 x 32 mm | 0.18 lb / ± 80 g | IP21 | Cable with plug, MasterBus cable, MasterBus Terminator, user's manual |
| 77031500 | no | 2.6" x 3.1" x 1.3" 66 x 78 x 32 mm | 0.18 lb / ± 80 g | IP21 | MasterBus cable, MasterBus Terminator, user's manual |
| 77030500 | no | 2.6" x 3.1" x 1.3" 66 x 78 x 32 mm | 0.18 lb / ± 80 g | IP21 | MasterBus cable, MasterBus Terminator, user's manual |
| 77030300 | no | 2.6" x 3.1" x 1.3" 66 x 78 x 32 mm | 0.18 lb / ± 80 g | IP21 | MasterBus cable, MasterBus Terminator, user's manual |
| 77031550 | no | 2.6" x 3.1" x 1.3" 66 x 78 x 32 mm | 0.18 lb / ± 80 g | IP21 | User's manual |
| 77031100 | yes | 2.6" x 3.1" x 1.3" 66 x 78 x 32 mm | 0.20 lb / ± 90 g | IP21 | MasterBus cable, MasterBus Terminator, user's manual |
| 77032400 | no | 2.6" x 3.1" x 1.3" 66 x 78 x 32 mm | 0.18 lb / ± 80 g | IP21 | Firecan connection cable, MasterBus terminator, user's manual |
| 77031200 | yes | 3.1" x 7.1" x 1.1" 80 x 181 x 28 mm | 1.17 lb / ± 530 g | IP65 | MasterBus cable, MasterBus Terminator, current transformer 100:5, user's manual |
| 80-911-0090-00 | no | 4.1" x 7.5" x 2.4" 105 x 190 x 60 mm | 1.5 lb / ± 680 g | IP54 | Power cable, WiFi antenna, USB extension cable, user's manual |
| 80-911-0072-00 | no | 2.7" x 2.7" x 2" 69 x 69 x 50 mm | 0.32 lb / ± 145 g | IP65 | MasterBus cable adapter, MasterBus Terminator, user's manual |

*When the PC is switched on.

MasterBus Accessories



MasterBus Communication Cable

Suitable for data traffic and powering peripheral equipment, this is the only cable you need for your MasterBus network. MasterBus compatible products come standard with two ports, while other equipment requires an interface. A DIY kit is optional.

| Length | Part # | Length | Part # |
|--------------|----------|--------------|----------|
| 8 in (0.2 m) | 77040020 | 20' (6 m) | 77040600 |
| 1.5' (0.5 m) | 77040050 | 33' (10 m) | 77041000 |
| 3' (1 m) | 77040100 | 49' (15 m) | 77041500 |
| 10' (3 m) | 77040300 | 82' (25 m) | 77042500 |
| | | 328' (100 m) | 77045000 |



MasterBus Terminator

Terminators ensure interference-free operation, prevent reflection of data signals and ensure high communication speeds.

Part # 77040000

MasterBus DIY Kit

Cut your own cables to length and finish, comprising:

- Professional RJ45 crimping tool
- 50 MasterBus RJ45 connectors
- 50 green MasterBus RJ45 protection boots
- 100 m green MasterBus CAT5E UTP cable

Part # 77050000

Separately available:

MasterBus RJ45 Connectors

- 8-pole
- 25 pcs

Part # 77040010

Green Isolation Caps for RJ45 Connector

- 25 pcs

Part # 77040015



Mastervolt-CZone Drop Cable

Adapter cable for connecting Mastervolt devices with CZone support to the CZone or NMEA 2000 network.

| Length | Part # | Length | Part # |
|--------------|----------|-------------|----------|
| 1.6' (0.5 m) | 77060050 | 3.3' (1 m) | 77060100 |
| | | 6.6' (2 m) | 77060200 |
| | | 16.4' (5 m) | 77060500 |



Mastervolt-CZone Waterproof Drop Cable

Adapter cable with integrated waterproof boot for connecting MLI Ultra batteries with CZONE support to the CZONE or NMEA 2000 network.

| Length | Part # |
|--------------|----------|
| 1.6' (0.5 m) | 77061050 |
| 3.3' (1 m) | 77061100 |
| 6.6' (2 m) | 77061200 |

Li-ion Waterproof Field Installable Plug

Included with waterproof cables. For use with standard Mastervolt-Czone drop cables.

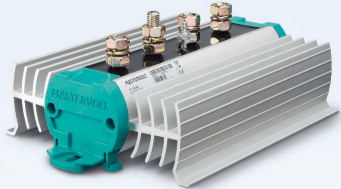
Part # 6369230060





BATTERY MANAGEMENT

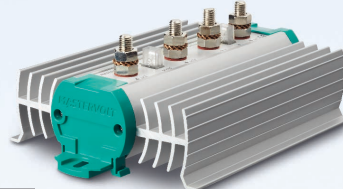
BI Battery Isolators



94

Mastervolt's BI battery isolators are based on conventional diode technology. The diode voltage drop (ca. 0.6V) can be compensated for by adapting the output voltage of the connected charger or alternator. Mastervolt battery chargers and Alpha Pro MB charge regulators come as standard with automatic compensation for voltage drops.

Battery Mate



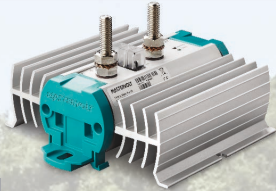
94

While battery isolators are conventional diode splitters, the Battery Mate's technology is electronic and includes mosfets (transistors). Its components compensate for the voltage drop and ensure that charging continues at the right voltage level, even with several battery banks. The Battery Mate is compatible with any type of alternator/battery charger, in both existing and new systems.



BATTERY MANAGEMENT

Charge Mate



95

The Charge Mate series connects both batteries during charging and keeps them isolated when discharging. The Charge Mate 1202 and 2502 are especially practical for small systems, the Charge Mate Pro provides additional functionality by limiting the charge current to the second battery to 40A or 90A.

Battery Watch



95

The Battery Watch is an essential element of any well-equipped battery system, offering you an electronic watchdog that ensures a much longer lifespan for your batteries. The unit monitors the optimum condition of your batteries and can also be used as a main battery isolation switch.

Battery Monitoring



96

Our complete line of battery monitoring systems display performance, consumption and available capacity.



BI Battery Isolators

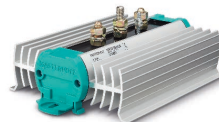
Mastervolt's BI battery isolators are based on conventional diode technology. The diode voltage drop (ca. 0.6V) can be compensated for by adapting the output voltage of the connected charger or alternator. Mastervolt Mass battery chargers and Alpha Pro charge regulators are standardly equipped with automatic voltage drop compensation.



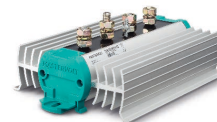
BI 702-S



BI 703



BI 1202-S



BI 1203-S

| Part # | 83007021 | 83007030 | 83012021 | 83012031 |
|------------------------|---|---|---|---|
| Max. output charger | 50A | 50A | 80A | 80A |
| Max. output alternator | 70A | 70A | 120A | 120A |
| Compensation diode | yes | no | yes | yes |
| Dimensions, HxWxD | 6.2" x 5.5" x 3.2" 157 x 140 x 80 mm | 8.2" x 5.5" x 3.2" 207 x 140 x 80 mm | 8.2" x 5.5" x 3.2" 207 x 140 x 80 mm | 8.2" x 5.5" x 3.2" 207 x 140 x 80 mm |
| Weight | 1.3 lb / 0.58 kg | 2.4 lb / 1.1 kg | 2.65 lb / 1.2 kg | 2.9 lb / 1.3 kg |
| # of battery banks | 2 | 3 | 2 | 3 |

Battery Mate

While BI battery isolators are conventional diode splitters, the Battery Mate's technology is electronic and includes mosfets (transistors). Its components compensate for the voltage drop and ensure that charging continues at the right voltage level, even with several battery banks. The Battery Mate is compatible with any type of alternator/ battery charger, in both existing and new systems. As the voltage loss between the alternator and battery is negligible, the Battery Mate performs far better than conventional battery isolators. This ensures fast and complete charging of your batteries without having to make additional adjustments to the alternator.

Battery Mate
1602 IGBattery Mate
1603 IGBattery Mate
2503 IG

| Part # | 83116025 | 83116035 | 83125035 |
|------------------------|---|---|---|
| Max. output charger | 120A | 120A | 200A |
| Max. output alternator | 160A | 160A | 250A |
| Dimensions, HxWxD | 8.1" x 5.5" x 3.1" 206 x 140 x 79 mm | 8.1" x 5.5" x 3.1" 206 x 140 x 79 mm | 8.1" x 5.5" x 3.1" 206 x 140 x 79 mm |
| Weight | 2.2 lb / 1 kg | 2.2 lb / 1 kg | 2.2 lb / 1 kg |
| # of battery banks | 2 | 3 | 3 |

Charge Mate

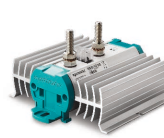
A secondary battery is becoming increasingly common. As a second battery can prevent the main battery from depleting and being unable to start, this seems like a safe and reliable solution. The second battery, however, also has to be charged regularly. The Charge Mate series connects both batteries during charging and keeps them isolated when discharging. The Charge Mate 1202 and 2502 are especially practical for small systems, the Charge Mate Pro provides additional functionality by limiting the charge current to the second battery to 40A or 90A. The main battery is therefore charged with priority. The return current is automatically blocked and power dips of the onboard network are reduced. An emergency start function is possible by connecting an optional bypass switch.



Charge Mate 1202



Charge Mate 2502



Charge Mate Pro 40



Charge Mate Pro 90

| Part # | 83301202 | 83302502 | 83304002 | 83309002 |
|---------------------------------|-------------------------------------|---|---|---|
| General Specifications | | | | |
| Battery voltage | 12/24V | 12/24V | automatic 12/24V detection | automatic 12/24V detection |
| Max. current | Bi-directional, 120A | Bi-directional, 500A | Directional, Current limiting to 40A | Directional, Current limiting to 90A; > 77°F derating power |
| Number of modes | n.a. | on, off, auto, start assist | on, off, auto, 150A start assist | on, off, auto, 150A start assist |
| Dimensions, h x w x d | 3" x 1.8" x 1.8" 76 x 46 x 46 mm | 3.5" x 3.1" x 3.3" 90 x 80 x 85 mm | 6.2" x 5.5" x 3.2" 157 x 140 x 80 mm | 6.2" x 5.5" x 3.2" 157 x 140 x 80 mm |
| Weight | 0.3 lb / 0.125 kg | 1.4 lb / 0.65 kg | 1.94 lb / 0.88 kg | 1.94 lb / 0.88 kg |
| Technical Specifications | | | | |
| No-load power consumption | switch open: < 1 mA at 12/24V DC | switch open: < 1 mA at 12/24V DC | switch open: < 1 mA at 12/24V DC | switch open: < 1 mA at 12/24V DC |
| Inrush current (250ms) | 2000A | 2000A | n.a. | n.a. |
| Switch on voltage | 13-15V (12V) 26-30V (24V) | 13-15V (12V) 26-30V (24V) | 13.5V (12V) 27V (24V) | 13.5V (12V) 27V (24V) |
| Switch on delay | 5 sec. | 30 sec. | 5 sec. | 5 sec. |
| Switch off voltage | < 12.75V (12V) < 25.5V (24V) | < 12.25... > 15V (12V) < 25.5... > 30V (24V) | 12.75V (12V) 24.5V (24V) | 12.75V (12V) 24.5V (24V) |
| Switch off delay | no | 3 minutes | 2.5 sec. | 2.5 sec. |
| Relay | electro-mechanical | electro-mechanical | electronically (MOSFETs) | electronically (MOSFETs) |
| Ambient temperature | -40°F to 149°F (-40°C to 65°C) | -40°F to 140°F (-40°C to 60°C) | -40°F to 140°F (-40°C to 60°C) | -40°F to 140°F (-40°C to 60°C) |
| Protection degree | IP21 | IP21 | IP65 | IP65 |

Battery Watch

The Battery Watch is an essential element of any well-equipped battery system, offering you an electronic watchdog that ensures a much longer lifespan for your batteries. The unit monitors the optimum condition of your batteries and can also be used as a main battery isolation switch. LED lights provide a clear read out and the undervoltage can be set using DIP switches.



| | |
|------------------------------|---|
| Part # | 83200150 |
| Max. load | 150A |
| Input voltage | 8-32V DC |
| Switch off under voltage 12V | 9-12V DC |
| Switch off under voltage 24V | 18-24V DC |
| Dimensions (LxWxH) | 6.2" x 5.5" x 3.2" 157 x 140 x 80 mm |
| Weight | 1.3 lb / 0.6 kg |

Mastervolt monitoring: A window into the life of your batteries

Unexpected flat batteries put a dampener on your pleasure. A Mastervolt battery monitoring system brings an end to nasty surprises. A clear display shows performance, consumption and available battery capacity. Management of larger, complex systems is also available. This includes monitoring and operation of multiple functions such as AC and DC power provision via the generator, mains or main engine. The choice is yours.



A choice of instruments for different needs

Measuring the actual amount of energy remaining in a battery is a complicated feat, different to simply checking the level in a water or fuel tank. Many factors influence how much energy the battery can still supply, including its age, the surrounding temperature and the intensity of the loads connected to the battery. Although a voltmeter can give a rough indication of the battery's condition, there is a more accurate and reliable way to obtain information—via one of Mastervolt's battery monitors. Available in four different models:

- **BattMan Lite:** An affordable battery monitor that does exactly that: providing critical information about the status of your battery bank under all circumstances. Moreover it will warn you when your battery bank is empty.
- **BattMan Pro:** Also displays the remaining time until your battery needs to be charged and stores special battery status events.

- **Masterlink BTM-III:** Provides an accurate indication of the voltage, current, amp-hours, remaining time and remaining capacity of battery bank 1, and the actual and estimated capacity of battery banks 2 and 3. The built-in microprocessor calculates the remaining capacity and stores historic data.
- **MasterShunt + EasyView 5:** MasterBus integrated battery monitor collecting detailed information on the status of your batteries. The MasterBus remote panel with touchscreen controls provides information on the charge process as well as other system information.

TECH TIP

Warning System

A Mastervolt battery monitor can also function as an active warning system. A potential-free contact can give a signal to an acoustic alarm or even an automatic start/stop system for the generator.

Battery Monitoring Specifications



BattMan Lite



BattMan Pro

Masterlink
BTM-IIIMasterShunt +
EasyView 5

| Part # | 70405060 | 70405070 | 70403163 | 77020115 + 77010310 |
|-------------------------------------|--|--|---|--|
| Application | Battery monitor, 12/24V DC with large, splash proof display (IP65) and power bar | Battery monitor, 12/24V DC with large, splash proof display (IP65) and power bar. Displays remaining time and stores special battery status events | Battery monitor, 12/24V DC with LCD display and LED bar | The MasterShunt in combination with an EasyView 5 panel is the most advanced battery monitor you can find Touchscreen control of all functions |
| General Specifications | | | | |
| Number of battery outlets | 2; service (fully), starter (voltage) | 2; service (fully), starter (voltage) | 3; service, starter & bowthruster | one battery set per MasterShunt |
| Display/read-out | voltage, current, amp-hours, battery capacity in % | voltage, current, amp-hours, time remaining, battery capacity in %, special battery status events | voltage, current, amp-hours, time remaining, battery capacity in %, special battery status events | voltage, current, amp-hours, time remaining, battery capacity in %, inverter & charger operation, Power Sharing, special battery status events |
| Dimensions, hxxwx | Ø 2.5" / 3.1" Ø 64 mm, depth 79 mm | Ø 2.5" / 3.1" Ø 64 mm, depth 79 mm | 2.6" x 4.7" x 1.6" 65 x 120 x 40 mm | 4.5" x 4.5" x 1.5" 113 x 127 x 43 mm |
| Dimensions shunt, hxxwx | 3.3" x 1.7" x 1.4" - M8 87 x 45 x 35 mm - M8 | 3.3" x 1.7" x 1.4" - M8 87 x 45 x 35 mm - M8 | 3.3" x 1.7" x 1.7" - M8 84 x 44 x 44 mm - M8 | 5.9" x 5.9" x 2.5" 150 x 150 x 65 mm |
| Built-in depth | 2.8" (72.5 mm) | 2.8" (72.5 mm) | 2.2" / 1.6" (55 / 40 mm) (incl./excl. cover and cable) | surface mount |
| Weight | 0.22 lb / 0.10 kg (excl. shunt) | 0.29 lb / 0.13 kg (excl. shunt) | 0.6 lb / 0.25 kg | 2.2 lb / 1 kg |
| Technical Specifications | | | | |
| Max. Ah capacity | 999 Ah | 9999 Ah | 9999 Ah | 9999 Ah |
| Supply voltage | 9-35V | 9-35V | 8-50V | 8-60V |
| Voltage range | 0-35V | 0-35V | 7-35V | 0-60V |
| Current consumption (backlight off) | 8 mA / 12V 6 mA / 24V | 8 mA / 12V 6 mA / 24V | 28 mA / 12V 16 mA / 24V | 32 mA / 12V 17 mA / 24V |
| Current consumption (backlight on) | 30 mA / 12V 18 mA / 24V | 30 mA / 12V 18 mA / 24V | 100 mA / 12V 50 mA / 24V | 100 mA / 12V 50 mA / 24V |
| Voltage resolution | 0.1V | 0.01V | 0.01V | 0.1V |
| Voltage accuracy | ± 0.3% | ± 0.3% | ± 0.6% | ± 0.6% |
| Shunt specification | 500A / 50 mV (service set) | 500A / 50 mV (service set) | 500A / 50 mV (service set) | digital shunt |
| Current measurement range | 0-500A | 0-500A | 0-500A (option incl. 1000A) | 0-500A |
| Current accuracy | ± 0.4% | ± 0.4% | ± 0.8% | ± 0.8% |
| Battery alarm contact | yes, potential free | yes, potential free | yes, open collector | yes, via MasterBus alarm interface |
| Remaining time indication | no | yes | yes | yes |
| Historical data | no | yes | yes | yes |
| MasterBus compatible | no | no | no | yes |
| Connection cable (6-wire) necessary | yes | yes | no | no |
| Modular cable necessary | no | no | no | MasterBus cable included |
| Languages on display | universal | universal | English, Dutch, French, Spanish, German, Danish, Finnish, Norwegian, Italian, Swedish | English, Dutch, French, Spanish, German, Danish, Finnish, Norwegian, Italian, Swedish |



RELIABLE



COST SAVING



EASY INSTALL



WATERPROOF

TRANSFORMERS



TRANSFORMERS

Soft Start for IVET Transformer Series



102

Ideal for peak loads when connecting to shore power.

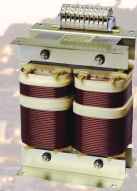
Mass GI Transformers



102

Mastervolt's Mass GI offers the latest high-frequency switching technology as well as Soft Start for peak loads when connecting to the shore.

IVET Transformers



102

High output isolation transformers without the housing for self-installation. Multi-tap design for 120V/230V/240V input and output.

Mastervolt Transformers:

A safe connection between grid power and your onboard network

A safe connection between vessel and shore installation is an essential part of your electrical system. A galvanic electrical isolation between shore power and the on board power prevents any electrical corrosion of metal parts while keeping you earthed.

Both the unique HF technology-based Mass GI and the reliable 50 Hz transformer-based IVET series offer you complete protection against galvanic corrosion.

Select the right transformer for your system:

Lightweight Mass GI Transformer

- Ultra modern high-frequency electronic switch technology
- Lightweight and compact
- Integrated Soft Start function
- Connect to voltages from 90V to 255V and from 45 Hz to 65 Hz
- Units can be parallel coupled for higher capacity
- Higher efficiency, limited heat development

IVET Heavy-duty Series

- High-quality isolation transformers without casing for self installation
- Optional Soft Start, in synthetic casing
- Capacities of 2.5 kW to 22 kW





Soft Start for the IVET heavy-duty series

The Soft Start automatic switch suppresses the inrush current from the transformer and prevents the fuse from blowing.

Automatically adjust the grid power



Mastervolt supplies three automatic switching systems for capacities of 6, 9 and 13 kW that - combined with an IVET transformer - adjust grid power to the onboard system. As a result, a 230V/50 Hz system can easily function with an American or Caribbean AC connection. Do ensure that the frequency on board (50 or 60 Hz) is the same as the frequency of the incoming current.

Modern transformer technology: Light, silent, reliable and easy

The Mass GI is supplied with the latest high-frequency switching technology as well as Soft Start for peak loads when connecting to the grid. LED lights on the casing indicate load and overload. The transformer can be remotely controlled via a MasterBus compatible display. The Mass GI is 75% lighter and 60% smaller compared to low frequency transformers.

Higher capacity via parallel switching

Parallel switching of the Mass GI units increases the AC power capacity. Two 16A/3.5 kW units ensures 32A/7 kW, four units give 64A/14 kW.

Install anywhere

With its robust aluminium casing, this isolation transformer can be fitted in any position on wall or floor. No rubber mountings are necessary because the unit does not vibrate or hum. The Mass GI also features professional connections with strain relief cable glands.

TECH TIP

- Determine AC power and onboard current: 230V, 120V or both?
- Determine the capacity: maximum load with onboard power usage = amount of amps and kW.

Isolation Transformers

Specifications



Mass GI 3.5






Mass GI 7



IVET 3.5



IVET 4.5

| Part # | 88000355 | 88000705 | 85000350 | 85000450 |
|---|--|--|---|---|
| Input | | | | |
| Input voltage | 90–255V | 90–255V | 110/220/240V (adjustable) | 110/220/240V (adjustable) |
| Input frequency | 45–65Hz | 45–65Hz | 45–65Hz | 45–65Hz |
| Nominal input current at 230V | 16A | 32A | 16A | 20A |
| No load consumption | 22 W | 44 W | <10 W | <10 W |
| Earth leakage protection | no | no | no | no |
| Output | | | | |
| Output voltage (equal to input) | 90–255V, ± 5% | 90–255V, ± 5% | 110/220/240V, ± 5% | 110/220/240V, ± 5% |
| Output frequency | equal to input | equal to input | equal to input | equal to input |
| Soft Start | yes | yes | option | option |
| Switch off behaviour breaker | B-characteristic | B-characteristic | n.a. | n.a. |
| Efficiency | >93% | >93% | >93% | >93% |
| General Specifications | | | | |
| Power | 3500 W (up to 4 units parallel = 14 kW) | 7000 W | 3500 W | 4500 W |
| Technology | high frequency | high frequency | E-core | E-core |
| Dimensions, HxWxD | 13.4" x 10.3" x 5.7" 340 x 261 x 144 mm | 13.4" x 10.3" x 9.8" 340 x 261 x 250 mm | 13" x 7.9" x 7.3" 330 x 200 x 185 mm | 13" x 9.4" x 7.3" 330 x 240 x 185 mm |
| Weight | 13.2 lb / 6 kg | 22 lb / 10 kg | 66.1 lb / 30 kg | 77.2 lb / 53 kg |
| Ambient temperature | 32°F to 104°F, derating power > 104°F (0°C to 40°C, derating power > 40°C) | | | |
| Switch off at | 176°F / 80°C | 176°F / 80°C | n.a. | n.a. |
| Cooling | variofan | variofan | natural cooling | natural cooling |
| Operating humidity | max. 95% | max. 95% | max. 95% | max. 95% |
| Protection degree | IP23 | IP23 | IP00 | IP00 |
| MasterBus compatible | yes | yes | no | no |
| Options | | | | |
| EasyView 5 77010310 |  option | option | n.a. | n.a. |
| Waterproof system monitor with 'daylight readable' color display and intuitive multi-language touchscreen to show the key system information at a glance. There is also a logbook feature for warnings and alarms, along with a buzzer and alarm notifications. The home button gives access to favorite pages. | | | | |
| Soft Start 13 kW 55003300 |  included | included | option | option |
| Automatic switch that suppresses the inrush current from the isolation transformer to prevent the shore power fuse from blowing. | | | | |
| Soft Start 22 kW 55003400 |  included | included | n.a. | n.a. |
| Automatic switch that suppresses the inrush current from the isolation transformer to prevent the shore power fuse from blowing. | | | | |

Transfer systems with Soft Start and automatic detection of the input voltage



6 kVA



9 kVA



13 kVA



Soft Start 13 kVA



Soft Start 22 kVA

| Part # | 55010600 | 55010900 | 55011300 | 55003300 | 55003400 |
|--------------------|--|--|--|--|--|
| Voltage | 120/230V | 120/230V | 120/230V | 230V | 230V |
| Power | 6 kW | 9 kW | 13 kW | 2.5–13 kW | 13–22 kW |
| Max. input current | 60A at 120V 30A at 230V | 80A at 120V 40A at 230V | 130A at 120V 70A at 230V | n.a. | n.a. |
| Dimensions, HxWxD | 15.7" x 11.8" x 8.3" 400 x 300 x 210 mm | 15.7" x 11.8" x 8.3" 400 x 300 x 210 mm | 15.7" x 11.8" x 8.3" 400 x 300 x 210 mm | 7.9" x 7.1" x 4.5" 200 x 180 x 115 mm | 7.9" x 7.1" x 4.5" 200 x 180 x 115 mm |
| Weight | 26.5 lb / 12 kg | 27.6 lb / 12.5 kg | 28.7 lb / 13 kg | 2.6 lb / 1.2 kg | 3.3 lb / 1.5 kg |

For detailed specifications, scale drawings, 3D files, certificates and manuals see mastervolt.us.



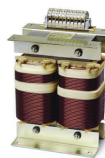
IVET 6
85000600



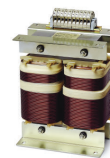
IVET 8
85000800



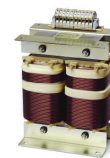
IVET 10
85001000



IVET 13
85001300



IVET 18
85001800



IVET 22
85002200

110/220/240V
(adjustable)

45-65Hz

26A

<10 W

no

110/220/240V
(adjustable)

45-65Hz

35A

<10 W

no

110/220/240V
(adjustable)

45-65Hz

44A

<10 W

no

110/220/240V
(adjustable)

45-65Hz

57A

<10 W

no

110/220/240V
(adjustable)

45-65Hz

78A

<10 W

no

110/220/240V
(adjustable)

45-65Hz

96A

<10 W

no

120/220/240V, $\pm 5\%$

equal to input

option

n.a.

>93%

120/220/240V, $\pm 5\%$

equal to input

option

n.a.

>93%

120/220/240V, $\pm 5\%$

equal to input

option

n.a.

>93%

120/220/240V, $\pm 5\%$

equal to input

option

n.a.

>93%

120/220/240V, $\pm 5\%$

equal to input

option

n.a.

>93%

120/220/240V, $\pm 5\%$

equal to input

option

n.a.

>93%

6000 W

8000 W

10 kW

13 kW

18 kW

22 kW

E-core

E-core

E-core

E-core

E-core

E-core

15" x 9.5" x 8.5"
380 x 240 x 215 mm

16.9" x 11" x 8.3"
430 x 280 x 210 mm

16.9" x 11" x 9.5"
430 x 280 x 240 mm

19.3" x 12.6" x 9"
490 x 320 x 230 mm

19.3" x 12.6" x 10.2"
490 x 320 x 260 mm

19.3" x 12.6" x 11.4"
490 x 320 x 290 mm

110.2 lb / 50 kg

130 lb / 59 kg

165.4 lb / 75 kg

198.4 lb / 90 kg

242.5 lb / 110 kg

286.6 lb / 130 kg

32°F to 104°F, derating power > 104°F (0°C to 40°C, derating power > 40°C)

n.a.

n.a.

n.a.

n.a.

n.a.

n.a.

natural cooling

natural cooling

natural cooling

natural cooling

natural cooling

natural cooling

max. 95%

max. 95%

max. 95%

max. 95%

max. 95%

max. 95%

IP00

IP00

IP00

IP00

IP00

IP00

no

no

no

no

no

no

n.a.

n.a.

n.a.

n.a.

n.a.

n.a.

option

option

option

option

n.a.

n.a.

n.a.

n.a.

n.a.

option

option

option

In addition to Mastervolt
isolation transformers, we also
supply ProMariner galvanic
isolators, the ProSafe series.



For more information, please consult the
ProMariner product catalog or promariner.com.

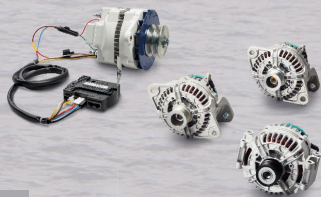
ProMariner™

ALTERNATORS & REGULATORS



ALTERNATORS & REGULATORS

Alpha and Alpha Compact Alternators



108

Standard alternators only supply the specified capacity at a high rpm. The Mastervolt Alpha alternator is specifically designed to charge powerfully, even with a low engine rpm. Alpha Compact "automotive style" alternators provide an easy fit on factory-installed PTO (power take-off) brackets available from most engine manufacturers.

Alpha Pro Charge Regulators



110

Measures battery temperature and adjusts charging process automatically for a safe, fast charge.

Solar ChargeMaster



112

The Mastervolt Solar ChargeMaster charge regulators maximize yield from the often very irregular supply of sunlight. Robust power electronics align the energy from the solar panels to the charge status of the batteries.



Using engines to generate electricity to replenish batteries while on the run requires alternators available from Mastervolt.

Alternators and Charge Regulators:

For rapidly recharged batteries

The existing alternator on the main engine is designed to charge the starter battery. As a result the combination is not ideal for fast and full charging of other batteries, especially if you want to charge the batteries over a short time or when powering a heavy load.

There are two options to solve this issue:

Equip the standard alternator with a Mastervolt Alpha Pro charge regulator. This charge regulator maximizes the output of alternators by regulating the alternator in a way that ensures

the batteries receive the optimum charge. The proven 3-step+ charge method guarantees fast and safe charging of your batteries.

You can also choose a powerful second Mastervolt Alpha alternator with Alpha Pro charge regulator. This combination was specifically designed for charging service batteries, and allows you to charge quickly and turn off your engine when you want.



TECH TIP

A second alternator on the main engine, combined with a larger battery bank and inverter, could be an alternative for a generator.

Alpha Pro Charge Regulators

- Suitable for 12V and 24V
- Including plug & play connection cable, an adapter cable for Bosch alternators is optional
- The Alpha Pro series is suitable for alternators up to 400A charge current
- Automatic voltage and temperature compensation
- 'Keep alive' function for tachometer
- MasterBus compatible



The charge regulator measures the battery temperature and adjusts the charging process accordingly, resulting in a safe and fast charge. Therefore the battery is always kept in good condition.



Alpha Alternator Series

- Fast and complete charging of all batteries
- Power supply for all consumers
- 12V and 24V versions
- 75A to 200A charge current
- As standard, delivered with Alpha Pro MB charge regulator for an optimal performance and longer-lasting batteries

Using a Battery Mate, Charge Mate or BI battery isolator in conjunction with an Alpha Alternator, makes it possible to easily charge two or three separate battery banks simultaneously.

Alpha Compact Alternator Series

Alpha Compact "automotive style" alternators provide an easy fit on factory-installed PTO (power take-off) brackets available from most engine manufacturers. If space is limited, Alpha Compact can also be used to exchange the stock alternator for a more powerful model.

- Plug and play solution, with Alpha Pro III regulator included.
- Up to 40% lighter and 25% more compact than conventional alternators
- Up to 30% lower fuel consumption
- OEM quality with optimized material composition
- Suitable for use in high temperature areas
- Cable and electronic parts protected against oil, moisture and dust
- Engine RPM signal
- Wide range of accessories available
- Models with suffix "VP" are a perfect fit for Volvo Penta engines



For all engine types

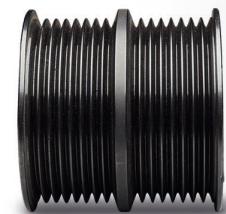
Alpha alternators are equipped with several fixations for customized alternator brackets, available from your installer or engine supplier. Some engine brands come with Mastervolt alternator brackets as an option.



Alpha Pro: Easy to operate

Easy operation LEDs on the body of the charge regulator indicate the charge phase. The Alpha Pro is designed as a 'fit all' solution. Just one unit is needed for both 12V and 24V applications, with a simple selector switch to set the regulator to the right voltage. The charge regulator can also be used on any other brand of alternator that has a standard Bosch connector, using a Bosch adapter cable (optional).

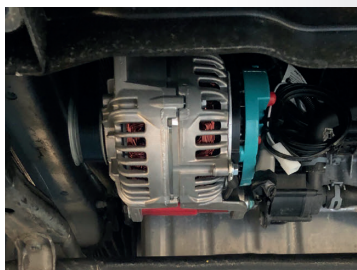
Wide range of accessories available



Freewheeling multigroove pulleys are available in various diameters and widths for an optimal pulley ratio and belt alignment.



High performance plug & play alternators



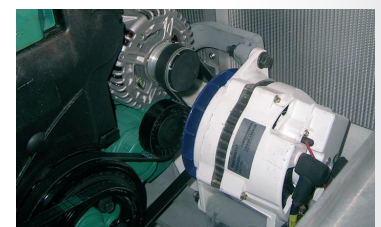
Compared to conventional alternators, Alpha Compact offers lower weight, smaller dimensions and reduced fuel consumption.



MasterBus Connectivity

The Alpha Pro is compatible with MasterBus, allowing easy monitoring via an EasyView touchscreen. In a MasterBus system, the voltage drop over the battery cable and the battery temperature is compensated automatically.

Performs above 104°F (40°C)



Forced cooling by fan operation of the pulley provides a lot of power in higher temperatures, especially close to the engine.

Alpha Compact Alternators

EXPANDED OFFERING

Specifications





| Part # | Alpha 14/120 46214120 | Alpha 14/200 46214200 | Alpha 28/110 46228110 | Alpha 28/150 46228150 |
|--------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| General Specifications | | | | |
| Mounting | swivel arm | direct mounting | swivel arm | swivel arm |
| Pully | no | yes | no | no |
| Weight | 14.8 lb / 6.7 kg | 16.5 lb / 7.5 kg | 16.3 lb / 7.4 kg | 17.4 lb / 7.9 kg |
| Rotational direction | clockwise | clockwise | clockwise | clockwise |
| Galvanic isolation | non-isolated | non-isolated | non-isolated | non-isolated |
| Isolated operation | yes, with optional isolation bushings | yes, with optional isolation bushings | yes, with optional isolation bushings | yes, with optional isolation bushings |
| Cooling | integrated dual fan | integrated dual fan | integrated dual fan | integrated dual fan |
| Temperature sensor | integrated, RJ12 connection | integrated, RJ12 connection | integrated, RJ12 connection | integrated, RJ12 connection |
| Technical Specifications | | | | |
| System voltage | 12V | 12V | 24V | 24V |
| Nominal current (at 6000 rpm, 77 °F) | 120A | 200A | 110A | 150A |
| Charge current (at 1800 rpm, 77 °F) | 70A | 106A | 41A | 28A |
| Cut-in speed | 1300 rpm | 1350 rpm | 1400 rpm | 1700 rpm |
| Max. rotational speed | 20000 rpm | 20000 rpm | 15000 rpm | 16000 rpm |
| Power Take Off (kW / hp) | 3.4 / 4.5 | 5.6 / 7.6 | 6.2 / 8.3 | 8.4 / 11.4 |
| Max. operating temperature | 248°F (120°C) | 248°F (120°C) | 248°F (120°C) | 248°F (120°C) |
| Connections | | | | |
| Positive output stud | 2x M8 | 2x M8 | 2x M8 | 2x M8 |
| W (rpm) signal connection | isolated fast-on | isolated fast-on | isolated fast-on | isolated fast-on |
| Field current connection | Mastervolt plug | Mastervolt plug | Mastervolt plug | Mastervolt plug |

Accessories

Clutch Pulley

| | | | | | | | | |
|----------|---|---------------------------------|----------|---|---------------------------------|----------|---|-------------------------------|
| 48420110 |  | 6 ribs (Ø 49.8, W = 40.3 mm) | 48420120 |  | 6 ribs (Ø 56.2, W = 42.8 mm) | 48420130 |  | 6 ribs (Ø 55, W = 36.1 mm) |
| 48420100 |  | 8 ribs (Ø 57.4, W = 37.4 mm) | 48420140 |  | 8 ribs (Ø 56, W = 38.9 mm) | 48420150 |  | 8 ribs (Ø 50, W = 49.3 mm) |

Serpentine Pulley

| | | | | | |
|----------|---|--|----------|---|------------------------------------|
| 48400030 |  | NEW 6 ribs (Ø 92, W = 31 mm) | 48420160 |  | 8 ribs (Ø 66.1, W = 34.6 mm) |
| 48420170 |  | 8 ribs (Ø 48.1, W = 39.4 mm) | 48420180 |  | 2x 8 ribs (Ø 66.1, W = 68.7 mm) |

Misc. Items

| | | | | | | | | |
|----------|---|----------------------------------|----------|---|--|----------|---|-------------------|
| 48420240 |  | 6pc Isolating Kit M8x2; M10x4 | 48420200 |  | Oil Pressure Switch Isolated M10x1 | 48420220 |  | B+ Adapter M10 |
|----------|---|----------------------------------|----------|---|--|----------|---|-------------------|



Alpha 28/200
46228203



Alpha 28/80 VP
46228082



Alpha 28/110 VP
46228112



Alpha 28/150 VP
46228152

| | | | |
|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| direct mounting | swivel arm | swivel arm | swivel arm |
| no | yes | yes | yes |
| 16.5lb/7.8kg | 15.2 lb / 6.9 kg | 16.3 lb / 7.4 kg | 17.4 lb / 7.9 kg |
| clockwise | clockwise | clockwise | clockwise |
| non-isolated | non-isolated | non-isolated | non-isolated |
| yes, with optional isolation bushings | yes, with optional isolation bushings | yes, with optional isolation bushings | yes, with optional isolation bushings |
| integrated dual fan | integrated dual fan | integrated dual fan | integrated dual fan |
| integrated, RJ12 connection | integrated, RJ12 connection | integrated, RJ12 connection | integrated, RJ12 connection |
| 24V | 24V | 24V | 24V |
| 200A | 85A | 110A | 150A |
| 50A | 45A | 40A | 30A |
| 1350 rpm | 1400 rpm | 1400 rpm | 1700 rpm |
| 20000 rpm | 15000 rpm | 15000 rpm | 16000 rpm |
| 8.4 / 11.4 | 4.8 / 6.4 | 6.2 / 8.3 | 8.4 / 11.4 |
| 248°F (120°C) | 248°F (120°C) | 248°F (120°C) | 248°F (120°C) |
| 2x M8 | 2x M8 | 2x M8 | 2x M8 |
| isolated fast-on | isolated fast-on | isolated fast-on | isolated fast-on |
| Mastervolt plug | Mastervolt plug | Mastervolt plug | Mastervolt plug |

Alpha Alternators Specifications



Alpha 12/90



Alpha 12/130



Alpha 24/75



Alpha 24/110



Alpha 24/150

| | | | | | |
|-----------------------------------|---|--|---|--|---|
| Part # | 48212090 | 48212130 | 48224075 | 48224110 | 48224150 |
| Delivered with serpentine pulley | 48400010 | 48400020 | 48400020 | 48400020 | 48400020 |
| General Specifications | | | | | |
| Charge Regulator | an Alpha Pro III charge regulator comes standard with all models | for use with alpha Pro regulator 45513000 (order separately, see pg 110) | an Alpha Pro III charge regulator comes standard with all models | an Alpha Pro III charge regulator comes standard with all models | an Alpha Pro MB charge regulator comes standard with all models |
| Total charge current | 90A | 130A | 75A | 110A | 150A |
| Cable length regulator/alternator | 1.5 m, oil resistant connection cable, delivered as standard | | 1.5 m, oil resistant connection cable, delivered as standard | | |
| Belt section | 2xA | 2xA | 2xA | 2xA | 2xA |
| Isolated from mass | yes | yes | yes | yes | yes |
| Directions of revolutions | 2 | 2 | 2 | 2 | 2 |
| Mounting | five to six, six o'clock & five past six | six o'clock | six o'clock | six o'clock | five to six, six o'clock & five past six |
| Dimensions | go to mastervolt.com/alternators for drawings | | go to mastervolt.com/alternators for drawings | | |
| Weight | 12.1 lb / 5.5 kg | 22.3 lb / 10.1 kg | 22.3 lb / 10.1 kg | 22.3 lb / 10.1 kg | 28.9 lb / 13.1 kg |
| Technical Specifications | | | | | |
| Charge voltage absorption | 14.25V | 14.25V | 28.5V | 28.5V | 28.5V |
| Charge voltage float | 13.25V | 13.25V | 26.5V | 26.5V | 26.5V |
| Pulley (double) diameter | 2.9" / 73 mm | 3.5" / 89 mm | 3.5" / 89 mm | 3.5" / 89 mm | 3.5" / 89 mm |
| Options | | | | | |
| Serpentine pulley 48400030 | n.a. | n.a. | n.a. | option | option |





Alpha Pro Charge Regulators

**EXPANDED
OFFERING**

Specifications



Alpha Pro III

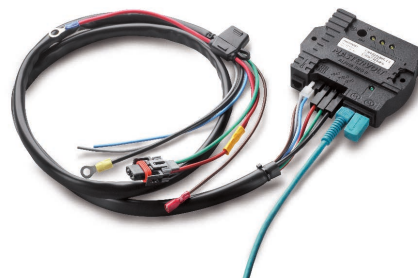
| | |
|--|---|
| Part # | 45513000 |
| Part # (with 13ft harness and temperature sensor) | 45513040 NEW |
| General Specifications | |
| Link to MasterShunt | yes |
| Connection to Mastervolt alternator | yes |
| Connection to Bosch alternator | yes, using a Bosch adapter cable (part # 45510500) |
| Cooling | fanless |
| Nominal output voltage | 12V / 24V |
| Cable length regulator/alternator | 5ft / 1.5 m oil resistant connection cable |
| Connection plug regulator/alternator | Alpha/Mastervolt |
| Display/read-out | LED display |
| MasterBus powering | yes |
| Dimensions, hxxwxd | 3.5" x 4.3" x 1.2" 90 x 109 x 30 mm |
| Weight | 0.9 lb / 0.4 kg |
| Delivered with | battery temperature sensor with 20 ft (6 m) cable |
| Approvals | CE |
| Technical Specifications | |
| Charge characteristic | IUoUo, automatic / 3-step+ for Gel/AGM/flooded/Lithium Ion |
| Charge voltage Bulk/ Absorption | default setting for AGM, Gel and Lithium Ion (adjustable) |
| Absorption time | 4 hours, adjustable from 2 minutes to 12 hours |
| Charge voltage Float | default setting for AGM, Gel and Lithium Ion (adjustable) |
| Temperature compensation | -17 mV / °F (-30 mV / °C) |
| Voltage compensation | voltage drop compensation in DC cables up to 3V |
| Alternator type | all alternators with negative excitation |
| Field currents | up to 20 amps |
| MasterBus compatible | yes |
| Options | |
| Bosch adapter cable 45510500  | option* Connection cable for any other brand of alternator that has a standard Bosch connector. |
| Alternator temperature sensor 41500400  | option* When used in combination with non-Mastervolt alternators, this alternator temperature sensor may offer additional protection against over heating (see manual for instructions). |

Benefits of a Mastervolt Charge Regulator

The Alpha Pro charge regulator maximizes the output of Mastervolt Alpha alternators or any other alternator by regulating the alternator in a way that the batteries receive the optimum charge. The proven 3-step+ charge method used by all Mastervolt battery chargers guarantees fast and safe charging of your batteries.

The Alpha Pro helps to cut emissions by requiring less run time because it maximizes the power from any alternator. A battery can be charged quickly even at very low RPM, especially when connected to an Alpha series alternator. By connecting the Alpha Alternator to a Battery Mate or battery isolator, several battery banks can be charged simultaneously.

Does your tachometer sometimes indicate zero while the engine is running? The 'keep alive' function of the Alpha Pro gets rid of this problem forever.



The Alpha Pro comes standard with connection cable and battery temperature sensor.

*option only for 45513000. 41500400 is included with 45513040

Solar ChargeMaster: Using the sun as an additional energy source

Solar cells provide power from daylight. This renewable energy source boosts your independence and also helps keep your battery in optimal condition. Mastervolt Solar ChargeMaster charge regulators maximise yield from the often very irregular supply of sunlight. Robust power electronics convert the energy from the solar panels, taking the charge status of the batteries into account.

Efficient, Reliable and Safe

Mastervolt's solar charge regulators are suitable for energy systems with system voltages of 12V, 24V and 48V (SCM60 MPPT-MB), and charge any battery type, including Mastervolt Lithium Ion (MLI) batteries. They ensure an optimal and efficient charge cycle and are highly reliable. The 3-step+ charging method guarantees an extra-long lifespan for your batteries. A MasterBus connection is available for optimal integration within the energy system.

Versatile and Flexible

Mastervolt solar charge regulators can be used flexibly to complement your energy system, or in places where no electricity is available, such as remote holiday cottages or chalets. In addition, the solar charge regulators are a perfect mobile solution for campers, special vehicles, yachts and traffic & information signs. They are also ideal for professional applications at remote petrol stations, telecom relay stations or offshore units.

Which Solar ChargeMaster is best for your application?

PWM models

The SCM20 and SCM40 PWM models are both suitable for 36-cell panels (12V systems) and 72-cell panels (24V systems). A clear integrated display, suitability for high ambient temperatures and compatibility with negative grounding. Recommended PV power ranges from 360 Wp to 1440 Wp.

MPPT models

The SCM25 MPPT is Mastervolt's smallest MPPT charge regulator. With 200 to 700 Wp in solar panels, switchable output and buzzer, this Solar ChargeMaster is very well suited to small and medium systems. The innovative MPPT technology charges your batteries up to 30% faster than PWM regulators – with the same number of panels.

The SCM60 MPPT-MB is the largest MPPT solar charge regulator in our range. With 600 to 3600 Wp in solar panels, connections for 12V, 24V and 48V battery banks and an integrated MasterBus connection, this Solar ChargeMaster is perfect for large and medium-sized systems. Besides the traditional 36-cell and 72-cell panels, the MPPT models are also ideal for the inexpensive 60-cell panels.



Features of the Solar ChargeMaster range

- High efficiency: your batteries are charged quickly
- Capacity for solar panel configurations of up to 3600 Wp
- Suitable for AGM, Gel and flooded batteries.
- Fast and flexible setting of battery type
- Battery temperature sensor for long lifespan of your batteries
- Automatic detection 12V, 24V and 48V (SCM60 MPPT-MB)
- Switchable output
- Noiseless operation
- Large, clear LCD display
- Fully protected against overtemperature, overload, high/low battery voltage, high/low PV voltage, short circuit and reverse polarity


Additional features of the MPPT models

- Charges up to 30% faster with the same number of solar panels
- Fewer cables, quick installation and lower losses
- Suitable for all solar panels, including the inexpensive 60-cell panels
- Suitable for humid environments (IP23)
- Also suitable for Mastervolt Lithium Ion (MLI) batteries.
- Audible signal (SCM25 MPPT)
- Monitoring and control via MasterBus (SCM60 MPPT-MB)

Solar ChargeMaster

Specifications



| | SCM25 MPPT | SCM60 MPPT-MB | SCM20 PWM | SCM40 PWM |
|--|--|---|--|--|
| Part # | 131902500 | 131906000 | 131822000 | 131824000 |
| General Specifications | | | | |
| Display/read-out | backlit LCD with PV power, load power, battery voltage, charge current, warnings, battery state of charge, battery setting | | | |
| Dimensions, HxWxD | 5.3" x 7.5" x 3.0" 135 x 190 x 75 mm | 15.7" x 6.6" x 4.1" 398 x 168 x 104 mm | 3.9" x 7.4" x 2.1" 98 x 189 x 21 mm | 3.9" x 7.4" x 2.1" 98 x 189 x 21 mm |
| Weight | 2.9 lb / 1.3 kg | 12.1 lb / 5.5 kg | 1.1 lb / 0.5 kg | 1.1 lb / 0.5 kg |
| Alarms | buzzer | via MasterBus | n.a. | n.a. |
| Cooling | passive | passive | passive | passive |
| Protection degree | IP23 | IP23 | IP23 | IP23 |
| Grounding | (-) terminal | (-) terminal | common negative grounding | common negative grounding |
| Technical Specifications | | | | |
| Technology | MPPT (Max. Power Point Tracker) | | PWM (Pulse Width Modulation) | |
| Temperature range (ambient temp.) | -4°F to 131°F (-20°C to 55°C) | | 4 °F to 122 °F, derating power > 104 °F (-20 °C to 50 °C, derating power > 40 °C) | |
| Cable size | max. 10 mm ² Litz wire | max. 35 mm ² Litz wire | max. 16 mm ² Litz wire | max. 16 mm ² Litz wire |
| Protections | over temperature, overload, high/low battery voltage, high/low PV voltage, short circuit, reverse polarity & HV transients | | | |
| MasterBus communication | no | yes | no | no |
| Relative humidity | 95% non-condensing | 95% non-condensing | 95% non-condensing | 95% non-condensing |
| Battery Charger Specifications | | | | |
| System voltage (battery) | 12/24V auto select | 12/24/48V auto select | 12/24V auto select | 12/24V auto select |
| Battery types | AGM, Gel, flooded, Lithium Ion (LiFePO4) | AGM, Gel, flooded, Lithium Ion (LiFePO4) | AGM, Gel, flooded, | AGM, Gel, flooded, |
| Battery temperature sensor | yes | yes | optional | optional |
| Lithium Ion protection | via Multipurpose Contact Output, Part # 77030500 | yes, via MasterBus connection | n.a. | n.a. |
| Max. charge current at 104°F (40°C) | 25A | 60A | 20A | 40A |
| Switchable output (max. current) | 25A | via MasterBus | 20A | 40A |
| Energy consumption (night) | 5 mA | < 1 mA | < 7 mA | < 7 mA |
| Solar Input (DC) Specifications | | | | |
| Nom. PV current at 104°F (40°C) | 18A | 50A | 20A | 40A |
| PV start voltage (12V/24V) | 15V / 27V | n.a. | n.a. | n.a. |
| PV start voltage (12V/24V/48V) | n.a. | 15V / 27V / 51V | n.a. | n.a. |
| Nom. PV voltage (12V) | 15-66V | 13.2-115V | n.a. | n.a. |
| Nom. PV voltage (24V) | 30-66V | 26.4-115V | n.a. | n.a. |
| Nom. PV voltage (48V) | n.a. | 52.8-115V | n.a. | n.a. |
| Max. PV voltage (Tmin) | 75V | 145V | n.a. | n.a. |
| Max. PV power (12V) | 360 Wp | 900 Wp | 360 Wp | 720 Wp |
| Max. PV power (24V) | 720 Wp | 1800 Wp | 720 Wp | 1440 Wp |
| Max. PV power (48V) | n.a. | 3600 Wp | n.a. | n.a. |
| Max. efficiency | > 98% | > 98% | n.a. | n.a. |
| Static MPP efficiency | 99.9% | 99.9% | n.a. | n.a. |
| Options | | | | |
| Temperature Sensors 41500500, 6M 41500800, 15M |  included option | included option | option option | option option |

| PN | Page | PN | Page | PN | Page | PN | Page | PN | Page |
|-----------|------|----------|------|----------|------|----------|------|----------|------|
| 131822000 | 112 | 28020502 | 32 | 35023000 | 20 | 41500700 | 21 | 46228150 | 108 |
| 131824000 | 112 | 28020700 | 32 | 35511500 | 19 | 41500800 | 14 | 46228152 | 108 |
| 131902500 | 112 | 28021000 | 32 | 35512000 | 19 | 43011000 | 46 | 46228203 | 108 |
| 131906000 | 112 | 28021500 | 32 | 35513000 | 19 | 43011500 | 46 | 48212090 | 109 |
| 21709150 | 37 | 28022000 | 32 | 35513500 | 19 | 43020600 | 46 | 48212130 | 109 |
| 21709200 | 37 | 28022500 | 32 | 35522000 | 19 | 43310602 | 49 | 48224075 | 109 |
| 21709300 | 37 | 28210700 | 31 | 35523000 | 19 | 43321002 | 49 | 48224110 | 109 |
| 24012000 | 26 | 28211000 | 31 | 35523500 | 19 | 44010250 | 46 | 48224150 | 109 |
| 24020800 | 26 | 28211500 | 31 | 35524500 | 19 | 44010350 | 46 | 48400010 | 109 |
| 24021002 | 27 | 28212500 | 31 | 35545000 | 19 | 44010500 | 46 | 48400020 | 109 |
| 24021500 | 26 | 28213500 | 31 | 36211200 | 21 | 44020120 | 46 | 48400030 | 108 |
| 24022500 | 26 | 28220700 | 32 | 36211201 | 21 | 44020200 | 46 | 48420100 | 108 |
| 24095100 | 26 | 28221000 | 32 | 36212000 | 21 | 44020300 | 46 | 48420110 | 108 |
| 24112000 | 26 | 28221500 | 32 | 36212001 | 21 | 44310305 | 43 | 48420120 | 108 |
| 24120800 | 26 | 28222500 | 32 | 38013000 | 14 | 44310505 | 43 | 48420130 | 108 |
| 24121500 | 26 | 28410700 | 31 | 38023500 | 14 | 44310755 | 43 | 48420140 | 108 |
| 24122500 | 26 | 28411000 | 31 | 38343500 | 14 | 44311005 | 43 | 48420150 | 108 |
| 24195100 | 26 | 28411500 | 31 | 38513000 | 14 | 44320205 | 43 | 48420160 | 108 |
| 25012002 | 27 | 28412500 | 31 | 38523500 | 14 | 44320305 | 43 | 48420170 | 108 |
| 26024000 | 26 | 28413500 | 31 | 40020156 | 39 | 44320405 | 43 | 48420180 | 108 |
| 28010302 | 31 | 28420700 | 32 | 40020256 | 39 | 44320605 | 43 | 48420200 | 108 |
| 28010502 | 31 | 28421000 | 32 | 40020506 | 39 | 44320805 | 43 | 48420220 | 108 |
| 28010700 | 31 | 28421500 | 32 | 40020756 | 39 | 44321105 | 43 | 48420240 | 108 |
| 28011000 | 31 | 28422500 | 32 | 40021006 | 39 | 45510500 | 110 | 55003300 | 102 |
| 28011500 | 31 | 28510700 | 31 | 40031006 | 39 | 45513000 | 110 | 55003400 | 102 |
| 28012000 | 31 | 28512000 | 31 | 40040256 | 39 | 45513040 | 110 | 55003500 | 60 |
| 28012500 | 31 | 28520700 | 32 | 40040506 | 39 | 46214120 | 108 | 55006000 | 60 |
| 28013500 | 31 | 28522000 | 32 | 40120756 | 39 | 46214200 | 108 | 55006010 | 60 |
| 28020300 | 32 | 35012000 | 20 | 40720266 | 39 | 46228082 | 108 | 55006015 | 60 |
| 28020302 | 32 | 35013000 | 20 | 41500400 | 110 | 46228110 | 108 | 55008205 | 60 |
| 28020500 | 32 | 35022000 | 20 | 41500500 | 14 | 46228112 | 108 | 55010600 | 102 |

| PN | Page | PN | Page | PN | Page | PN | Page | PN | Page |
|------------|------|----------|------|----------|------|----------------|------|----------|------|
| 55010900 | 102 | 68001000 | 71 | 77030900 | 88 | 77061050 | 90 | 81400800 | 57 |
| 55011300 | 102 | 68001250 | 71 | 77031000 | 87 | 77061100 | 90 | 81500100 | 56 |
| 55106100 | 60 | 68001500 | 71 | 77031100 | 88 | 77061200 | 90 | 81500200 | 56 |
| 61002600 | 72 | 68001651 | 71 | 77031200 | 26 | 79007712 | 68 | 81500300 | 56 |
| 61004000 | 72 | 68002200 | 71 | 77031300 | 87 | 79007724 | 68 | 81500350 | 56 |
| 62000550 | 72 | 68002700 | 71 | 77031400 | 87 | 80-911-0072-00 | 88 | 81500400 | 56 |
| 62000700 | 72 | 68061100 | 73 | 77031500 | 88 | 80-911-0090-00 | 89 | 81500500 | 56 |
| 62000900 | 72 | 68061200 | 73 | 77031550 | 88 | 80-911-0095-00 | 89 | 81500600 | 56 |
| 62001300 | 72 | 68061300 | 73 | 77031800 | 87 | 81200100 | 54 | 81500700 | 56 |
| 62001600 | 72 | 68061400 | 73 | 77031850 | 86 | 81205100 | 52 | 83007021 | 94 |
| 62002250 | 72 | 7032700 | 86 | 77032400 | 87 | 81205105 | 52 | 83007030 | 94 |
| 62002700 | 72 | 70400050 | 39 | 77032600 | 86 | 81205200 | 52 | 83012021 | 94 |
| 63001500 | 72 | 70403163 | 97 | 77032700 | 30 | 81205205 | 52 | 83012031 | 94 |
| 63001851 | 72 | 70404110 | 26 | 77032900 | 21 | 81205300 | 52 | 83116025 | 94 |
| 6369230060 | 90 | 70405060 | 97 | 77040000 | 90 | 81205305 | 52 | 83116035 | 94 |
| 64000250 | 70 | 70405070 | 97 | 77040010 | 90 | 81205400 | 52 | 83125035 | 94 |
| 64000550 | 70 | 70405080 | 31 | 77040015 | 90 | 81205405 | 52 | 83200150 | 95 |
| 64000850 | 70 | 77010030 | 83 | 77040020 | 90 | 81206205 | 52 | 83301202 | 95 |
| 64001200 | 70 | 77010050 | 39 | 77040050 | 90 | 81206405 | 52 | 83302502 | 95 |
| 64001400 | 70 | 77010310 | 14 | 77040100 | 90 | 81300100 | 54 | 83304002 | 95 |
| 64002000 | 70 | 77010600 | 83 | 77040300 | 90 | 81300200 | 54 | 83309002 | 95 |
| 66011250 | 68 | 77010700 | 21 | 77040600 | 90 | 81300300 | 54 | 85000350 | 103 |
| 66012750 | 68 | 77020115 | 39 | 77041000 | 90 | 81300400 | 54 | 85000450 | 103 |
| 66015500 | 68 | 77020200 | 43 | 77041500 | 90 | 81400100 | 57 | 85000600 | 103 |
| 66021250 | 68 | 77020400 | 85 | 77042500 | 90 | 81400200 | 57 | 85000800 | 103 |
| 66025500 | 68 | 77030100 | 14 | 77045000 | 90 | 81400300 | 57 | 85001000 | 103 |
| 68000280 | 71 | 77030300 | 88 | 77050000 | 90 | 81400330 | 57 | 85001300 | 103 |
| 68000420 | 71 | 77030450 | 54 | 77060050 | 90 | 81400400 | 57 | 85001800 | 103 |
| 68000500 | 71 | 77030500 | 46 | 77060100 | 90 | 81400500 | 57 | 85002200 | 103 |
| 68000580 | 71 | 77030700 | 26 | 77060200 | 90 | 81400600 | 57 | 88000355 | 103 |
| 68000750 | 71 | 77030800 | 86 | 77060500 | 90 | 81400700 | 57 | 88000705 | 103 |

Ingress Protection (IP) Ratings Guide



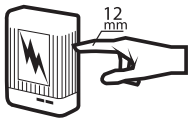

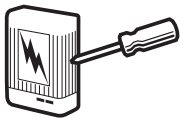


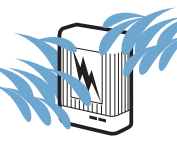
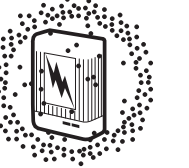

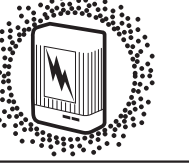



Example:

An IP65 rating can be determined using the adjacent table and example:

- The first number of the rating example, 6, in the gray column means the enclosure is dust tight
- The second number of the rating example, 5, in the blue column means the enclosure is protected against jets of water

The IP rating system was established by the International Electrotechnical Commission (IEC), an organization for international standards and conformity assessment. The IEC collaborates closely with the International Organization for Standardization (ISO). A complete description of the IP ratings and associated tests is found in IEC Publication 529. Although these ratings were initially developed as a way to classify enclosures, they now provide a convenient, practical way to compare levels of sealing. Many electrical products have an Ingress Protection (IP) rating which identifies the environmental factors needing consideration prior to the product's installation.

This is important when deciding when to mount products in a dry and clean environment versus a wet and/or dusty environment. The IP rating indicates the degree of protection provided. The numbers following IP represent levels of sealing and can range from no protection to full protection against dust and water. The table provides a description of the protection at each level.

| SOLIDS | | WATER | |
|--------|--|-------|--|
| 1 |  Protected against a solid object greater than 50 mm such as a hand. | 1 |  Protected against vertically falling drops of water. Limited ingress permitted. |
| 2 |  Protected against a solid object greater than 12 mm such as a finger. | 2 |  Protected against vertically falling drops of water with enclosure tilted up to 15 degrees from the vertical. Limited ingress permitted. |
| 3 |  Protected against a solid object greater than 2.5 mm such as a screwdriver. | 3 |  Protected against sprays of water up to 60 degrees from the vertical. Limited ingress permitted for three minutes. |
| 4 |  Protected against a solid object greater than 1 mm such as a wire. | 4 |  Protected against water splashed from all directions. Limited ingress permitted. |
| 5 |  Dust Protected. Limited ingress of dust permitted. Will not interfere with operation of the equipment. Two to eight hours. | 5 |  Protected against jets of water. Limited ingress permitted. |
| 6 |  Dust tight. No Ingress of dust. Two to eight hours. | 6 |  Water from heavy seas or water projected in powerful jets shall not enter the enclosure in harmful quantities. |
| | | 7 |  Protection against the effects of immersion in water between 15 cm and 1 m for 30 minutes. |
| | | 8 |  Protection against the effects of immersion in water under pressure for long periods. |

Rating Example:

IP65
INGRESS PROTECTION

Mastervolt

N85 W12545 Westbrook Crossing
Menomonee Falls, WI 53051 USA
p 800.307.6702
f 800.799.3779

New Zealand

42 Apollo Drive
Rosedale, Auckland 0632
New Zealand
p +64.9.415.7261
f +64.9.415.9327

The Netherlands

Snijdersbergweg 93
1105 AN Amsterdam
The Netherlands
p +31(0)20 34 22 100
f +31(0)20 69 71 006

tsusa@mastervolt.com
mastervolt.com

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