



MASTERVOLT POWERBOOK 2020

ENGLISH



Mastervolt: Feel the Power

Wherever you go in the world you'll find Mastervolt powering electrical applications in the marine, mobile, offshore, industrial, off-grid solar and infrastructure sectors. With three decades of experience and a famously efficient customer service, we supply high-quality technology and super-reliable products for all innovative power solutions.

Mastervolt battery chargers, inverters, batteries, monitoring panels and integrated systems offer the best value that money can buy. Our comprehensive product portfolio, with a range from 300 W to 40 kW, is built to be robust and withstand the harshest of environments. And this expertise is offered to you in our four core business areas:



As part of the Power Products LLC group, Mastervolt can also offer you access to top brands like Ancor, BEP, Blue Sea Systems, CZone, Lenco, Marincor and ProMariner. This unified approach to 'connected power' means that the very latest technologies can be integrated within your application from a single point of contact.

This Powerbook is much more than a catalogue. It is designed to provide you with clear explanations and technical specifications that will enable you to make smart choices that reflect your particular requirements. We update it regularly to reflect the changing world in which we live and the Powerbook offers a valuable reference point throughout the year.

Please also take the time to visit mastervolt.com, where we share case studies of real-life systems and sponsor projects, including the Volvo Ocean Race and vehicles that have travelled to Antarctica on solar energy. In addition to extended information on Mastervolt products, the website includes image downloads, manuals, certificates and installation drawings. Also offering a comprehensive FAQ section, technical glossary and a wealth of general information about electricity, mastervolt.com gives you the power to be independent.

WWW.MASTERVOLT.COM - THE POWER TO BE INDEPENDENT

Table of contents

The power to be independent	4
Why Mastervolt?	6
Meet our other brands	8

Products

CHARGE & CONVERT	■ Battery chargers	12
	■ Sine wave inverters	30
	■ Inverter/charger combinations	42
	■ DC-DC converters	52
STORE	■ Batteries	62
	■ Battery isolators	72
	■ Battery accessories	76
MANAGE & MONITOR	■ MasterBus	80
	■ CZone® – digital switching	92
	■ Fully integrated CZone®-MasterBus system	94
	■ Battery monitoring	116
GENERATE	■ Alternators	120
	■ Charge regulator	120
	■ Solar charge regulators	126
CONNECT	■ AC transfer systems	132
	■ Isolation transformers	136
	■ Electrical cables & adapters	140
	Technical Terms – glossary	142
	Sales and Service information	150
	Index	152



The Mastervolt head office in Amsterdam.

MASTERVOLT

THE POWER TO BE INDEPENDENT



MASTERVOLT'S MISSION

The power to be independent, by providing the world with meaningful energy solutions.

MASTERVOLT'S VISION

Mastervolt will enable people to be self-sufficient in their need for power, regardless their location. Through innovation and collaboration, we want to achieve a leading role in niches of our core markets by 2022. Supported by our specialisms in managing, monitoring, converting, and storing power we add value for our customers. We offer the best working environment for people who share our passion.

Mastervolt is an ISO 9001 certified company.



Great products and great service. The hallmark of Mastervolt.

We invite you to browse through this Powerbook as inspiration and guidance to see what is possible in the realm of high performance electrical systems and technologies.



Mastervolt stands for reliable and innovative autonomous power solutions. As specialists in the management, conversion and storage of electrical energy, we offer a comprehensive product portfolio with a power range from 300 W to 40 kWatt. Our electric solutions are widely used in demanding markets such as marine, mobile, off shore, industrial, autonomous solar and infrastructure.

Stronger together

Mastervolt is part of Power Products, LLC, which includes various leading brands within its Marine, Mobile & Industrial division. Ancor, BEP, Blue Sea Systems, CZone, Lenco, Marinco, Mastervolt and ProMariner provided innovative electrical solutions as independent companies for decades. Now these leading companies have come together to offer the broadest and most complete electrical product range for every conceivable application.

Breakthrough technology, optimum performance

Mastervolt has been a strong, innovation-driven company since its founding in 1991. Product development takes place in three highly sophisticated R&D centres, in Amsterdam (The Netherlands), Auckland (New Zealand) and Wisconsin (USA), where our engineers are continuously searching for new ways to connect breakthrough technology with optimum performance.

Superior service

This capacity to innovate is what truly sets Mastervolt apart. Our added value is to offer products, technologies and systems of the highest quality coupled with superior global service. The passion and commitment of our people make the difference.

We are Mastervolt.

The Power to be Independent.

Why Mastervolt?

The Mastervolt philosophy is based on six pillars:



Worldwide Network

Top class expertise and support is available throughout the world's three geographical regions: the Americas, EMEA and APAC. With offices and partners in more than 80 countries, our customers know that wherever in the world they may be, we can deliver precise and fully tailored services without delay. All Mastervolt partners are members of our online professional community where they can apply for training, ask questions, find knowledge and discuss the latest product ideas and improvements. Together they provide an exceptional customer experience at all times.



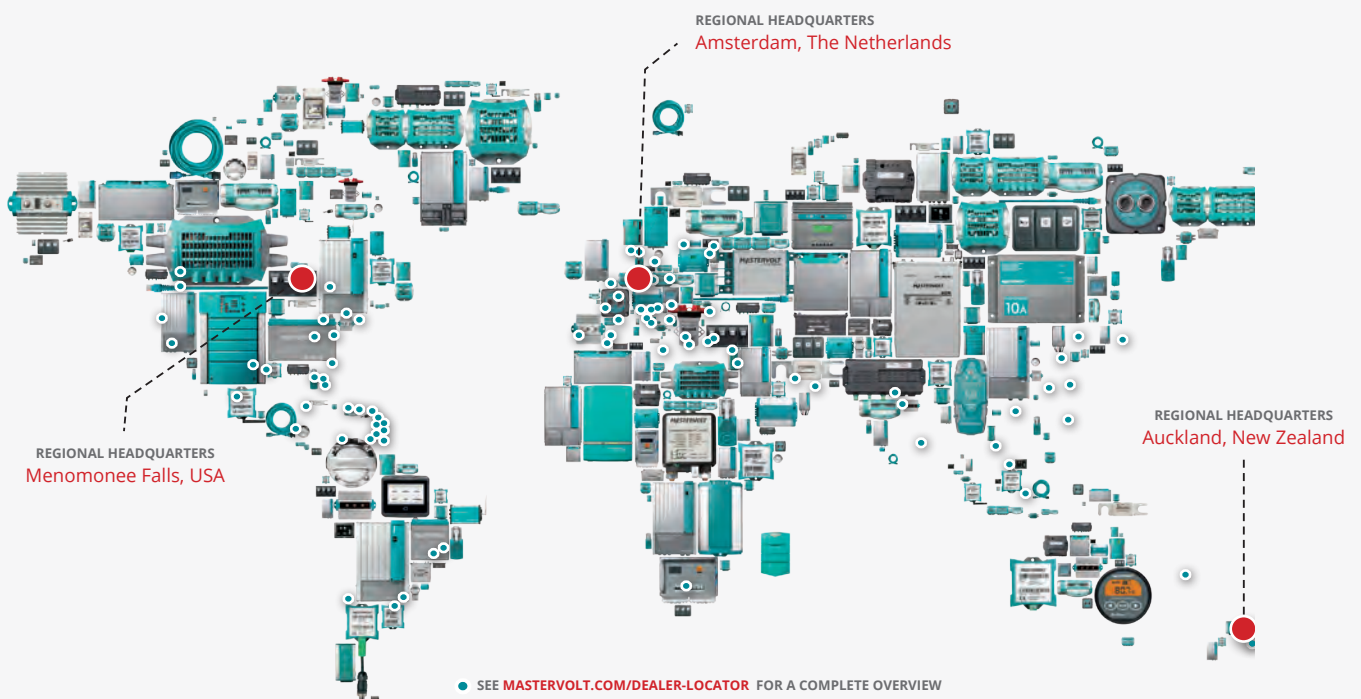
Innovations

Breakthrough technology is in our DNA and Mastervolt's highly skilled engineers are responsible for translating tomorrow's technology into the ultimate performance today. Throughout the company Mastervolt embraces state-of-the-art technology to stay ahead of the curve. Employees are continuously looking for better ways to design, develop, test and improve new and existing products as well as ship them faster, offer better support and help our customers find the perfect solution.



System Solutions

Whatever the industry or application, Mastervolt is power solution focused, offering components that are designed to easily integrate into comprehensive systems. From DC battery power connected by quality wire to power conversion products designed for efficiency, from complete digital switching technologies to monitoring at the touch of a finger, Mastervolt provides the flexibility and customisable systems you desire for your applications.



SEE [MASTERVOLT.COM/DEALER-LOCATOR](https://www.mastervolt.com/dealer-locator) FOR A COMPLETE OVERVIEW OF OUR DEALERS AND SERVICE PARTNERS.



4 Integration

Success is achieved by cooperation. Systems are getting more complex every day, customer demand is increasing and (CAN) communication makes virtually all kinds of integration possible. As well as making these systems available, fully integrated and comprehensible, cooperating with partners allows us to help you get the most from your business opportunities. Together we can deliver a fully integrated system that works well and has all the relevant components.



5 Premium Brands

With the world's leading Marine brands under one roof we can offer a full range of products that fulfil every need. Mastervolt is constantly extending its offering by adding products that enable customers to build complete(r) systems and have these products available via one source. The one-stop-shop principle gives easy access to all our brands, enabling you to increase your share of wallet in any system.



6 Customer Focus

A globally oriented customer focus is an important pillar of Mastervolt's activities. So too is our commitment to responding to new market developments as it determines which markets we serve and how we position our company and products. We remind clients that they are investing in high-quality technology, advanced systems and superior support and service. Mastervolt is always working to expand its global A-brand reputation while using the solid knowledge of our markets and customers gained by research and analysis to lead us forward.



Providing more than products. Providing solutions.

For decades Ancor, BEP, Blue Sea Systems, CZone, Lenco, Marinco, Mastervolt and ProMariner have worked independently to provide innovative electrical products. Now the eight companies are working together to offer comprehensive electrical solutions for marine and mobile applications.



For 40 years, Ancor has been the industry leader for quality tinned copper Marine Grade™ wire and cable. Ancor's comprehensive product line includes wires and cables, terminals and connectors, wire management products, and hand tools. Ancor designs products to the highest standards that meet UL, ABYC, NMMA and USCG standards.



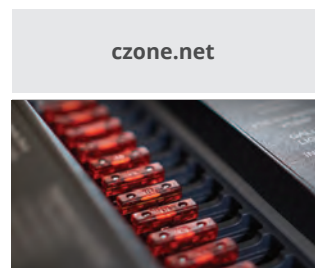
BEP offers a range of high quality electrical solutions designed for the harsh marine and RV environments. Every product meets exacting performance specifications and is designed to withstand extreme conditions. BEP's innovative culture and engineering excellence is focused on simplifying the installation and optimizing the user experience with thoroughly tested products that will thrive in any harsh environment.



Blue Sea Systems was founded in 1992 based on a commitment to create innovative, high quality electrical products to improve the safety, simplicity, and reliability of boating. Since the time the range of product has expanded to over 1,000 items and distributed to customers in over 50 countries to Marine, Industrial, RV and Specialty Vehicles markets. Products include battery chargers, battery switches, automatic charging relays, fuse blocks, busbars, meters, and both standard and custom power distribution panels.



For over 10 years, industry leading digital control and monitoring technology from CZone has revolutionized the control and management of electrical systems in recreational and light commercial vessel industry, and become established in recreational, specialty and emergency vehicle markets across the globe. CZone provides complete control and monitoring of all electrical circuits through dedicated touch screen interfaces, integrated marine navigation displays, wirelessly via iPad or key fob remote, or remotely via telematics integration.





Mastervolt's parent company, Power Products LLC, aims to offer you a continuously growing portfolio of powerful brands. We are therefore constantly looking for new companies to strengthen our market position, and increase our range of electrical components and power management systems. If you are interested in our brands and latest acquisitions, go to [■ mastervolt.com/our-brands](https://www.mastervolt.com/our-brands). You can also browse or download the catalogues of the various brands via [this link](#).



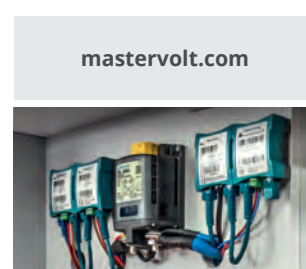
Lenco Marine is the true industry leader in the marine and boating world – manufacturing not only trim tabs but also electric actuators, hatch lifts, switches and the all new Auto Glide boat leveling system. Having expertise in electric technology Lenco Marine engineers and manufactures all of its products to make your boating fun, safe and trouble-free since 1986. Our dedication to quality and attention to detail give every member of the Lenco team the confidence to say, “We make the best boats better!”



Since 1972, Marinco power inlets and cords have set the industry standard. They are built to withstand the harshest marine environments. Marinco has continued to expand their product line to offer a complete range of shore power cords from 16 to 100 amps, as well as a broad range of cord adapters. Marinco is also a leading supplier of wipers, spotlights and horns to the marine industry.



Mastervolt has been a strong, innovation-driven company since its founding in 1991. This capacity to innovate is what truly sets Mastervolt apart. The added value is to offer products, technologies and systems of the highest quality coupled with superior global service. Mastervolt stands for reliable autonomous power solutions. Mastervolt's electric solutions are widely used in demanding markets such as marine, mobile, off shore, industrial, autonomous solar and infrastructure.



ProMariner™ was founded 40 years ago with one premise: to make boating more enjoyable. ProMariner pioneered a complete line of fully automatic onboard marine battery chargers, and continues to bring innovation to marine battery chargers today. ProMariner offers performance based solutions to all boats whether it's open water cruising, sailing, or fishing, recreational boating. The passion and dedication to quality is what has made ProMariner the market leader in onboard marine battery chargers.



Get all the comforts of home with the most innovative battery chargers and inverters

Mastervolt's battery chargers and inverters are advanced, reliable and of excellent quality. Whether you wish to use a microwave, charge your stern thruster battery or use an entertainment system, Mastervolt equipment ensures you all the comforts of home.

MASTERVOLT



BATTERY CHARGERS

Mastervolt battery chargers offer your batteries more capacity and a longer lifespan. They combine multiple functions in one device and charge batteries safely and fully, even when completely depleted.

14 MASS

Robust battery charger with integrated alarm functions and comprehensive certification. The best choice for professional and demanding applications.

18 CHARGEMASTER PLUS CHARGEMASTER

The ChargeMaster Plus charges nearly every combination of batteries in a fast and safe way, combining auxiliary chargers, a battery isolator and VSR in a compact CZone compatible device.

The capable and compact ChargeMaster series is suitable for semi-professional and recreational use.

28 EASYCHARGE

A starter model including the proven Mastervolt 3-step+ charge characteristic. Waterproof and robust battery charger, also available in a portable version.

RECOMMENDED FOR:



RECOMMENDED FOR:



RECOMMENDED FOR:



SINE WAVE INVERTERS

Mastervolt offers a complete range of pure sine wave inverters from 300 watts to 40 kilowatts, for professional and recreational use.

32 MASS SINE ULTRA MASS SINE

The Mass Sine Ultra, suitable for parallel and 3-phase configuration, is ideal for large installations.

The Mass Sine is designed for continuous use in the most extreme conditions.

RECOMMENDED FOR:



36 AC MASTER

Pure sine wave inverter with excellent price/quality ratio for recreational and semi-professional applications.

RECOMMENDED FOR:



Charge & Convert



INVERTER / CHARGER COMBINATIONS

Mastervolt inverter/chargers integrate a powerful battery charger, an efficient inverter and a versatile transfer system in one robust, lightweight and compact device.

44 COMBIMASTER

The CombiMaster series is designed and built with a high power rating and > 200 % peak power that can start the most complex loads with ease. Completed with MasterBus, CZone and NMEA 2000 compatible communication, the CombiMaster allows a broad range of monitoring and system integration options.

48 MASS COMBI ULTRA MASS COMBI PRO

The Mass Combi Ultra is available up to 3500 watts. Parallel or three-stage configuration enables capacities up to 35 kW. The Ultra model has a solar input and a secondary battery charger.

A 'Pro' model is available for professional use.



DC-DC CONVERTERS

The versatile Mastervolt converters ensure all your equipment has a stable feed with the right current.

54 MAC PLUS MAGIC

The perfect choice for professional use, with low conversion losses, battery charger and dimming function.

The Mac Plus is also ideal for Euro 5/6 applications. Can be parallel switched for capacities over 100 amperes.

58 DC MASTER

Converters with an excellent price/quality ratio, easy to install and highly suitable for recreational and semi-professional applications.

RECOMMENDED FOR:



RECOMMENDED FOR:



RECOMMENDED FOR:



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 Mastervolt battery charger best meets your needs?

Mastervolt offers four ranges of battery chargers:

■ Mass series

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.

■ ChargeMaster and ChargeMaster Plus series

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

The ChargeMaster Plus is a new generation of battery chargers that will replace the ChargeMaster in stages. The ChargeMaster Plus 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.

NEW CZone compatible models available.

■ EasyCharge series

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

■ EasyCharge Portable series

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. The ChargeMaster Plus 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 (< 8 V).

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 the integrated MasterBus (or have been adapted to the required charging voltages).

Qualifications



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

MASTER 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 50-amp battery charger is sufficient for a 200 Ah battery). Increase up to 50 % for Mastervolt Gel batteries and 100 % for Mastervolt Lithium Ion batteries for faster charging.

Mass Series: 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.



FEATURES

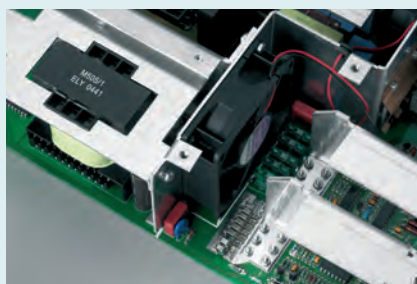
- Designed for the most difficult conditions.
- Lightweight, stainless steel, anodised aluminium casing.
- Coating of internal components prevents damage from damp or condensation to ensure a longer lifespan.
- Insensitive to electromagnetic effects from other devices.
- Suitable for every type of battery,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

CHECK THE MASTERVOLT SITE FOR
INTERESTING REAL-LIFE SYSTEMS:
MASTERVOLT.COM/REFERENCES
AND
EXTENDED TECHNICAL BACKGROUND
ON OUR PRODUCTS:
MASTERVOLT.COM/TECHNICAL-BACKGROUND



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.

GMDSS Compatible

The Mass series are designed for the most demanding situations. To help you comply with SOLAS regulation, all Mass battery chargers are GMDSS compatible. GMDSS stands for Global Maritime Distress and Safety System, and allows users to monitor various alarm functions. GMDSS versions of the Mass 24/25 DNV, Mass 24/50, Mass 24/75, Mass 24/100 and Mass 24/100-3ph are available.

A separate remote panel is available, which is compatible with all Mass battery chargers - **product code 70400050**.

A single front display with GMDSS remote panel is available for:

- Mass 24/25-2 DNV; **product code 21709150**
- Mass 24/50-2; **product code 21709200**
- Mass 24/75, Mass 24/100, Mass 24/100-3ph; **product code 21709300**





Specifications

Mass battery chargers











PRODUCTS | CHARGE & CONVERT

Specifications

Mass battery chargers







				
	Mass 24/15-2	Mass 24/25-2	Mass 24/25-2 DNV	Mass 24/50-2
Product code	40020156	40020256	40720266	40020506
Product code 120 V				
Product code with GMDSS front module	n.a.	n.a.	40720268	40020508
GENERAL SPECIFICATIONS				
Nominal output voltage	24 V	24 V	24 V	24 V
Total charge current	15 A at 28.5 V	25 A at 28.5 V	25 A at 28.5 V	50 A at 28.5 V
Number of battery outlets	2	2	2	2
Charge current second output	3 A	3 A	3 A	3 A
Recommended battery capacity	30-150 Ah	50-250 Ah	50-250 Ah	100-500 Ah
Nominal input voltage	230 V (180-265 V) - 50/60 Hz	230 V (180-265 V) - 50/60 Hz	230 V (180-265 V) - 50/60 Hz	230 V (180-265 V) - 50/60 Hz
Power supply mode	yes	yes	yes	yes
Display/read-out	LED	LED	LED	LED
Dimensions, hwxwd	325 x 220 x 111 mm 12.8 x 8.7 x 4.4 inch	325 x 220 x 111 mm 12.8 x 8.7 x 4.4 inch	365 x 220 x 111 mm 14.4 x 8.7 x 4.4 inch	340 x 261 x 130 mm 13.4 x 10.3 x 5.1 inch
Weight	3.3 kg / 7.3 lb	3.3 kg / 7.3 lb	3,5 kg / 7.7 lb	4.6 kg / 10.1 lb
Approvals	CE, ABYC A-31, RRR, RMRS	CE, ABYC A-31, RRR, RMRS	CE, ABYC A-31, DNV-GL, RRR, RMRS	CE, ABYC A-31, DNV-GL, RRR, RMRS
TECHNICAL SPECIFICATIONS				
Charge characteristic	IUoUo, automatic / 3-step+ for Gel/AGM/flooded/Lithium Ion			
Charge characteristic can be set to your requirements.				
Temperature sensor	yes (included)	yes (included)	yes (included)	yes (included)
DC voltage drop compensation	yes	yes	yes	yes
DC consumption	< 1 mA	< 1 mA	< 1 mA	< 1 mA
Full load consumption (230 V AC)	550 W	880 W	880 W	1800 W
Power factor control	> 0.95	> 0.95	> 0.95	> 0.95
Temperature range (ambient temp.)	-25 °C to 80 °C; derating > 45 °C / -13 °F to 176 °F; derating > 113 °F			
Cooling	vario fan	vario fan	vario fan	vario fan
Protection degree	IP23	IP23	IP23	IP23
Protections	over-temperature, overload, short circuit, high/low battery voltage			
MasterBus compatible	yes	yes	yes	yes
Charger Status Interface (alarm contact)	yes	yes	yes	yes

ACCESSORIES

	MasterView Read-out 77010050	option	option	option	option
Remote panel for reading the charge status of your battery charger, including error notifications.					
	EasyView 5 77010310	option	option	option	option
Waterproof system monitor with 'daylight readable' colour 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 77020110	option	option	option	option
MasterBus integrated battery monitor, with detailed information on the status of your batteries for an optimised charging process, incl. voltage, current, remaining time and consumption capacity in percentage.					
	DC Distribution 77020200	option	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	option
Communication port between MasterBus and the USB port of your PC; enables reading and configuration of your MasterBus system on the PC when combined with MasterAdjust software (free to download).					
	Temperature sensor 6m 41500500	delivered as standard	delivered as standard	delivered as standard	delivered as standard
	Temperature sensor 15m 41500800	option	option	option	option
MasterVision panels					
	C3-RS 70403040	option	option	option	option
Remote monitor for battery chargers, with a regulator for reducing grid power consumption.					
	GMDSS remote panel 70400050	option	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, product code 21709150	option, product code 21709200
Professional users will benefit from a front display with GMDSS alarm functions. GMDSS stands for 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.					

BATTERY CHARGERS

MASS 24 V
MASS 48 V

					
Mass 24/75	Mass 24/75 (120 V)	Mass 24/100	Mass 24/100-3ph	Mass 48/25	Mass 48/50
40020756	40120756	40021006	40031006	40040256	40040506
40020758	40120758	40021008	40031008	n.a.	n.a.
24 V	24 V	24 V	24 V	48 V	48 V
75 A at 28.5 V	75 A at 28.5 V	100 A at 28.5 V	100 A at 28.5 V	25 A at 57 V	50 A at 57 V
1	1	1	1	1	1
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
150-750 Ah	150-800 Ah	200-1000 Ah	200-1000 Ah	100-500 Ah	100-500 Ah
230 V (180-265 V) - 50/60 Hz	120 V (90-130 V) - 60/50 Hz	230 V (180-265 V) - 50/60 Hz	3 x 400 V (365-550 V) - 50/60 Hz	230 V (180-265 V) - 50/60 Hz	230 V (180-265 V) - 50/60 Hz
yes	yes	yes	yes	yes	yes
LED	LED	LED	LED	LED	LED
420 x 318 x 130 mm 16.5 x 12.5 x 5.1 inch	420 x 318 x 130 mm 16.5 x 12.5 x 5.1 inch	420 x 318 x 130 mm 16.5 x 12.5 x 5.1 inch	420 x 318 x 130 mm 16.5 x 12.5 x 5.1 inch	340 x 261 x 130 mm 13.4 x 10.3 x 5.1 inch	420 x 318 x 130 mm 16.5 x 12.5 x 5.1 inch
7.7 kg / 17 lb	7.7 kg / 17 lb	7.7 kg / 17 lb	7.7 kg / 17 lb	4.6 kg / 10.1 lb	7.7 kg / 17 lb
CE, ABYC A-31, RRR, RMRS, DNV-GL	CE, ABYC A-31, DNV-GL	CE, ABYC A-31, RRR, RMRS, DNV-GL	CE, ABYC A-31, RRR, RMRS	CE, ABYC A-31, RRR, RMRS	CE, ABYC A-31, RRR, RMRS
IUoUo, automatic / 3-step+ for Gel/AGM/flooded/Lithium Ion					
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
2600 W	2770 W	3500 W	3500 W	1800 W	3500 W
> 0.95	> 0.95	> 0.95	> 0.95	> 0.95	> 0.95
-25 °C to 80 °C; > 45 °C derating power / -13 °F to 176 °F; > 113 °F derating power					
vario fan	vario fan	vario fan	vario fan	vario fan	vario fan
IP23	IP23	IP23	IP23	IP23	IP23
over-temperature, overload, 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
delivered as standard	delivered as standard	delivered as standard	delivered as standard	delivered as standard	delivered as standard
option	option	option	option	option	option
option	option	option	option	option	option
option	option	option	option	option	option
option, product code 21709300	option, product code 21709300	option, product code 21709300	option, product code 21709300	n.a.	n.a.

ChargeMaster Plus Series:

All-in-one solution for faster and safer charging



ChargeMaster Plus is the next generation of battery chargers that integrates multiple functions into one single device. Replacing auxiliary chargers, ChargeMaster Plus reduces system complexity and cost. Designed for versatility, it charges virtually any combination of two or three batteries in a fast and safe way and works anywhere in the world.



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 12 V starter battery in a 24 V system, without additional components (24 V 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, the ChargeMaster Plus is CE, ABYC, UL, SAE, CEC/DOE and RCM/C-Tick compliant.



System Simplicity

Nowadays, equipment must be self-explaining. The ChargeMaster Plus displays the charge phase of all 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.

MASTER TIP



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

FEATURES

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

Powerful Communications thanks to 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 including communication standards like CZone®, NMEA 2000 and CANopen (through additional interfaces).





NEW Models with the addition *CZone* do not only support MasterBus, but also support CZone and NMEA 2000 communication, without the need of additional interfaces. This 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. In addition, the ChargeMaster Plus can operate as a power supply for delicate communication equipment, or during the construction phase of a boat.









Specifications

ChargeMaster Plus battery chargers

Specifications ChargeMaster Plus battery chargers					
	ChargeMaster Plus 12/75-3	ChargeMaster Plus 12/100-3	ChargeMaster Plus 24/40-3	ChargeMaster Plus 24/60-3	
	Product code	44310755	44311005	44320405	44320605
	GENERAL SPECIFICATIONS				
	Nominal output voltage	12 V	12 V	24 V	24 V
	Max. charge current per output	75 A	100 A	40 A	60 A
	Smart In-/Output output voltage	12 V	12 V	12 or 24 V	12 or 24 V
	Smart In-/Output output current	5-40 A (adjustable)	5-40 A (adjustable)	5-10 A at 12 V; 5-20 A at 24 V (adjustable)	
	Smart In-/Output input current	max. 40 A	max. 40 A	max. 20 A at 24 V	max. 20 A at 24 V
	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)	6.5 A / 13 A	8.5 A / 17 A	6.8 A / 13.5 A	10.2 A / 20.4 A	
Total charge current	75 A at 14.4 V	100 A at 14.4 V	40 A at 28.8 V	60 A at 28.8 V	
Number of battery outlets	3 (max.)	3 (max.)	3 (max.)	3 (max.)	
Input current 'Smart Input'	40 A at 12 V	40 A at 12 V	20 A at 24 V	20 A at 24 V	
Recommended battery capacity	320-800 Ah	400-1000 Ah	160-400 Ah	200-500 Ah	
Nominal input voltage	120/230 V (80-275 V) 50/60 Hz	120/230 V (80-275 V) 50/60 Hz	120/230 V (80-275 V) 50/60 Hz	120/230 V (80-275 V) 50/60 Hz	
AC connection	screw terminals, suitable up to up to 6 mm²				
Power supply mode	yes	yes	yes	yes	
Display/read-out	LED	LED	LED	LED	
Dimensions, hxxwx d	384 x 250 x 127 mm 15.1 x 9.8 x 5 inch	384 x 250 x 127 mm 15.1 x 9.8 x 5 inch	384 x 250 x 127 mm 15.1 x 9.8 x 5 inch	384 x 250 x 127 mm 15.1 x 9.8 x 5 inch	
Weight	5.9 kg / 13 lb	5.9 kg / 13 lb	5.9 kg / 13 lb	5.9 kg / 13 lb	
Approvals	CE, ABYC, UL1236, SAE J1171, ISO 8846, CEC/DOE, RCM/C-Tick				
TECHNICAL SPECIFICATIONS					
Charge characteristic <i>Charge characteristic can be set to your requirements.</i>	IUoUo, automatic / 3-step+ for Gel/AGM/flooded/Lithium Ion + user defined option				
Temperature compensation	-30 mV/°C / -17 mV/°F - temperature sensor included		-60 mV/°C / -76 mV/°F - temperature sensor included		
Voltage compensation	through automatic compensation or MasterShunt				
DC consumption	< 2 mA (MasterBus off)	< 2 mA (MasterBus off)	< 2 mA (MasterBus off)	< 2 mA (MasterBus off)	
Current Control function	yes, through MasterBus or CZone				
Power factor control	yes, > 0.98	yes, > 0.98	yes, > 0.98	yes, > 0.98	
Temperature range (ambient temp.)	-25 °C to 80 °C, derating > 40 °C / -13 °F to 176 °F, derating > 104 °F				
Cooling	vario fan	vario fan	vario fan	vario fan	
Protection degree	IP23, vertical mounting	IP23, vertical mounting	IP23, vertical mounting	IP23, vertical mounting	
Protections	over-temperature, overload, short circuit, high/low battery voltage, ignition protection				
Communication <i>delivered as standard with 1 mtr Mastervolt-CZone drop cable</i>	MasterBus, CZone, NMEA 2000				
Charger Status Interface (alarm contact)	yes, using a Multipurpose Contact Output (product code 77030500)				

ACCESSORIES		DC Distribution 77020200	option	option	option	option
		MasterBus USB Interface 77030100	option	option	option	option
		Multipurpose Contact Output 77030500	option	option	option	option
			<small>MasterBus controllable potential-free contact, with alarm notification on the onboard system (low voltage or no AC), usable as CSI alarm contact.</small>			

ACCESSORIES						
	Temperature sensor 6 m: 41500500 (delivered as standard) 15 m: 41500800			EasyView 5 77010310		
				Waterproof system monitor with 'daylight readable' colour 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			MasterView Read-out 77010050		
				Remote panel for reading the charge status of your battery charger, including error notifications.		
			MasterBus integrated battery monitor, with detailed information on the status of your batteries for an optimised charging process, incl. voltage, current, remaining time and consumption capacity in percentage.			

NEW
MODEL**ChargeMaster Plus
24/80-2**

44320805

24 V

80 A

n.a.

n.a.

n.a.

14.25 / 28.5 V (12/24 V)

15 A at 12 V / 20 A at 24 V (adjustable)

11.75 A / 23 A

80 A at 28.8 V

2 (max.)

n.a.

280-700 Ah

120/230 V (80-275 V)

50/60 Hz

yes

LED

384 x 250 x 127 mm

15.1 x 9.8 x 5 inch

6.3 kg / 13.9 lb

NEW
MODEL**ChargeMaster Plus
24/110-2**

44331105

24 V

110 A

n.a.

n.a.

n.a.

14.25 / 28.5 V (12/24 V)

15.75 A / 31.5 A

110 A at 28.8 V

2 (max.)

n.a.

400-1000 Ah

120/230 V (80-275 V)

50/60 Hz

yes

LED

384 x 250 x 127 mm

15.1 x 9.8 x 5 inch

6.3 kg / 13.9 lb

-60 mV/°C / -76 mV/°F - temperature sensor included

< 2 mA (MasterBus off)

< 2 mA (MasterBus off)

yes, > 0.98

yes, > 0.98

vario fan

IP23, vertical mounting

vario fan

IP23, vertical mounting

MasterBus, CZone, NMEA 2000

option

option

option

option

option

option

**QUOTE**

"The milk collection can be done through a hydraulic system, while the engine of the vehicle is off, which means less noise and exhaust emissions, and less maintenance. This system fully respects the environment and also the population of the farms. We are very happy with the choice of products we made, and the support of the Mastervolt team."

**PATRICE HALAIS, SALES MANAGER MILK LOGISTICS
MAISONNEUVE GROUP, FRANCE**

**ACCESSORIES**

Touch 5
80-911-0124-00

5 inch touchscreen with built-in WiFi connectivity and IPx7 water ingress protection. Comes with super bright widescreen display and the latest capacitive touchscreen technology.



Touch 10
80-911-0100-00

10 inch LED-backlit projected capacitive touchscreen display with IPS technology. Offers full control of circuits plus important onboard system information (for AC and DC supplies).



SmartRemote
77010500 (OEM)
77010600 (retail)

CZone/MasterBus compatible color display for local device monitoring. Shows key parameters and allows simple device settings.



Mastervolt-CZone
drop cable
0.5 m: 77060050
1 m: 77060100 (delivered as standard)
2 m: 77060200
5 m: 77060500

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

ChargeMaster Series: 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. Thanks to Mastervolt's innovative 3-step+ charging process, batteries also perform better and last longer.



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 display 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.



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.

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 (90-265 V 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 metres 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 10 A, 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.

Specifications

ChargeMaster battery chargers

12 V

			
ChargeMaster 12/10	ChargeMaster 12/15-2	ChargeMaster 12/25-3	ChargeMaster 12/35-3
43011000	43011500	44010250	44010350
12 V	12 V	12 V	12 V
10 A at 14.25 V	15 A at 14.25 V	25 A at 13.25 V	35 A at 14.4 V
1	2	3	3
n.a.	15 A	25 A	35 A
n.a.	n.a.	25 A	35 A
25-100 Ah	30-150 Ah	50-250 Ah	70-350 Ah
230 V (180-265 V) - 50/60 Hz	230 V (180-265 V) - 50/60 Hz	120/230 V (90-265 V) - 50/60 Hz	120/230 V (90-265 V) - 50/60 Hz
connector	connector	2 mtr AC cable	connector strips
no	no	yes	yes
1 LED	1 LED	LED	LED
180 x 121 x 50 mm 7.1 x 4.8 x 2 inch	206 x 121 x 50 mm 8.1 x 4.8 x 2 inch	234 x 132 x 60 mm 9.2 x 5.2 x 2.4 inch	291 x 210 x 131 mm 11.5 x 8.3 x 5.2 inch
1 kg / 2.2 lb	1 kg / 2.2 lb	1.8 kg / 4 lb	4 kg / 9 lb
4x screw	4x screw	4x screw	mounting bracket (included) or 4x screw
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
IUoUo, automatic / 3-step+ for Gel/AGM/flooded/Lithium Ion			
no	no	yes	yes
automatic	automatic	automatic	automatic
< 1 mA	< 1 mA	< 2 mA	< 5 mA
170 W	250 W	450 W	575 W
no	no	no	yes, via MasterBus
> 0.95	> 0.95	≥ 0.98	≥ 0.98
-25 °C to 60 °C, derating < 0 °C and > 40 °C / -13 °F to 140 °F, derating < 32 °F and > 104 °F			
natural cooling	vario fan	vario fan	vario fan
IP65	IP21	IP23	IP23
over-temperature, overload, short circuit, high/low battery voltage			
no	no	yes	yes

ACCESSORIES		MasterView Read-out 77010050	n.a.	n.a.	option	option
	<i>Remote panel for reading the charge status of your battery charger, including error notifications.</i>					
		EasyView 5 77010310	n.a.	n.a.	option	option
	<i>Waterproof system monitor with 'daylight readable' colour 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.</i>					
		MasterShunt 77020110	option	option	option	option
	<i>MasterBus integrated battery monitor, with detailed information on the status of your batteries for an optimised charging process, incl. voltage, current, remaining time and consumption capacity in percentage.</i>					
		DC Distribution 77020200	n.a.	n.a.	option	option
	<i>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.</i>					
		MasterBus USB Interface 77030100	n.a.	n.a.	option	option
	<i>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).</i>					
		Multipurpose Contact Output 77030500	n.a.	n.a.	option	option
	<i>MasterBus controllable potential-free contact, with alarm notification on the onboard system (low voltage or no AC), usable as CSI alarm contact.</i>					
		Temperature sensor 6m 41500500	delivered as standard	delivered as standard	delivered as standard	delivered as standard
		Temperature sensor 15m 41500800	option	option	option	option

CHECK THE MASTERVOLT SITE FOR
INTERESTING REAL-LIFE SYSTEMS:
MASTERVOLT.COM/REFERENCES
AND
EXTENDED *TECHNICAL BACKGROUND*
ON OUR PRODUCTS:
[MASTERVOLT.COM/TECHNICAL-
BACKGROUND](http://MASTERVOLT.COM/TECHNICAL-BACKGROUND)

BATTERY CHARGERS
CHARGE MASTER 12 V



ChargeMaster 12/50-3

44010500

12 V
50 A at 14.4 V
3
50 A
50 A
100-500 Ah
120/230 V (90-265 V)
- 50/60 Hz
connector strips
yes
LED
291 x 210 x 131 mm
11.5 x 8.3 x 5.2 inch
4 kg / 9 lb
mounting bracket
(included) or 4x screw
CE, ABYC A-31, SAE
J1171/ISO 8846 ignition
protected, RMRS, RRR

yes
automatic
< 5 mA
825 W
yes, via MasterBus
≥ 0.98

vario fan
IP23

yes

option

option

option

option

option

option

delivered as standard

option



The following models are also
available in Quick Connect
version with a WAGO 770-113
connector and 25 cm cable:

- ChargeMaster 12/25-3,
product code 44010252
- ChargeMaster 12/35-3,
product code 44010352



In addition to
Mastervolt battery
chargers, we also supply
ProMariner ProNauticP
battery chargers.

For more information, please consult the
ProMariner product catalogue and website.

ProMariner™
PROMARINER.COM









Specifications

ChargeMaster

battery chargers

24 V

			
ChargeMaster 24/6	ChargeMaster 24/12-3	ChargeMaster 24/20-3	ChargeMaster 24/30-3
43020600	44020120	44020200	44020300
24 V	24 V	24 V	24 V
6 A at 28.5 V	12 A at 26.5 V	20 A at 28.8 V	30 A at 28.8 V
1	3	3	3
n.a.	12 A	20 A	30 A
n.a.	12 A	20 A	30 A
25-70 Ah	24-120 Ah	40-200 Ah	60-300 Ah
230 V (180-265 V) – 50/60 Hz	120/230 V (90-265 V) – 50/60 Hz	120/230 V (90-265 V) – 50/60 Hz	120/230 V (90-265 V) – 50/60 Hz
socket	2 mtr AC cable	connector strips	connector strips
no	yes	yes	yes
1 LED	LED	LED	LED
180 x 121 x 50 mm 7.1 x 4.8 x 2 inch	234 x 132 x 60 mm 9.2 x 5.2 x 2.4 inch	291 x 210 x 131 mm 11.5 x 8.3 x 5.2 inch	291 x 210 x 131 mm 11.5 x 8.3 x 5.2 inch
1 kg / 2.2 lb	1.8 kg / 4 lb	4 kg / 9 lb	4 kg / 9 lb
4x screw	4x screw	mounting bracket (included) or 4x screw	mounting bracket (included) or 4x screw
CE, ABYC A-31, RRR, e-mark	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
IUoUoo, automatic / 3-step+ for Gel/AGM/flooded/Lithium Ion			
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, via MasterBus	yes, via MasterBus
> 0.95	≥ 0.98	≥ 0.98	≥ 0.98
-25 °C to 60 °C, derating < 0 °C and > 40 °C / -13 °F to 140 °F, derating < 32 °F and > 104 °F			
natural cooling	vario fan	vario fan	vario fan
IP65	IP23	IP23	IP23
over-temperature, overload, short circuit, high/low battery voltage			
no	yes	yes	yes

ACCESSORIES		MasterView Read-out 77010050	n.a.	option	option	option
	<i>Remote panel for reading the charge status of your battery charger, including error notifications.</i>					
		EasyView 5 77010310	n.a.	option	option	option
	<i>Waterproof system monitor with 'daylight readable' colour 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.</i>					
		MasterShunt 77020110	option	option	option	option
	<i>MasterBus integrated battery monitor, with detailed information on the status of your batteries for an optimised charging process, incl. voltage, current, remaining time and consumption capacity in percentage.</i>					
		DC Distribution 77020200	n.a.	option	option	option
	<i>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.</i>					
		MasterBus USB Interface 77030100	n.a.	option	option	option
	<i>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).</i>					
		Multipurpose Contact Output 77030500	n.a.	option	option	option
	<i>MasterBus controllable potential-free contact, with alarm notification on the onboard system (low voltage or no AC), usable as CSI alarm contact.</i>					
		Temperature sensor 6m 41500500	delivered as standard	delivered as standard	delivered as standard	delivered as standard
		Temperature sensor 15m 41500800	option	option	option	option

QUOTE

"Before we became the Mastervolt distributor for Spain more than a decade ago now, we had the experience of knowing and distributing other products by competing brands. Based on our wide knowledge of the marine and automotive sectors, we can affirm that the price/quality ratio of Mastervolt products is excellent and represents a smart choice for the customer."

VICENTE SANLORENZO, CEO
AZIMUT ELECTRONICS, SPAIN



The following models are also available in Quick Connect version with a WAGO 770-113 connector and 25 cm cable:

- ChargeMaster 24/20-3, product code 44020202
- ChargeMaster 24/30-3, product code 44020302

CHECK THE MASTERVOLT SITE FOR
INTERESTING REAL-LIFE SYSTEMS:
MASTERVOLT.COM/REFERENCES
AND
EXTENDED TECHNICAL BACKGROUND
ON OUR PRODUCTS:
MASTERVOLT.COM/TECHNICAL-BACKGROUND

EasyCharge: 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 12 or 24 V outputs.

Highly efficient and simple to use, these chargers are designed for harsh environments, and are fully salt, shock and vibration tested. Currently, 6 A single bank and 10 A 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 prioritise accordingly. The battery chargers have the ability to charge wet, AGM and Gel batteries, with a universal input (120-230 V) for total worldwide freedom.



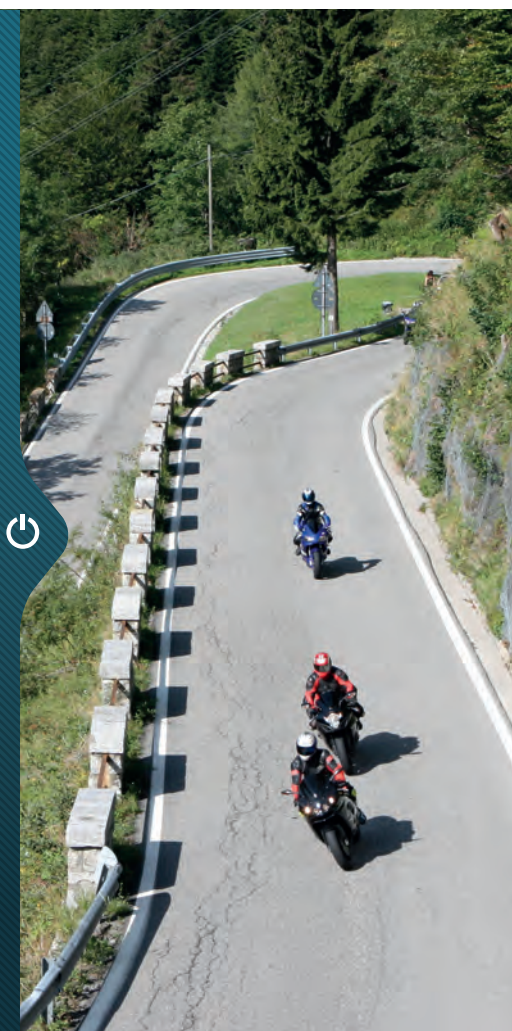
FEATURES

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

Specifications EasyCharge battery chargers



	EasyCharge 6A	EasyCharge 10A
Product code	43310600	43321000
With UK plug	43310602	43321002
GENERAL SPECIFICATIONS		
Total charge current	6 A at 12 V	10 A at 12 V 5 A at 24 V
Recommended battery capacity: charge (based on 50 % discharged battery)	to 120 Ah	to 120 Ah
Nominal input voltage	120/230 V (90-265 V), 50/60 Hz	120/230 V (90-265 V), 50/60 Hz
AC connection	1.2 m (4 ft) cable + Euro plug	1.2 m (4 ft) cable + Euro plug
DC connection	ring terminals	ring terminals
Dimensions, h x w x d	76 x 152 x 51 mm 3 x 6 x 2 inch	127 x 178 x 51 mm 5 x 7 x 2 inch
Weight	1.8 kg / 4 lb	2.8 kg / 6.2 lb
Approvals	CE, ABYC	CE, ABYC
TECHNICAL SPECIFICATIONS		
Charge characteristic	IUoUo, automatic 3-step+ for Gel/AGM/flooded	IUoUo, automatic 3-step+ for Gel/AGM/flooded
Temperature range (ambient temp.)	-20 °C to 50 °C	-20 °C to 40 °C
Protection degree	IP68	IP68
Protections	spark free, short circuit, reverse polarity, over- voltage, current limited, over-temperature	spark free, short circuit, reverse polarity, over- voltage, current limited, over-temperature
MasterBus compatible	no	no



EasyCharge Portable: Waterproof portable battery chargers

For people on the move, the EasyCharge portable battery charger offers a reliable solution that can be used on the boat, car, motorcycle, and camper van. With a rugged, ergonomic construction, and waterproof to IP65 standard, the portable chargers have an intuitive control panel and a universal input (120-230 V) for total worldwide freedom.

Users can quickly select between 6 V (ideal for toys, classic cars and motorcycles) and 12 V operation. The units include 1.8 m of DC cable that connects to either a 61 cm lead with ring terminals, or a 61 cm lead with alligator clips, for easy installation and a variety of applications; both leads are included in the package.



FEATURES

- Entry level model with Mastervolt 3-step+ charge characteristic.
- Suitable for any type of battery, including Lithium Ion.
- Full power up to 40 °C.
- Includes cable & Euro plug.
- Simple switching between 6 V and 12 V.
- Portable and waterproof.
- Easy to connect through ring terminals, or alligator clips (included).



Specifications EasyCharge Portable battery chargers

	EasyCharge Portable 1.1A	EasyCharge Portable 4.3A
Product code	43510100	43510400
With UK plug	43510102	43510402
GENERAL SPECIFICATIONS		
Total charge current	1.1 A	4.3 A
Recommended battery capacity: maintain	2.2 to 40 Ah	14 to 120 Ah
Recommended battery capacity: charge	2.2 to 25 Ah	14 to 90 Ah
Nominal input voltage	120/230 V (90-265 V), 50/60 Hz	120/230 V (90-265 V), 50/60 Hz
AC connection	1.8 m (6 ft) cable + Euro plug (CEE7/16)	1.8 m (6 ft) cable + Euro plug (CEE7/16)
DC connection	ring and alligator clip connections, with integrated fuse for additional safety	ring and alligator clip connections, with integrated fuse for additional safety
Dimensions, hxxwxd	152 x 63 x 35.5 mm 6 x 2.5 x 1.4 inch	161 x 72 x 43.7 mm 6.3 x 2.8 x 1.7 inch
Weight	0.5 kg / 1.1 lb	0.9 kg / 2 lb
Approvals	CE, ABYC	CE, ABYC
TECHNICAL SPECIFICATIONS		
Charge characteristic	IUoUo, automatic 3-step+ for Gel/AGM/flooded	IUoUo, automatic 3-step+ for Gel/AGM/flooded/Lithium Ion
Temperature range (ambient temp.)	-20 °C to 40 °C	-20 °C to 40 °C
Protection degree	IP65	IP65
Protections	short circuit, reverse polarity, over-voltage, current limited, over-temperature	short circuit, reverse polarity, ver voltage, current limited, over-temperature
MasterBus compatible	no	no



In addition to the waterproof Mastervolt battery chargers, we also supply ProMariner ProSport series waterproof battery chargers.

For more information, please consult the ProMariner product catalogue and ProMariner website.

ProMariner™
PROMARINER.COM

Mastervolt 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 hairdryer, DVD player to power tools. A Mastervolt inverter allows you to easily convert the voltage of your 12 V or 24 V 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 sine wave inverter fits your needs?

■ Mass Sine Ultra

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 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

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 12 or 24 V battery voltage into reliable grid power, making it ideal for recreational and semi-professional applications.

QUOTE

"With Mastervolt we mount a reliable battery (management) system with variable components and very good documentation. Remote maintenance is possible through the Internet, and completes the whole system. We have been working for more than seven years with Mastervolt and projects are always solution-oriented and skilfully addressed. One can speak of truly outstanding technical support and we can certainly have trust in such a partnership."

ARMIN DIETZ, HEAD CUSTOMER SERVICE
CONCORDE REISMOBILE, GERMANY





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.

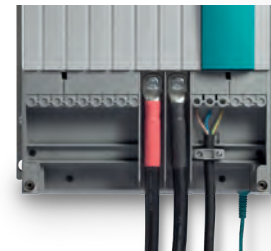


High peak power during start up

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.



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.



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.



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: 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 are 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.



FEATURES

- For heavy duty work in professional and semi-professional applications.
- Full capacity at temperatures up to 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).
- Parallel configuration of up to ten devices for a capacity up to 40 kW (Mass Sine Ultra).
- 3-Phase configuration for a capacity up to 36 kW (Mass Sine Ultra).
- Integrated MasterBus (Mass Sine Ultra) or MasterBus compatible (Mass Sine).
- Suitable for mobile applications.
- Professional connections.
- Automatic, reliable and safe operation.
- Optional: Masterswitch/Systemswitch for automatic selection of the desired energy source.



Mass Sine Ultra



With an AC capacity of 4000 W in one unit, the Mass Sine Ultra 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 can supply a capacity of up to 40 kW. The inverter provides full power at 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 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 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 Sine 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.



Specifications

Mass Sine (Ultra) sine wave inverters



	Mass Sine 12/2000	Mass Sine 24/800	Mass Sine 24/1500	Mass Sine 24/2500
Product code 230 V	24012000	24020800	24021500	24022500
Product code 230 V 60 Hz	24112000	24120800	24121500	24122500
GENERAL SPECIFICATIONS				
Nominal battery voltage	12 V	24 V	24 V	24 V
Recommended battery capacity	> 200 Ah	> 50 Ah	> 150 Ah	> 200 Ah
Output voltage	230 V (± 5 %) – 50 Hz (± 0.01 Hz)	230 V (± 5 %) – 50 Hz (± 0.01 Hz)	230 V (± 5 %) – 50 Hz (± 0.01 Hz)	230 V (± 5 %) – 50 Hz (± 0.01 Hz)
P30 power at 40 °C, cos phi 1	2000 W	800 W	1500 W	2500 W
Continuous power at 40 °C, cos phi 1	1800 W	650 W	1200 W	2000 W
Peak load	4000 W	1600 W	2900 W	5000 W
Output waveform	true sine	true sine	true sine	true sine
AC connection	internal	internal	internal	internal
Efficiency	92 %	92 %	92 %	92 %
Display/read-out	LED	LED	LED	LED
Parallel configuration	no	no	no	no
3-Phase configuration	no	no	no	no
Dimensions, hxxwxd	420 x 318 x 130 mm 16.5 x 12.5 x 5.1 inch	325 x 220 x 111 mm 12.8 x 8.7 x 4.4 inch	340 x 261 x 130 mm 13.4 x 10.3 x 5.1 inch	420 x 318 x 130 mm 16.5 x 12.5 x 5.1 inch
Weight	14.6 kg / 32.2 lb	3.8 kg / 8.4 lb	6.2 kg / 13.7 lb	10.1 kg / 22.3 lb
Approvals	CE, E-mark, ABYC A-31, RRR	CE, E-mark, ABYC A-31	CE, E-mark, ABYC A-31	CE, E-mark, ABYC A-31
TECHNICAL SPECIFICATIONS				
Technology	HF switch mode	HF switch mode	HF switch mode	HF switch mode
Max. ripple on DC (battery)	5 % RMS	5 % RMS	5 % RMS	5 % RMS
Input current (nominal load)	183 A	36 A	68 A	115 A
No-load power consumption (ON mode)	480 mA – 6 W	240 mA – 5.6 W	200 mA – 5 W	250 mA – 6 W
No-load power consumption (energy saving mode)	50 mA – 0.6 W	35 mA – 0.8 W	25 mA – 0.6 W	25 mA – 0.6 W
Minimal DC fuse (slow blow) <i>DC fuse depends on the cable size</i>	250 A	63 A	100 A	160 A
Minimal cable size	70 mm ²	16 mm ²	25 mm ²	50 mm ²
Harmonic distortion typical	< 5 %	< 5 %	< 5 %	< 5 %
Power factor control	all power factors allowed	all power factors allowed	all power factors allowed	all power factors allowed
Transfer system	Masterswitch/Systemswitch compatible, see page 134 for more information			
Temperature range (ambient temp.)	-25 °C to 80 °C; > 40 °C derating / -13 °F to 176 °F; > 104 °F derating			
Cooling	natural/forced	natural/forced	natural/forced	natural/forced
Protection degree	IP23	IP23	IP23	IP23
Protections	over-temperature, overload, short circuit, high battery, low battery			
MasterBus compatible	yes, using a MasterBus Inverter Interface or AC Power Analyser			

ACCESSORIES		C4-Ri 70404110	option	option	option	option
		EasyView 5 77010310	option	option	option	option
		MasterBus USB Interface 77030100	option	option	option	option
		MasterBus Inverter Interface 77030700	option	option	option	option
		AC Power Analyser 77031200	option	option	option	option

option
Remote control on/off for the Mass Sine sine wave inverter.

option
In combination with MasterBus Inverter Interface. Waterproof system monitor with 'daylight readable' colour 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
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 MasterAdjust software (free to download).

option
Integrates the Mass Sine inverter in a MasterBus network.

option
Integrates the Mass Sine inverter in a MasterBus network and visualizes the AC voltage, current and power.



**Mass Sine Ultra
24/4000**

26024000

n.a.



**Mass Sine
24/5000**

24095100

24195100

24 V	24 V
> 350 Ah	> 400 Ah
230 V (± 2 %) – 50/60 Hz selectable (± 0.005 %)	230 V (± 5 %) – 50 Hz (± 0.01 Hz)
--	5000 W
4000 W	4000 W
7000 W	9000 W
true sine	true sine
internal	internal
≥ 92 %	92 %
LED	LED
yes, up to 10 standard	no
yes, up to 3x3	no
472 x 318 x 178 mm 18.6 x 12.5 x 7 inch	470 x 315 x 254 mm 18.5 x 12.4 x 10 inch
15 kg / 33.1 lb	19 kg / 41.9 lb
CE, E-mark, ABYC A-31	CE, E-mark, ABYC A-31

HF switch mode	HF switch mode
5 % RMS	5 % RMS
200 A	230 A
660 mA – 16 W	250 mA – 6 W
300 mA – 7 W	50 mA – 1.2 W
250 A	1x 250 A of 2x 125 A
70 mm ²	2x 70 mm ²
< 1 %	< 5 %
all power factors allowed	all power factors allowed
Masterswitch/Systems switch compatible, see page 128 for more information	
-25 °C to 80 °C; > 40 °C derating -13 °F to 176 °F; > 104 °F derating	
natural/forced	natural/forced
IP23	IP23
over-temperature, overload, short circuit, high battery, low battery	
yes	yes, using a MasterBus Inverter Interface or AC Power Analyser

n.a.	option
option	option
option	option
n.a.	option
n.a.	option

CHECK THE MASTERVOLT SITE FOR
INTERESTING REAL-LIFE SYSTEMS:
MASTERVOLT.COM/REFERENCES
AND
EXTENDED *TECHNICAL BACKGROUND*
ON OUR PRODUCTS:
[MASTERVOLT.COM/TECHNICAL-
BACKGROUND](http://MASTERVOLT.COM/TECHNICAL-
BACKGROUND)



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

- Mass Sine 12/2000 230 V, *product code 24021002*

AC Master Series:

Reliable AC power for recreational and semi-professional use



These affordable sine wave inverters convert 12 or 24 V battery voltage into reliable 230 V 50/60 Hz or 120 V 50/60 Hz 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.



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.
- Convenient plug connection for all models, 2500/3500 Watt models also hard wired.

In addition, the 2500/3500 Watt models offer:

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



Specifications

AC Master

sine wave inverters

12 V



	AC Master 12/300	AC Master 12/500	AC Master 12/700	AC Master 12/1000
Product code 230 V	28010302	28010502	28010700	28011000
With UK plug	n.a.	n.a.	28210700	28211000
With NZ/AU plug	n.a.	n.a.	28410700	28411000
Product code 120 V NEW	n.a.	n.a.	28510700	n.a.
GENERAL SPECIFICATIONS				
Output voltage	230 V – 50 Hz (± 0,1%)	230 V – 50 Hz (± 0,1%)	200/220/230/240 V 50/60 Hz (selectable)	200/220/230/240 V 50/60 Hz (selectable)
Output waveform	true sine	true sine	true sine	true sine
Nominal battery voltage	12 V	12 V	12 V	12 V
Recommended battery capacity	≥ 60 Ah	≥ 100 Ah	≥ 100 Ah	≥ 130 Ah
Continuous power at 25 °C / 77 °F, cos phi 1	300 W	500 W	700 W	1000 W
Continuous power at 40 °C / 104 °F, cos phi 1	250 W	400 W	700 W	1000 W
Peak load	600 W	800 W	< 810 W (1 min) < 1230 W (1 s)	< 1150 W (1 min) < 1750 W (1 s)
AC connection	universal	universal	plug connection EU (Schuko) or UK	plug connection EU (Schuko) or UK
Efficiency	90 %	90 %	91 %	92 %
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 display	LED display	LED indication: battery voltage, load level, status	
Dimensions, hxxwx d	210 x 130 x 60 mm 8.3 x 5.1 x 2.4 inch	210 x 130 x 60 mm 8.3 x 5.1 x 2.4 inch	200 x 330 x 83 mm 7.9 x 13 x 3.3 inch	200 x 372 x 83 mm 7.9 x 14.6 x 3.3 inch
Weight	1.16 kg / 2.55 lb	1.22 kg / 2.69 lb	2.7 kg / 6 lb	3.3 kg / 7.3 lb
Alarms	4 alarm modes	4 alarm modes	potential free alarm contact	potential free alarm contact
Approvals	CE, E-mark, ABYC A-31	CE, E-mark, ABYC A-31	CE, E-mark, RCM	CE, E-mark, RCM
TECHNICAL SPECIFICATIONS				
Technology	high frequency, input & output fully isolated			
Input current (nominal load)	22.5 A	37.5 A	70 A	100 A
No-load power consumption (energy saving mode)	0.33 A – 4 W	0.33 A – 4 W	< 0.1 A	< 0.1 A
Minimal DC fuse (slow blow)	2x 40 A	2x 40 A	100 A	125 A
Minimal cable size	1.5 mtr DC cable delivered as standard		25 mm ²	35 mm ²
Harmonic distortion typical	< 6 %	< 6 %	< 5 %	< 5 %
Cos phi	all power factors allowed			
Transfer system	n.a.	n.a.	n.a.	n.a.
Temperature range (ambient temp.)	-20 °C to 60 °C, derating power > 40 °C / -4 °F to 140 °F, derating power > 104 °F			
Protection degree	IP23, vertical wall mounting	IP23, vertical wall mounting	IP21, horizontal wall mounting	
Protections	over-temperature, over load, short circuit, high/low battery voltage		over-temperature, overload, short circuit, high/low voltage, reverse polarity (fuse)	
Cooling	natural/forced	natural/forced	temperature and load controlled fan	
MasterBus compatible	no	no	yes, using a MasterBus AC Master Interface	

ACCESSORIES		AC Master Remote Control 70405080	n.a.	n.a.	option	option
		MasterBus AC Master Interface 77032700	n.a.	n.a.	option	option

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 8 m (25 ft) cable.

The MasterBus AC Master Interface allows seamless integration of an AC Master inverter into every MasterBus network. By adding the AC Master Interface to your installation, you can now control your AC Master inverter via our MasterBus communication network. A communication cable is included in the delivery.

NEW
MODEL**AC Master
12/1500****AC Master
12/2000****AC Master
12/2500****AC Master
12/3500**

28011500

28012000

28012500

28013500

28211500

n.a.

28212500

28213500

28411500

n.a.

28412500

28413500

n.a.

28512000

n.a.

n.a.

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

true sine

true sine

true sine

true sine

12 V

12 V

12 V

12 V

≥ 160 Ah

≥ 200 Ah

≥ 270 Ah

≥ 360 Ah

1500 W

2000 W

2500 W

3500 W

1500 W

2000 W

2500 W

3500 W

< 1730 W (1 min)
< 2650 W (1 s)< 2300 W (1 min)
< 4000 W (1 s)< 3000 W (1 min)
< 4000 W (1 s)< 4500 W (1 min)
< 6000 W (1 s)plug connection EU
(Schuko) or UKplug connection EU
(Schuko)hardwired + plug connection EU
(Schuko)hardwired + plug connection EU
(Schuko)

93 %

94 %

88 %

90 %

n.a.

n.a.

yes, up to 15 units

yes, up to 15 units

n.a.

n.a.

yes, 3 units

yes, 3 units

LED indication: battery voltage, load level, status

248 x 421 x 83 mm
9.8 x 16.6 x 3.3 inch248 x 443 x 83 mm
9.8 x 17.4 x 3.3 inch283 x 436 x 128 mm
11.1 x 17.2 x 5 inch283 x 496 x 128 mm
11.1 x 19.5 x 5 inch

4.2 kg / 9.3 lb

5.2 kg / 9.3 lb

8 kg / 17.6 lb

10 kg / 22 lb

potential free alarm contact

potential free alarm contact

potential free alarm contact

potential free alarm contact

CE, E-mark, RCM

CE, E-mark, RCM

CE, E-mark, RCM

CE, E-mark, RCM

high frequency, input & output fully isolated

150 A

200 A

250 A

350 A

< 0.1 A

< 0.1 A

< 1.1 A

< 1.4 A

175 A

250 A

300 A

400 A

50 mm²70 mm²95 mm²120 mm²

< 3 %

< 5 %

< 3 %

< 3 %

all power factors allowed

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).

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

IP21, horizontal wall mounting

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

temperature and load controlled fan

yes, using a MasterBus AC Master Interface

option

option

option

option

option

option

option

option

Specifications

AC Master

sine wave inverters

24 V



	AC Master 24/300	AC Master 24/500	AC Master 24/700	AC Master 24/1000
Product code	28020302	28020502	28020700	28021000
With UK plug	n.a.	n.a.	28220700	28221000
With NZ/AU plug	n.a.	n.a.	28420700	28421000
Product code 120 V NEW	n.a.	n.a.	28520700	n.a.
GENERAL SPECIFICATIONS				
Output voltage	230 V – 50 Hz (± 0,1%)	230 V – 50 Hz (± 0,1%)	200/220/230/240 V 50/60 Hz (selectable)	200/220/230/240 V 50/60 Hz (selectable)
Output waveform	true sine	true sine	true sine	true sine
Nominal battery voltage	24 V	24 V	24 V	24 V
Recommended battery capacity	≥ 30 Ah	≥ 50 Ah	≥ 50 Ah	≥ 65 Ah
Continuous power at 25 °C / 77 °F, cos phi 1	300 W	500 W	700 W	1000 W
Continuous power at 40 °C / 104 °F, cos phi 1	250 W	400 W	700 W	1000 W
Peak load	600 W	800 W	< 810 W (1 min) < 1230 W (1 s)	< 1150 W (1 min) < 1750 W (1 s)
AC connection	universal	universal	plug connection EU (Schuko) or UK	plug connection EU (Schuko) or UK
Efficiency	91 %	91 %	93 %	94 %
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 display	LED display	LED indication: battery voltage, load level, status	
Dimensions, hxxwx d	210 x 130 x 60 mm 8.3 x 5.1 x 2.4 inch	210 x 130 x 60 mm 8.3 x 5.1 x 2.4 inch	200 x 330 x 83 mm 7.9 x 13 x 3.3 inch	200 x 372 x 83 mm 7.9 x 14.6 x 3.3 inch
Weight	1.16 kg / 2.55 lb	1.22 kg / 2.69 lb	2.7 kg / 6 lb	3.3 kg / 7.3 lb
Alarms	4 alarm modes	4 alarm modes	potential free alarm contact	
Approvals	CE, E-mark, ABYC A-31	CE, E-mark, ABYC A-31	CE, E-mark, RCM	CE, E-mark, RCM
TECHNICAL SPECIFICATIONS				
Technology	high frequency, input & output fully isolated			
Input current (nominal load)	11 A	19 A	35 A	50 A
No-load power consumption (energy saving mode)	0.16 A – 4 W	0.16 A – 4 W	< 0.06 A	< 0.05 A
Minimal DC fuse (slow blow)	40 A	40 A	50 A	63 A
Minimal cable size	1.5 mtr DC cable delivered as standard		16 mm ²	16 mm ²
Harmonic distortion typical	< 6 %	< 6 %	< 5 %	< 5 %
Cos phi	all power factors allowed			
Transfer system	n.a.	n.a.	n.a.	n.a.
Temperature range (ambient temp.)	-20 °C to 60 °C, derating power > 40 °C / -4 °F to 140 °F, derating power > 104 °F			
Protection degree	IP23, vertical wall mounting	IP23, vertical wall mounting	IP21, horizontal wall mounting	
Protections	over-temperature, over load, short circuit, high/low battery voltage		over-temperature, overload, short circuit, high/low voltage, reverse polarity (fuse)	
Cooling	natural/forced	natural/forced	temperature and load controlled fan	
MasterBus compatible	no	no	yes, using a MasterBus AC Master Interface	

ACCESSORIES		AC Master Remote Control 70405080	n.a.	n.a.	option	option
		MasterBus AC Master Interface 77032700	n.a.	n.a.	option	option

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 8 m (25 ft) cable.

The MasterBus AC Master Interface allows seamless integration of an AC Master inverter into every MasterBus network. By adding the AC Master Interface to your installation, you can now control your AC Master inverter via our MasterBus communication network. A communication cable is included in the delivery.

NEW
MODEL**AC Master
24/1500**

28021500

28221500

28421500

n.a.

**AC Master
24/2000**

28022000

n.a.

n.a.

28522000

**AC Master
24/2500**

28022500

28222500

28422500

n.a.

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

true sine

24 V

≥ 80 Ah

1500 W

1500 W

< 1730 W (1 min)

< 2650 W (1 s)

plug connection EU (Schuko)
or UK

94 %

n.a.

n.a.

LED indication: battery voltage, load level, status

248 x 421 x 83 mm

9.8 x 16.6 x 3.3 inch

4.2 kg / 9.3 lb

potential free alarm contact

CE, E-mark, RCM

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

true sine

24 V

≥ 110 Ah

2000 W

2000 W

< 2300 W (1 min)

< 4000 W (1 s)

plug connection EU (Schuko)

94 %

n.a.

n.a.

248 x 443 x 83 mm

9.8 x 17.4 x 3.3 inch

11.5 kg / 5.2 lb

CE, E-mark, RCM

230/240 V - 50/60 Hz
(selectable)

true sine

24 V

≥ 135 Ah

2500 W

2500 W

< 3000 W (1 min)

< 4000 W (1 s)

hardwired + plug connection EU
(Schuko)

88 %

yes, up to 15 units

yes, 3 units

283 x 436 x 128 mm

11.1 x 17.2 x 5 inch

8 kg / 17.6 lb

CE, E-mark, RCM

high frequency, input & output fully isolated

75 A

< 0.05 A

100 A

25 mm²

< 5 %

all power factors allowed

n.a.

100 A

< 1.0 A

160 A

35 mm²

< 5 %

n.a.

125 A

< 0.7 A

160 A

50 mm²

< 5 %

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

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

IP21, horizontal wall mounting

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

temperature and load controlled fan

yes, using a MasterBus AC Master Interface

option

option

option

option

option

option



Mastervolt Inverter/Chargers: High-quality power supply with first-class comfort, wherever you are

Mastervolt inverter/charger combinations 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 16-metre yachts, from campers to demo trucks, from holiday homes to remote businesses, and from backup systems to grid connected systems with energy storage. Each CombiMaster, Mass Combi Ultra and Mass Combi Pro 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.

CHECK THE MASTERVOLT SITE FOR
INTERESTING REAL-LIFE SYSTEMS:
MASTERVOLT.COM/REFERENCES
AND
EXTENDED TECHNICAL BACKGROUND
ON OUR PRODUCTS:
MASTERVOLT.COM/TECHNICAL-BACKGROUND

Which Mastervolt inverter/ charger suits you?

■ 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. Compatible for communication with MasterBus, CZone and NMEA 2000, the CombiMaster ranges from 1600 to 2600 watt. Suitable for recreational and semi-professional use.

■ 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.





Power Assist for extra power

If you require more power than the grid or generator can provide, the Mastervolt 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 (labour) 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.

NEW

CombiMaster series: Unmatched performance at an unprecedented price

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

With the CombiMaster, power dips and failures belong to the past. The automatic AC transfer system switches 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 range delivers unmatched performance and value for money. As you would expect from Mastervolt, the CombiMaster is completed with MasterBus, CZone and NMEA 2000 compatible communication, allowing for a broad range of monitoring and system integration options.

Remote Control and Monitoring options

- MasterBus compatible via SmartRemote or EasyView 5 display.
- CZone / NMEA 2000 compatible via Touch 5 or Touch 10 display.
- NMEA 2000 compatible via 3rd party multifunctional display.










FEATURES

- Most compact and lightweight Combi in its class.
- Reliable, hum-free and longer operation from your batteries.
- Starts even the heaviest and most sensitive loads.
- Intelligent 3-step+ battery charger for faster and safer charging.
- Automatic switching between mains and inverter mode.
- Power Assist prevents blown mains fuses.
- Generator compatible.
- Integrated CZone, MasterBus and NMEA 2000 communication.
- Quick installation with heavy duty connections.
- E-mark certified.







Specifications CombiMaster 230 V

	NEW MODEL	NEW MODEL	NEW MODEL	NEW MODEL
				
	CombiMaster 12/2000-60	CombiMaster 12/3000-100	CombiMaster 24/2000-40	CombiMaster 24/3000-60
Product code 230 V	35012000	35013000	35022000	35023000
GENERAL SPECIFICATIONS SINE WAVE INVERTER				
Nominal DC voltage	12 V (10.2–16 V)	12 V (10.2–16 V)	24 V (20.4–32 V)	24 V (20.4–32 V)
Output voltage	230 V	230 V	230 V	230 V
Output frequency	50/60 Hz, configurable	50/60 Hz, configurable	50/60 Hz, configurable	50/60 Hz, configurable
Output waveform	true sine	true sine	true sine	true sine
Continuous power at 40 °C / 104 °F	2000 VA / 1600 W	3000 VA / 2600 W	2000 VA / 1600 W	3000 VA / 2600 W
Peak power (30 sec)	3000 VA / 2400 W	4500 VA / 3900 W	3000 VA / 2400 W	4500 VA / 3900 W
Surge power (5 sec)	4000 VA / 3200 W	6000 VA / 5200 W	4000 VA / 3200 W	6000 VA / 5200 W
Max. efficiency	93 %	93 %	93 %	93 %
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	10 W	10 W	10 W	10 W
Synchronization with mains	yes	yes	yes	yes
GENERAL SPECIFICATIONS BATTERY CHARGER				
Input voltage range	170 – 280 V	170 – 280 V	170 – 280 V	170 – 280 V
Max. input current	6 A (adjustable)	10 A (adjustable)	8 A	13 A
Max. charge current at 40 °C / 104 °F	60 A at 14.25V, configurable	100 A at 14.25 V, configurable	40 A at 28.5 V, configurable	60 A at 28.5 V, 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 (switched)	25 A	25 A	25 A	25 A
AC output	33 A	38 A	33 A	38 A
AC input fuse	yes	yes	yes	yes
Transfer speed	10 ms	10 ms	10 ms	10 ms
Transfer voltage range	wide: 90 – 280 V / narrow: 170 – 280 V	wide: 90 – 280 V / narrow: 170 – 280 V	wide: 90 – 280 V / narrow: 170 – 280 V	wide: 90 – 280 V / narrow: 170 – 280 V
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, hxxwxd	371 x 284 x 155 mm 14.6 x 11.2 x 6.1 inch	448 x 284 x 155 mm 17.6 x 11.2 x 6.1 inch	371 x 284 x 155 mm 14.6 x 11.2 x 6.1 inch	448 x 284 x 155 mm 17.6 x 11.2 x 6.1 inch
Weight	6,9 kg / 15.2 lb	9.3 kg / 20.5 lb	6,9 kg / 15.2 lb	9.3 kg / 20.5 lb
Approvals	CE, E-mark, AZ/NZS	CE, E-mark, AZ/NZS	CE, E-mark, AZ/NZS	CE, E-mark, AZ/NZS
TECHNICAL SPECIFICATIONS				
Recommended battery capacity (based on gel batteries, may differ for other types)	180 – 500 Ah	300 – 800 Ah	120 – 320 Ah	180 – 500 Ah
Charge characteristic	IUoUo, automatic / 3-step+ for flooded, Gel/AGM and MLI (configurable)			
Ground relay	yes, configurable by means of mechanical jumper			
Temperature range (ambient temp.)	-25 °C to 60 °C, derating > 40 °C / -13 °F to 140 °F, derating > 104 °F			
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			
Protections	over-temperature, overload, short circuit, high/low battery voltage			
Power Assist	yes, supports AC input with power from the battery			
Power Sharing	yes, allows you to select AC input fuse setting			
MasterBus / CZone / NMEA 2000 compatible delivered as standard with 1 mtr Mastervolt-CZone drop cable	yes	yes	yes	yes

ACCESSORIES				
	Waterproof system monitor with 'daylight readable' colour display and intuitive multi-language touchscreen to show the key system information at a glance.		5 Inch touchscreen with built-in WiFi connectivity and IPx7 water ingress protection. Comes with super bright widescreen display and the latest capacitive touchscreen technology.	
EasyView 5 77010310		Touch 5 80-911-0124-00		Touch 10 80-911-0100-00
				
				SmartRemote 77010500 (OEM) 77010600 (retail)
				
				CZone/MasterBus compatible color display for local device monitoring. Shows key parameters and allows simple device settings.
				
				Mastervolt-CZone drop cable 0.5 m: 77060050 1 m: 77060100 (delivered as standard) 2 m: 77060200 5 m: 77060500
				
				Adapter cable for connecting Mastervolt devices with CZone support to the CZone or NMEA 2000 network.

Specifications CombiMaster 120 V

Specifications
CombiMaster
120 V

	NEW MODEL	NEW MODEL	NEW MODEL	NEW MODEL
				
	CombiMaster 12/2000-100	CombiMaster 12/3000-160	CombiMaster 24/2000-60	CombiMaster 24/3000-70
Product code 120 V	35512000	35513000	35522000	35523000
GENERAL SPECIFICATIONS SINE WAVE INVERTER				
Nominal DC voltage	12 V (10.2–16 V)	12 V (10.2–16 V)	24 V (20.4–32 V)	24 V (20.4–32 V)
Output voltage	120 V	120 V	120 V	120 V
Output frequency	60/50 Hz, configurable	60/50 Hz, configurable	60/50 Hz, configurable	60/50 Hz, configurable
Output waveform	true sine	true sine	true sine	true sine
Continuous power at 40 °C / 104 °F	2000 W	2600 W	2000 W	2600 W
Peak power (30 sec)	3000 W	4500 W	3000 W	4500 W
Surge power (5 sec)	4000 W	6000 W	4000 W	6000 W
Max. efficiency	93 %	93 %	93 %	93 %
Battery no-load power consumption	25 W (on mode) / < 1 mA (off mode)	30 W (on mode) / < 1 mA (off mode)	25 W (on mode) / < 1 mA (off mode)	30 W (on mode) / < 1 mA (off mode)
Energy saving mode consumption	10 W	10 W	10 W	10 W
Synchronization with mains	yes	yes	yes	yes
GENERAL SPECIFICATIONS BATTERY CHARGER				
Input voltage range	90-140 V	90-140 V	90-140 V	90-140 V
Max. input current	17 A (adjustable)	28 A (adjustable)	21 A	25 A
Max. charge current at 40 °C / 104 °F	100 A at 14.25V, configurable	160 A at 14.25 V, configurable	60 A at 28.5 V, configurable	70 A at 28.5 V, 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 (switched)	30 A	30 A	30 A	30 A
AC output	47 A	55 A	47 A	55 A
AC input fuse	yes	yes	yes	yes
Transfer speed	10 ms	10 ms	10 ms	10 ms
Transfer voltage range	wide: 70–140 V / narrow: 90–140 V	wide: 70–140 V / narrow: 90–140 V	wide: 70–140 V / narrow: 90–140 V	wide: 70–140 V / narrow: 90–140 V
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, hxxwx d	448 x 284 x 155 mm 17.6 x 11.2 x 6.1 inch	448 x 284 x 155 mm 17.6 x 11.2 x 6.1 inch	448 x 284 x 155 mm 17.6 x 11.2 x 6.1 inch	448 x 284 x 155 mm 17.6 x 11.2 x 6.1 inch
Weight	9.3 kg / 20.5 lb	9.3 kg / 20.5 lb	9.3 kg / 20.5 lb	9.3 kg / 20.5 lb
Approvals	ABYC A31, UL1236, UL1741, SAEJ1171			
TECHNICAL SPECIFICATIONS				
Recommended battery capacity (based on gel batteries, may differ for other types)	180 – 500 Ah	300 – 800 Ah	120 – 320 Ah	180 – 500 Ah
Charge characteristic	IUoUo, automatic / 3-step+ for flooded, Gel/AGM and MLI (configurable)			
Ground relay	yes, configurable by means of mechanical jumper			
Temperature range (ambient temp.)	-25 °C to 60 °C, derating > 40 °C / -13 °F to 140 °F, derating > 104 °F			
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			
Protections	over-temperature, overload, short circuit, high/low battery voltage			
Power Assist	yes, supports AC input with power from the battery			
Power Sharing	yes, allows you to select AC input fuse setting			
MasterBus / CZone / NMEA 2000 compatible	yes	yes	yes	yes
delivered as standard with 1 mtr Mastervolt-CZone drop cable				

ACCESSORIES

 EasyView 5 77010310	Waterproof system monitor with 'daylight readable' colour display and intuitive multi-language touchscreen to show the key system information at a glance.	 Touch 5 80-911-0124-00	5 Inch touchscreen with built-in WiFi connectivity and IPx7 water ingress protection. Comes with super bright widescreen display and the latest capacitive touchscreen technology.	 Touch 10 80-911-0100-00	10 Inch LED-backlit projected capacitive touchscreen display with IPS technology. Offers full control of circuits plus important onboard system information (for AC and DC supplies).	 SmartRemote 77010500 (OEM) 77010600 (retail)	CZone/MasterBus compatible color display for local device monitoring. Shows key parameters and allows simple device settings.	 Mastervolt-CZone drop cable 0.5 m: 77060050 1 m: 77060100 (delivered as standard) 2 m: 77060200 5 m: 77060500	Adapter cable for connecting Mastervolt devices with CZone support to the CZone or NMEA 2000 network.
--	--	---	--	--	---	--	---	--	---

Mass Combi Ultra & Mass Combi Pro: 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 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 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 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 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 secondary battery charger.



QUOTE

"When working at an event or any outside location we can really trust the intelligence of this Mass Combi system. It regulates everything by itself without our involvement or the need for external power supplies, allowing us to focus on selling our products to the customers knowing that we always have power available in our mobile food truck."

ANNA GEIGER,
FOOD TRUCK OWNER



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.

Quiet Operation



The Mass Combi Ultra and Mass Combi Pro 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.

Parallel and 3-phase operation



The Mass Combi Ultra and Mass Combi Pro functionality goes beyond stand-alone operation, the design also allows parallel and 3-phase configurations for larger applications up to 35 kW. For larger systems, an external transfer system is required.

Dual AC inputs and outputs

The Mass Combi Ultra and Mass Combi Pro 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.



Specifications

Mass Combi Ultra

Mass Combi Pro

230 V



	Mass Combi Ultra 12/3000-150	Mass Combi Ultra 24/3500-100	Mass Combi Ultra 48/3500-50	Mass Combi Pro 12/3000-150
Product code	38013000	38023500	38343500	38513000
SPECIFICATIONS SINE WAVE INVERTER				
Nominal DC voltage	12 V (9.5 – 16 V)	24 V (19 – 32 V)	48 V (38 – 62 V)	12 V (9.5 – 16 V)
Output voltage	180-260 V, adjustable	180-260 V, adjustable	180-260 V, adjustable	180-260 V, adjustable
Output waveform	true sine	true sine	true sine	true sine
Continuous power at 40 °C, cos phi 1	3000 W	3500 W	3500 W	3000 W
Surge capability	6000 W	7000 W	7000 W	6000 W
Parallel configuration	yes, up to 10 standard	yes, up to 10 standard	yes, up to 10 standard	yes, up to 10 standard
<i>For larger systems, an external transfer system is required.</i>				
3-Phase configuration	yes, up to 3x3	yes, up to 3x3	yes, up to 3x3	yes, up to 3x3
Max. efficiency	≥ 90 %	≥ 92 %	≥ 93 %	≥ 90 %
Energy saving mode consumption	7 W	7 W	7 W	7 W
SPECIFICATIONS BATTERY CHARGER				
Max. charge current at 40 °C	150 A at 14.25 V	100 A at 28.5 V	50 A at 57 V	150 A at 14.25 V
Secondary charger output voltage	12 V	12/24 V selectable, 3-step+	12/24 V selectable, 3-step+	n.a.
Secondary charger output current	10 A	10 A	10 A	n.a.
Battery temperature sensor	yes, included	yes, included	yes, included	yes, included
SPECIFICATIONS TRANSFER SYSTEM				
AC input (generator)	50 A (switched)	50 A (switched)	50 A (switched)	50 A (switched)
AC input (mains)	30 A (switched)	30 A (switched)	30 A (switched)	30 A (switched)
AC output 1	67 A	67 A	67 A	67 A
AC output 2	50 A (switched)	50 A (switched)	50 A (switched)	50 A (switched)
Transfer speed	seamless (< 1 ms)	seamless (< 1 ms)	seamless (< 1 ms)	seamless (< 1 ms)
SOLAR INPUT DC SPECIFICATIONS				
Input voltage range	25-50 V	25-100 V	n.a.	n.a.
Max. PV peak power	500 Wp	500 Wp	n.a.	n.a.
Max. input current	19 A	19 A	n.a.	n.a.
Max. charge current	30 A at 14.25 V	15 A at 28.5 V	n.a.	n.a.
MPP Tracker	full power at 25-50 V	full power at 35-80 V	n.a.	n.a.
GENERAL SPECIFICATIONS				
Display/read-out	LED display	LED display	LED display	LED display
Dimensions, hxxwxd	472 x 318 x 178 mm 18.6 x 12.5 x 7 inch	472 x 318 x 178 mm 18.6 x 12.5 x 7 inch	472 x 318 x 178 mm 18.6 x 12.5 x 7 inch	472 x 318 x 178 mm 18.6 x 12.5 x 7 inch
Weight	15.3 kg / 33.7 lb	15.3 kg / 33.7 lb	15.3 kg / 33.7 lb	15.3 kg / 33.7 lb
Approvals	CE, E-mark, ABYC, RMRS	CE, E-mark, ABYC, RMRS	CE, E-mark, ABYC, RMRS	CE, E-mark, ABYC
TECHNICAL SPECIFICATIONS				
Charge characteristic	IUoUo, automatic 3-step+ for AGM/Gel/MLI/flooded/traction/spiral			
Ground relay	yes, configurable	yes, configurable	yes, configurable	yes, configurable
Temperature range (ambient temp.)	-25 °C to 60 °C, derating > 40 °C / -13 °F to 140 °F, derating > 104 °F			
Cooling	vario fan	vario fan	vario fan	vario fan
Protection degree	IP23 (vertical mounting)	IP23 (vertical mounting)	IP23 (vertical mounting)	IP23 (vertical mounting)
Protections	over-temperature, overload, short circuit, high/low battery voltage			
MasterBus compatible	yes	yes	yes	yes

ACCESSORIES		EasyView 5 77010310	option	option	option	option
		MasterBus USB Interface 77030100	option	option	option	option
		RJ12 communication / sync cable, available lengths: 1, 3, 6, 10 or 15 metre	option	option	option	option
		Temperature sensor 6m 41500500	delivered as standard	delivered as standard	delivered as standard	delivered as standard
		Temperature sensor 15m 41500800	option	option	option	option

Waterproof system monitor with 'daylight readable' colour 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.

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).

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 models, both in parallel or 3-phase configurations.



Mass Combi Pro
24/3500-100

38523500

24 V (19 – 32 V)
180-260 V, adjustable
true sine
3500 W
7000 W
yes, up to 10 standard

yes, up to 3x3
≥ 92 %
7 W

100 A at 28.5 V
n.a.
n.a.
yes, included

50 A (switched)
30 A (switched)
67 A
50 A (switched)
seamless (< 1 ms)

n.a.
n.a.
n.a.
n.a.
n.a.

LED display
472 x 318 x 178 mm
18.6 x 12.5 x 7 inch
15.3 kg / 33.7 lb
CE, E-mark, ABYC

yes, configurable

vario fan
IP23 (vertical mounting)

yes

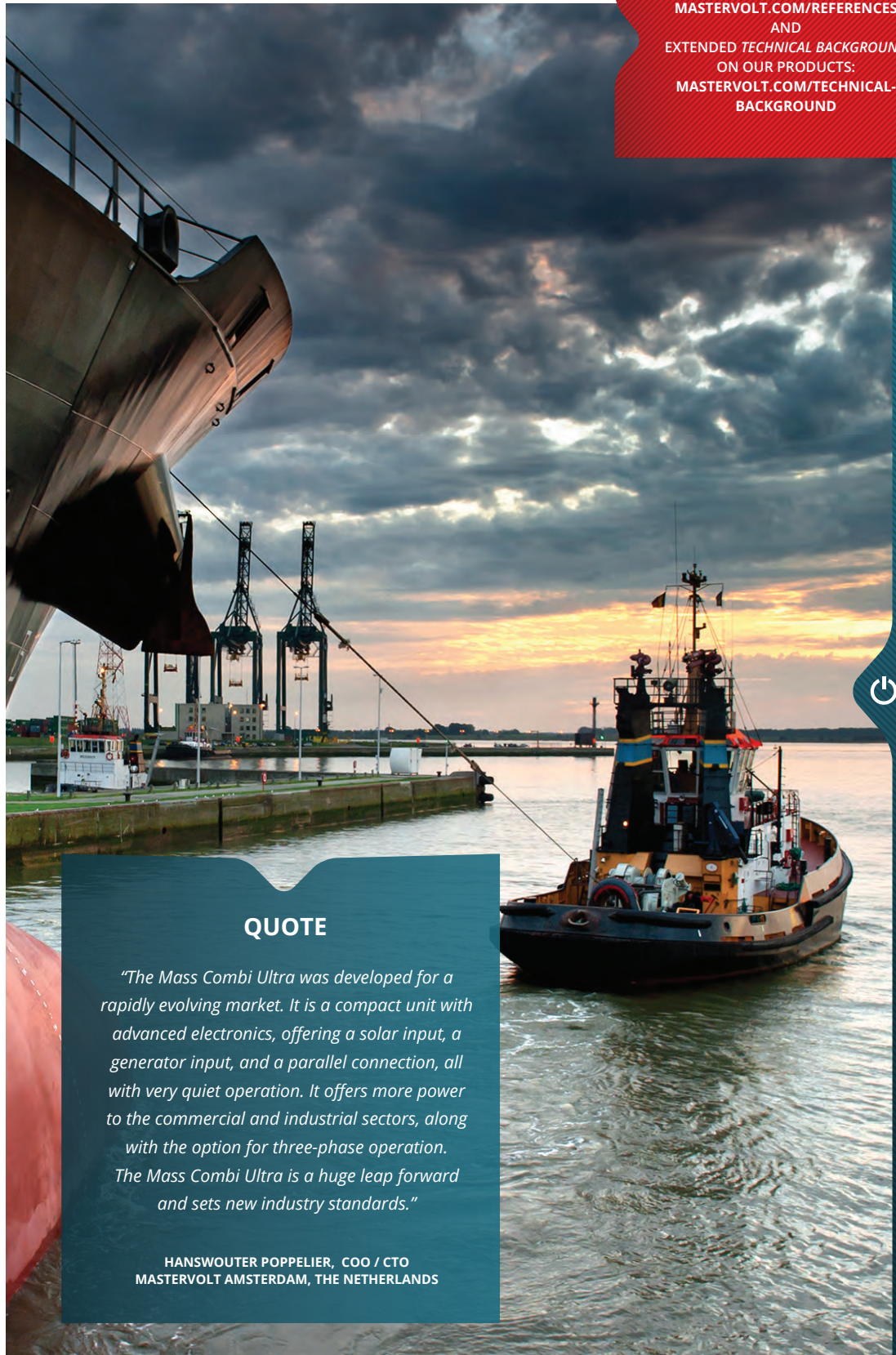
option

option

option

delivered as standard

option



QUOTE

“The Mass Combi Ultra was developed for a rapidly evolving market. It is a compact unit with advanced electronics, offering a solar input, a generator input, and a parallel connection, all with very quiet operation. It offers more power to the commercial and industrial sectors, along with the option for three-phase operation. The Mass Combi Ultra is a huge leap forward and sets new industry standards.”

HANSWOUTER POPPELIER, COO / CTO
MASTERVOLT AMSTERDAM, THE NETHERLANDS

CHECK THE MASTERVOLT SITE FOR
INTERESTING REAL-LIFE SYSTEMS:
[MASTERVOLT.COM/REFERENCES](https://mastervolt.com/references)
AND
EXTENDED TECHNICAL BACKGROUND
ON OUR PRODUCTS:
[MASTERVOLT.COM/TECHNICAL-
BACKGROUND](https://mastervolt.com/technical-background)



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

A DC-DC converter can provide other voltages than those 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 **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.

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.

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.

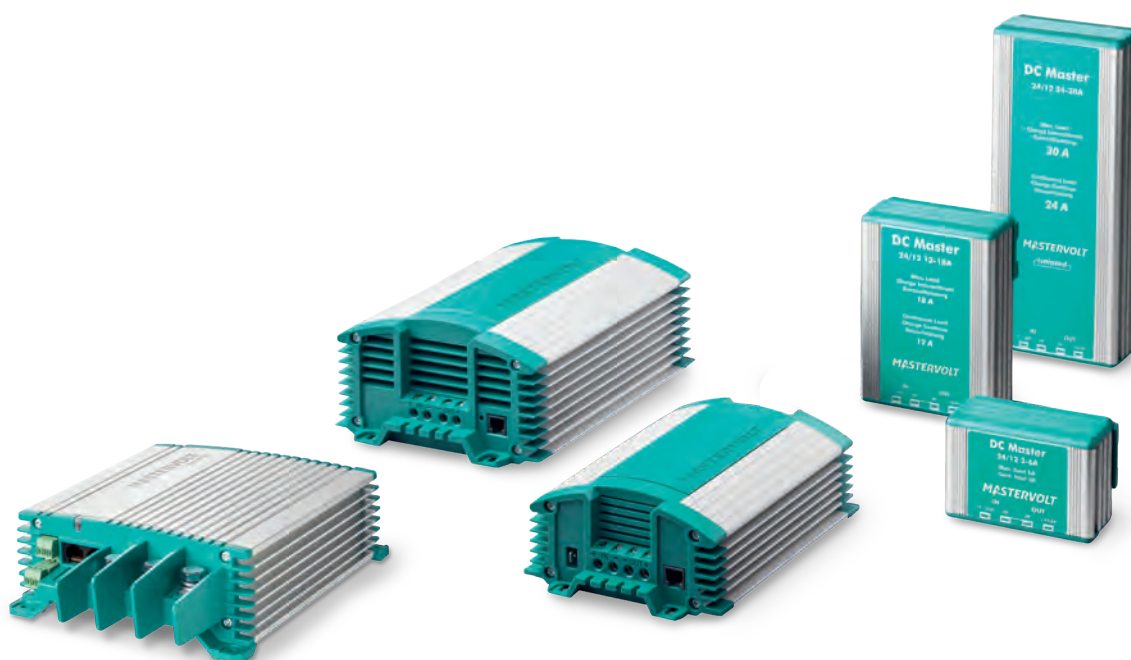


QUOTE

"During our fantastic journey to the South Pole, it became clear that the Mastervolt system did the job extremely well. Not once did the system let us down or enter a critical situation. If any part of the Mastervolt system had failed, it would have meant the end of our expedition and could have put us in a dangerous situation, as charging the system using mains power is simply not an option in Antarctica."

EDWIN & LIESBETH TER VELDE
CLEAN2ANTARCTICA.COM, THE NETHERLANDS





Programmable via laptop or PC



Remote control the Mac/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 solution



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



Energy-saving dimmer function



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

3-Step battery charger



Connected to the 12 or 24 V service battery, the Mac/Magic series can also be used as an advanced 3-step battery charger for Gel, AGM, flooded or Lithium Ion batteries.



Parallel Operation



Lots of consumers on board? The parallel configuration of several units will provide you over 100 amperes. Advanced high-frequency technology with modern microprocessors ensures minimum power loss when switching from 24 to 12 V 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 series: Boost the charging voltage of your service battery!

Charging the service batteries on board of a vehicle or vessel can be challenging. Recharging tends to take a long time and batteries may not receive a full charge. This is a common problem found in boats, service vans, campers and trucks. Smart alternators and start/stop systems make the problem even worse.

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 12 V or 24 V. 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.

Applications

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



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.

Battery's Best Friend



The Mac Plus is your battery's best friend. It monitors your service battery and makes sure it's always fully charged, maximising the lifetime of your battery.



Parallel operation








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

Specifications






Mac & Mac Plus

DC-DC converters

MAC PLUS

Specifications Mac & Mac Plus DC-DC converters						
	Mac 24/12-20	Mac Plus 12/12-50	Mac Plus 12/24-30	Mac Plus 24/12-50	Mac Plus 24/24-30	
Product code	81200100	81205100	81205300	81205200	81205400	
GENERAL SPECIFICATIONS						
Battery voltage sense	n.a.	yes	yes	yes	yes	
Status indicator	n.a.	yes, 3-color LED	yes, 3-color LED	yes, 3-color LED	yes, 3-color LED	
Output voltage	10-15 V DC	10-15 V DC	20-30 V DC	10-15 V DC	20-30 V DC	
Nominal output voltage*	13.6 V DC	12 V DC	24 V DC	12 V DC	24 V DC	
Output voltage dimmer*	4-13 V DC	n.a.	n.a.	n.a.	n.a.	
Output voltage stabilisation	2 % at extremes of temps, load and input					
Output voltage ripple	max. 1 % peak peak	max. 1 % peak peak	max. 1 % peak peak	max. 1 % peak peak	max. 1 % peak peak	
Output power (max./nominal)	300 / 270 W	725 / 675 W	725 / 675 W	750 / 710 W	850 / 810 W	
Max. output current	20 A	50 A	30 A	50 A	30 A	
Output charge current - 3-step mode	16 A	50 A	30 A	50 A	30 A	
Nominal input voltage	24 V	12 V	12 V	24 V	24 V	
Input voltage range	20-32 V DC	10-16 V DC	10-16 V DC	19-30 V DC	19-30 V DC	
Max. input current	n.a.	50 A	50 A	50 A	50 A	
Galvanic isolation	no	no	no	no	no	
Voltage limited	yes	yes	yes	yes	yes	
Efficiency	>90 % (nom. input voltage, full load); 92 % peak	> 95 % (at nom. input voltage, full load); 97 % peak				
Parallel configuration	yes	yes	yes	yes	yes	
Alarm contact	no	yes, through MasterBus	yes, through MasterBus	yes, through MasterBus	yes, through MasterBus	
MasterBus powering	no	no	no	no	no	
Engine run signal input	n.a.	yes (active high/active low)				
DIP switches	n.a.	yes, for basic setup	yes, for basic setup	yes, for basic setup	yes, for basic setup	
Dimensions, hxxwxd	190 x 130 x 61 mm 7.5 x 5.1 x 2.4 inch	255 x 165 x 66 mm 10 x 6.5 x 2.6 inch	255 x 165 x 66 mm 10 x 6.5 x 2.6 inch	255 x 165 x 66 mm 10 x 6.5 x 2.6 inch	255 x 165 x 66 mm 10 x 6.5 x 2.6 inch	
Weight	1 kg / 2.2 lb	2 kg / 4.4 lb	2 kg / 4.4 lb	2 kg / 4.4 lb	2 kg / 4.4 lb	
Approvals	CE	CE, E-Mark, SAE J1171 & ISO 8846 Ignition Protected				
TECHNICAL SPECIFICATIONS						
No-load consumption	n.a.	< 2 mA	< 2 mA	< 2 mA	< 2 mA	
Battery types	flooded, Gel, AGM, spiral, Lithium Ion, traction, user defined					
3-Step charge option (dip switch settings)	yes	yes	yes	yes	yes	
DC consumption	< 30 mA	< 5 mA	< 5 mA	< 5 mA	< 5 mA	
Connections input/output	screw terminals, max. wire size 16 mm² / AWG5	3 x M8 terminal for cable diameters of 10-50 mm², (positive input, positive output, joint negative connection) 6-pole screw connection for cable diameters of 0.75-1.5 mm² (remote on/off, temperature sensor, voltage measurement)				
Temperature range (ambient temp.)	-25 °C to 60 °C; > 40 °C derating power / -13 °F to 140 °F; > 104 °F derating power					
Cooling	natural cooling	natural cooling	natural cooling	natural cooling	natural cooling	
Protection degree	IP21	IP23	IP23	IP23	IP23	
Protections	overload, over-temperature	overload, over-temperature, DC short circuit, reversed polarity (fuse)				
MasterBus compatible	yes, in combination with MasterBus Serial Interface	yes	yes	yes	yes	





* Adjustable with MasterAdjust software.

ACCESSORIES		PC-Link 21730300	option	n.a.	n.a.	n.a.	n.a.
	Interface between Mac converter and PC, in combination with the MasterAdjust software (free to download). The PC-Link can be directly connected to a computer serial port.						
		EasyView 5 77010310	option	option	option	option	option
	In combination with a MasterBus Serial Interface. Waterproof system monitor with 'daylight readable' colour 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 Serial Interface 77030450	option	n.a.	n.a.	n.a.	option
	Integrates the Mac & Magic converters in a MasterBus network.						
		Temperature sensor 6m 41500500	delivered as standard	delivered as standard	delivered as standard	delivered as standard	delivered as standard
		Temperature sensor 15m 41500800	option	option	option	option	option






Specifications Magic converters

Specifications

Magic converters

				
	Magic 24/12-20	Magic 24/24-20	Magic 12/12-20	Magic 12/24-10
Product code	81300100	81300200	81300400	81300300
GENERAL SPECIFICATIONS				
Output voltage	10-15 V DC	20-28.5 V DC	10-15 V DC	20-28.5 V DC
Nominal output voltage*	13.6 V DC	27.2 V DC	13.6 V DC	27.2 V DC
Output voltage dimmer*	4-13 V DC	8-26 V DC	4-13 V DC	8-26 V DC
Output voltage stabilisation	2 % at extremes of temps, load and input			
Output voltage ripple	max. 1 % peak peak	max. 1 % peak peak	max. 1 % peak peak	max. 1 % peak peak
Output power (max./nominal)	300 / 300 W	580 / 580 W	300 / 300 W	300 / 300 W
Max. output current	20 A	20 A	20 A	10 A
Output charge current - 3-step mode	16 A	16 A	16 A	8 A
Nominal input voltage	24 V	24 V	12 V	12 V
Input voltage range	19-32 V DC	19-32 V DC	11-16 V DC	11-16 V DC
Input range, (3-step charge mode)	24-32 V DC	24-32 V DC	12-16 V DC	12-16 V DC
Lower input set point	20 V DC*	20 V DC*	10 V DC*	10 V DC*
Delay lower input set point	30 sec.*	30 sec.*	30 sec.*	30 sec.*
Galvanic isolation	yes	yes	yes	yes
Voltage limited	yes	yes	yes	yes
Efficiency	>90 % (nom. input voltage, full load); 92 % peak			
Parallel configuration	yes	yes	yes	yes
Dimmer function	yes, by external momentary switch via fast-on connection, to be activated by DIP-switch setting			
Alarm contact	no	yes, through MasterBus	yes, through MasterBus	yes, through MasterBus
Dimensions, hxxwxd	190 x 130 x 61 mm 7.5 x 5.1 x 2.4 inch	255 x 165 x 66 mm 10 x 6.5 x 2.6 inch	255 x 165 x 66 mm 10 x 6.5 x 2.6 inch	255 x 165 x 66 mm 10 x 6.5 x 2.6 inch
Weight	1 kg / 2.2 lb	2 kg / 4.4 lb	2 kg / 4.4 lb	2 kg / 4.4 lb
Approvals	CE	CE, E-Mark, SAE J1171 & ISO 8846 Ignition Protected		
TECHNICAL SPECIFICATIONS				
No-load consumption	n.a.	< 2 mA	< 2 mA	< 2 mA
Battery types	flooded, Gel, AGM, spiral, Lithium Ion, traction, user defined			
3-Step charge option (dip switch settings)	yes	yes	yes	yes
DC consumption	< 115 mA	< 115 mA	< 115 mA	< 115 mA
Connections input/output	screw terminals, maximum wire size 16 mm ² / AWG5			
Temperature range (ambient temp.)	-25 °C to 60 °C; > 40 °C derating power / -13 °F to 140 °F; > 104 °F derating power			
Cooling	maintenance-free vario fans	maintenance-free vario fans	maintenance-free vario fans	maintenance-free vario fans
Protection degree	IP21	IP21	IP21	IP21
Protections	against over load & over temperature			
MasterBus compatible	yes, in combination with a MasterBus Serial Interface			

* Adjustable with MasterAdjust software.

ACCESSORIES		PC-Link 21730300	option	option	option	option
	Interface between Mac converter and PC, in combination with the MasterAdjust software (free to download). The PC-Link can be directly connected to a computer serial port.					
		EasyView 5 77010310	option	option	option	option
	In combination with a MasterBus Serial Interface. Waterproof system monitor with 'daylight readable' colour 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 Serial Interface 77030450	option	option	option	option
	Integrates the Mac & Magic converters in a MasterBus network.					
	Temperature sensor 6m 41500500	delivered as standard	delivered as standard	delivered as standard	delivered as standard	delivered as standard
	Temperature sensor 15m 41500800	option	option	option	option	option

ISOLATED OR NON-ISOLATED?

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

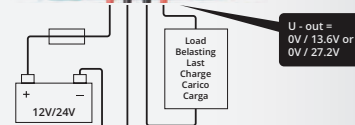
Features:

- 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.



Magic as power supply

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





CHECK THE MASTERVOLT SITE FOR
INTERESTING REAL-LIFE SYSTEMS:
MASTERVOLT.COM/REFERENCES
AND
EXTENDED TECHNICAL BACKGROUND
ON OUR PRODUCTS:
MASTERVOLT.COM/TECHNICAL-BACKGROUND







Specifications

DC Master converters

Non-isolated

	 DC Master 24/12-3	 DC Master 24/12-6	 DC Master 24/12-12	 DC Master 24/12-24
Product code	81400100	81400200	81400300	81400330
INPUT SPECIFICATIONS				
Nominal input voltage	24 V	24 V	24 V	24 V
Input range (max.)	20-32 V DC (35 V)	20-32 V DC (35 V)	20-32 V DC (35 V)	20-32 V DC (35 V)
OUTPUT SPECIFICATIONS				
Nominal output voltage	13.6 V	13.6 V	13.6 V	13.6 V
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	6 A / 3 A	10 A / 6 A	18 A / 12 A	30 A / 24 A
<i>Two minutes of extra power for short power boosts.</i>				
DC consumption	< 15 mA	< 15 mA	< 15 mA	< 15 mA
GENERAL SPECIFICATIONS				
Dimensions, hwxwd	67 x 87 x 50 mm 2.6 x 3.4 x 2 inch	89 x 87 x 50 mm 3.5 x 3.4 x 2 inch	127 x 87 x 50 mm 5 x 3.4 x 2 inch	167 x 87 x 50 mm 6.6 x 3.4 x 2 inch
Weight	200 g / 0.44 lb	250 g / 0.55 lb	405 g / 0.9 lb	620 g / 1.4 lb
Approvals	CE, E-mark	CE, E-mark	CE, E-mark	CE, E-mark
Galvanic isolation	no	no	no	no
Stabilised	yes	yes	yes	yes
Connections input/output	fast-on	fast-on	fast-on	fast-on
Temperature range (ambient temp.)	-25 °C to 80 °C, > 30 °C derating power	-25 °C to 80 °C, > 30 °C derating power	-25 °C to 80 °C, > 30 °C derating power	-25 °C to 80 °C, > 30 °C derating power
Cooling	natural cooling	natural cooling	natural cooling	natural cooling
Protection degree	IP53	IP53	IP53	IP53

Isolated

	 DC Master 12/12-3	 DC Master 12/12-6	 DC Master 24/12-3	 DC Master 24/12-6
Product code	81500600	81500700	81500100	81500200
INPUT SPECIFICATIONS				
Nominal input voltage	12 V	12 V	24 V	24 V
Input range (max.)	10-15.5 V DC (16 V)	10-15.5 V DC (16 V)	20-32 V DC (35 V)	20-32 V DC (35 V)
OUTPUT SPECIFICATIONS				
Nominal output voltage	13.6 V	13.6 V	13.6 V	13.6 V
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	4 A / 3 A	8 A / 6 A	6 A / 3 A	10 A / 6 A
<i>Two minutes of extra power for short power boosts.</i>				
DC consumption	< 15 mA	< 15 mA	< 15 mA	< 15 mA
GENERAL SPECIFICATIONS				
Dimensions, hwxwd	89 x 87 x 50 mm 3.5 x 3.4 x 2 inch	127 x 87 x 50 mm 5 x 3.4 x 2 inch	89 x 87 x 50 mm 3.5 x 3.4 x 2 inch	127 x 87 x 50 mm 5 x 3.4 x 2 inch
Weight	280 g / 0.6 lb	440 g / 1 lb	289 g / 0.6 lb	505 g / 1.1 lb
Approvals	CE, E-mark	CE, E-mark	CE, E-mark	CE, E-mark
Galvanic isolation	yes	yes	yes	yes
Stabilised	yes	yes	yes	yes
Connections input/output	fast-on	fast-on	fast-on	fast-on
Temperature range (ambient temp.)	-25 °C to 80 °C, > 30 °C derating power	-25 °C to 80 °C, > 30 °C derating power	-25 °C to 80 °C, > 30 °C derating power	-25 °C to 80 °C, > 30 °C derating power
Cooling	natural cooling	natural cooling	natural cooling	natural cooling
Protection degree	IP53	IP53	IP53	IP53

**DC Master
12/24-3**

81400400

12 V
10-15.5 V DC (16 V)

27.2 V

109 W

82 W

4 A / 3 A

< 15 mA

89 x 87 x 50 mm
3.5 x 3.4 x 2 inch

300 g / 0.66 lb

CE, E-mark

no

yes

fast-on

-25 °C to 80 °C,
> 30 °C derating power

natural cooling

IP53

**DC Master
12/24-7**

81400500

12 V
10-15.5 V DC (16 V)

27.2 V

245 W

191 W

9 A / 7 A

< 25 mA

167 x 87 x 50 mm
6.6 x 3.4 x 2 inch

640 g / 1.3 lb

CE, E-mark

no

yes

fast-on

-25 °C to 80 °C,
> 30 °C derating power

natural cooling

IP53

**DC Master
48/12-6**

81400600

48 V
40-62 V DC (65 V)

13.6 V

109 W

82 W

8 A / 6 A

< 15 mA

89 x 87 x 50 mm
3.5 x 3.4 x 2 inch

270 g / 0.6 lb

CE, E-mark

no

yes

fast-on

-25 °C to 80 °C,
> 30 °C derating power

natural cooling

IP53

**DC Master
48/12-9**

81400700

48 V
40-62 V DC (65 V)

13.6 V

132 W

108 W

11 A / 9 A

< 15 mA

127 x 87 x 50 mm
5 x 3.4 x 2 inch

370 g / 0.8 lb

CE, E-mark

no

yes

fast-on

-25 °C to 80 °C,
> 30 °C derating power

natural cooling

IP53

**DC Master
48/12-20**

81400800

48 V
40-62 V DC (65 V)

13.6 V

326 W

272 W

24 A / 20 A

< 25 mA

217 x 87 x 50 mm
8.5 x 3.4 x 2 inch

770 g / 1.7 lb

CE, E-mark

no

yes

fast-on

-25 °C to 80 °C,
> 30 °C derating power

natural cooling

IP53

**DC Master
24/12-12**

81500300

24 V
20-32 V DC (35 V)

13.6 V

245 W

164 W

18 A / 12 A

< 15 mA

167 x 87 x 50 mm
6.6 x 3.4 x 2 inch

590 g / 1.3 lb

CE, E-mark

yes

yes

fast-on

-25 °C to 80 °C,
> 30 °C derating power

natural cooling

IP53

**DC Master
24/12-24**

81500350

24 V
20-32 V DC (35 V)

13.6 V

408 W

326 W

30 A / 24 A

< 15 mA

217 x 87 x 50 mm
8.5 x 3.4 x 2 inch

785 g / 1.7 lb

CE, E-mark

yes

yes

fast-on

-25 °C to 80 °C,
> 30 °C derating power

natural cooling

IP53

**DC Master
24/24-3**

81500400

24 V
20-32 V DC (35 V)

27.2 V

109 W

82 W

4 A / 3 A

< 15 mA

127 x 87 x 50 mm
5 x 3.4 x 2 inch

440 g / 1 lb

CE, E-mark

yes

yes

fast-on

-25 °C to 80 °C,
> 30 °C derating power

natural cooling

IP53

**DC Master
24/24-7**

81500500

24 V
20-32 V DC (35 V)

27.2 V

245 W

191 W

9 A / 7 A

< 25 mA

217 x 87 x 50 mm
8.5 x 3.4 x 2 inch

780 g / 1.7 lb

CE, E-mark

yes

yes

fast-on

-25 °C to 80 °C,
> 30 °C derating power

natural cooling

IP53

All DC Master converters
come with a mounting
bracket, screws and fast-ons.**Mastervolt also offers four-
step DC-DC chargers by
ProMariner, available in
12V/40A and 24V/20A.**For more information, please
consult the ProMariner product
catalogue and website.**ProMariner™**
PROMARINER.COM

Smart solutions for energy storage

Mastervolt provides autonomous energy supply for vehicles, boats and homes which are sometimes disconnected from the grid for long periods. Powerful and reliable batteries are the solution: Mastervolt provides several battery technologies designed for optimal performance, reliability and a long service life even in harsh environments.

MASTERVOLT



LITHIUM ION

Lithium Ion batteries ensure fast, safe and efficient use, an extremely long lifespan and 70 % savings on volume and weight. All Mastervolt Lithium Ion batteries use the extremely safe LiFePO4 chemical process.

64 MLI

Top quality Lithium Ion batteries. High capacity and specifically developed for extremely short charging cycles. Equipped with various functions such as an integrated Battery Management System and MasterBus/CAN communication.

RECOMMENDED FOR:



GEL

In these batteries, the electrolyte is absorbed by a gel. Gel batteries are entirely maintenance-free and because they do not produce gas when used in a normal way, can be placed anywhere.

68 MVG

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

68 MVSV 2 V

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.

RECOMMENDED FOR:



RECOMMENDED FOR:



Store



AGM

AGM batteries or glass fibre batteries can be discharged quickly with very high currents, making them ideal for starter applications.



BATTERY ISOLATORS

Mastervolt offers various smart solutions for managing multiple batteries.

70 AGM

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

70 AGM SLIMLINE

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

70 AGM 6 V

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

73 BI BATTERY MATE

Battery isolators with minimal energy loss.

75 CHARGE MATE

For connecting and/or disconnecting two batteries with optional current limiter and current priority.

75 BATTERY WATCH

Battery switch with protection against overcurrent and excessively deep discharge of your batteries.

RECOMMENDED FOR:



RECOMMENDED FOR:



RECOMMENDED FOR:



RECOMMENDED FOR:



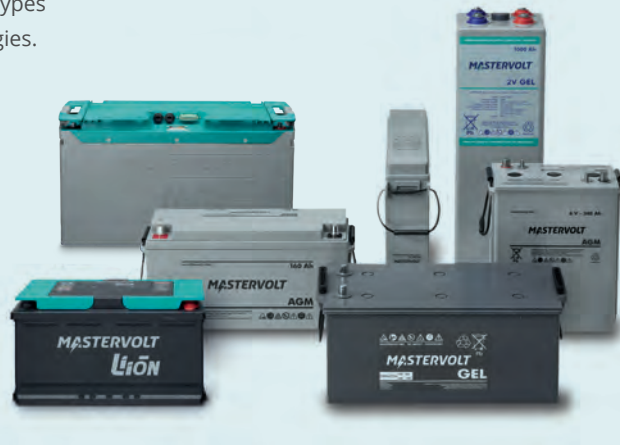
Mastervolt Batteries: The right choice for power storage

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

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

All Mastervolt batteries offer you these advantages:

- Maintenance-free.
- Safe - 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.com/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.com/chargers.
- A battery monitor is the best way to make the most of your batteries. Go to ■ mastervolt.com/batterymonitor for more information.



QUOTE

"As I designed and built most of my Mercedes camper myself, I did lots of research into the electrical system on the internet and during visits to exhibitions. I was looking for a better and more robust system than anything readily available on the market. This is how I came across Mastervolt, and eventually had my system setup designed by Mastervolt's engineers and their service partner Amrit Watersport in Arnhem."

**TIM SELDERS, THE NETHERLANDS
OWNER OF MERCEDES SPRINTER 4X4 MOTORHOME**



Which battery is best for your application?

		1	2	3	4
	Traditional open batteries	MLI Lithium Ion	MVG gel 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) and MasterBus/CAN 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 fibre. 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 almost 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



A few of its outstanding features

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

Mastervolt brings Lithium Ion technology in two product ranges:

■ MLI Series

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

■ MLI-E Series

The MLI-E is ideal for applications where long lifespan, light weight, fast charging and compactness are key. Its practical form factor makes the MLI-E perfectly suitable for mobile applications.

MASTER TIP



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).

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 is your choice of batteries.



■ MLI Series

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 2000 communication to the Mastervolt battery charger or to any CZone / NMEA 2000 based product to ensure the best possible recharging and lifetime of the battery.

■ MLI-E Series

The MLI-E saves up to 70 % in space and weight, recharges in less than an hour, and deep cycles 5.000 times easily, which is up to 10 times longer than lead-acid batteries. No external safety relay is needed. The MLI-E is protected against overcharging, deep discharging and overheating and comes with an integrated electronic safety switch. With its waterproof plastic case, the MLI-E is a straight-forward replacement for most lead-acid batteries. LED indicators inform you about the actual status of your battery. Of course, the MLI-E is provided with integrated battery monitoring, including information about state of charge and time remaining. For optimal integration NMEA 2000 / CZone and CANopen protocols are supported. Needless to say, the MLI-E fits perfectly into a MasterBus system, when combined with our system monitor EasyView 5. And last but not least: hands-on monitoring is available, using Bluetooth and a mobile app.





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.



Safe Operation



The Mastervolt MLI series is equipped with an integrated Battery Management System (BMS) and communication through MasterBus / CAN and CZone / NMEA 2000 (MLI 5500 models only). Even in the harshest cycling conditions this guarantees efficient and safe operation of the battery.



Superior Performance

Mastervolt Lithium Ion 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 battery with 70 % less weight offers considerable benefits. A vessel or vehicle with a storage 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

Specifications MLI Series

Specifications

MLI Series

		 <div>NEW MODEL</div>	 <div>NEW MODEL</div>	 <div>NEW MODEL</div>
	MLI-E 12/1200*	MLI Ultra 12/2750	MLI Ultra 12/5500	MLI Ultra 24/5500
Product code	66011200	66012750	66015500	66025500
GENERAL SPECIFICATIONS				
Nominal battery voltage	13.2 V	13.2 V	13.2 V	26.4 V
Nominal battery capacity	90 Ah	200 Ah	400 Ah	200 Ah
Nominal battery energy capacity	1200 Wh	2750 Wh	5500 Wh	5500 Wh
Max. charge current	90 A (1 C)	500 A (2.8 C)	500 A (1.4 C)	500 A (2.5 C)
Continuous charge current	n.a.	n.a.	200 A (1 C)	200 A (1 C)
Continuous discharge current	200 A (2.2 C)	500 A (2.8 C)	500 A (1.4 C)	500 A (2.5 C)
Peak discharge current	350 A (3.8 C) for 30 s	2000 A (10 C) for 10 s	2000 A (5 C) for 10 s	2000 A (10 C) for 10 s
Cycle life	3500 cycles at 80 % DOD at 25 °C, max. C3 charge and C2 discharge			
Battery monitoring	integrated	integrated	integrated	integrated
Communication	LED indicators, CANopen, CZone/ NMEA 2000 (through MLI-E drop cable), MasterBus (through EasyView 5, max. two MLI-E batteries), Bluetooth (via mobile app)	MasterBus, CZone, NMEA 2000 <i>delivered as standard with 1 mtr Mastervolt-CZone drop cable</i>		
Battery terminals	automotive or M8 hexagon	M8	M8	M8
Mounting position	mountable in multiple orientations, suitable for LNS fastening brackets	upright (recommended) or either long side		
Max. outer dimensions, lwxhxh (incl. terminals/grip handles)	353 x 175 x 190 mm 13.9 x 6.9 x 7.5 inch	341 x 197 x 355 mm 13.3 x 7.8 x 14 inch	622 x 197 x 355 mm 24.5 x 7.8 x 14 inch	622 x 197 x 355 mm 24.5 x 7.8 x 14 inch
Product weight	12.5 kg / 27.6 lb	31 kg / 68.3 lb	57 kg / 125.7 lb	57 kg / 125.7 lb
Approvals	n.a.	CE, E-Mark and DNV-GL (pending)		
TECHNICAL SPECIFICATIONS				
Battery chemistry	Lithium Iron Phosphate	Lithium Iron Phosphate	Lithium Iron Phosphate	Lithium Iron Phosphate
Protection degree	IP51	IP65 (electronics cabinet)	IP65 (electronics cabinet)	IP65 (electronics cabinet)
Parallel connection	yes, unlimited	yes, unlimited	yes, unlimited	yes, unlimited
Series connection	no	yes, up to 10 batteries. Systems over 48 V require a separate battery box to prevent access to high voltage parts.		
Protections	over voltage, under voltage, over-temperature			
Safety relay	n.a.	to be added mandatorily		
Safety relay controls	automatic,integrated	integrated	integrated	integrated

* Delivered with 2x automotive battery pole, 2x M8 bolt, hexagon tool, USB stick (with manual).

FEATURES

- 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.
- High cycle efficiency.
- Fast charging up to half an hour.
- High discharge rate up to 2.5C.
- CZone / NMEA 2000 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.

CHECK THE MASTERVOLT SITE FOR
INTERESTING REAL-LIFE SYSTEMS:
MASTERVOLT.COM/REFERENCES
AND
EXTENDED TECHNICAL BACKGROUND
ON OUR PRODUCTS:
MASTERVOLT.COM/TECHNICAL-BACKGROUND

MANDATORY



Safety relay 12 volt
7700B-BSS



Safety relay 24 volt
7702B-BSS

The installation of an external safety relay is required and ensures the security of your battery installation.

CAUTION!

For additional safety, Mastervolt prescribes the use of a safety relay for the MLI Ultra series as mandatory part of the battery installation. Mastervolt provides 12- and 24-volt models, so you can always opt the correct voltage.

ACCESSORIES



EasyView 5
77010310

Waterproof system monitor with 'daylight readable' colour display and intuitive multi-language touchscreen to show the key system information at a glance.



Touch 5
80-911-0124-00

5 Inch touchscreen with built-in WiFi connectivity and IPx7 water ingress protection. Comes with super bright widescreen display and the latest capacitive touchscreen technology.



Touch 10
80-911-0100-00

10" LED-backlit projected capacitive touchscreen display with IPS technology. Offers full control of circuits plus important onboard system information (for AC and DC supplies).



MLI-E drop cable
for CZone
1 m: 77046000

Adapter cable to connect NMEA 2000 compatible devices, equipped with an RJ45 connector, to the NMEA 2000 or CZone network.



Mastervolt-CZone
drop cable
(MLI Ultra models)
0.5 m: 77060050
1 m: 77060100 (delivered as standard)
2 m: 77060200
5 m: 77060500

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



MVG Gel Series

FEATURES

- Perfect service battery for medium sized and large 12 V and 24 V 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.
- Two year warranty.

Specifications MVG Gel Series



MVG 12/25

Product code	64000250
Nominal battery voltage	12 V
Nominal battery capacity C20*	25 Ah
Max. charge current	12.5 A
CCA to DIN	110 A
CCA to SAE	175 A
Battery terminal	A-type
Max. outer dimensions, l x w x h (incl. terminals/grip handles)	167 x 176 x 126 mm 6.6 x 6.9 x 5 inch
Weight	9.6 kg / 21.2 lb

MVSV 2 V Gel Series

FEATURES

- 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.
- Highly sustainable battery for large installations.
- Robust build for longer lifespan.
- Deep discharging without problems.
- Can be installed horizontally or vertically.
- Seven year warranty (pro rata).

Specifications MVSV 2 V Gel Series



MVSV 280

Product code	68000280
Nominal battery voltage	2 V
Nominal battery capacity C10*	280 Ah
Max. charge current	140 A
Battery terminal	F-M8
Max. outer dimensions, l x w x h (incl. terminals/grip handles)	126 x 208 x 399 mm 5 x 8.2 x 15.7 inch
Weight	23 kg / 50.7 lb



MVSV 1500

Product code	68001500
Nominal battery voltage	2 V
Nominal battery capacity C10*	1500 Ah
Max. charge current	750 A
Battery terminal	F-M8
Max. outer dimensions, l x w x h (incl. terminals/grip handles)	212 x 277 x 690 mm 8.3 x 10.9 x 27.2 inch
Weight	95 kg / 209.4 lb

RELATED PRODUCTS



Battery terminals & isolation covers, page 77.



Battery Monitoring, page 117.



MVG 12/55

64000550

12 V

55 Ah

27.5 A

230 A

380 A

A-type

261 x 136 x 230 mm
 10.3 x 5.4 x 9.1 inch

19 kg / 41.9 lb



MVG 12/85

64000850

12 V

85 Ah

42.5 A

270 A

450 A

A-type

330 x 171 x 236 mm
 13 x 6.7 x 9.3 inch

32.6 kg / 71.9 lb



MVG 12/120

64001200

12 V

120 Ah

60 A

450 A

760 A

A-type

513 x 189 x 223 mm
 20.2 x 7.4 x 8.8 inch

41 kg / 90.4 lb



MVG 12/140

64001400

12 V

140 Ah

70 A

540 A

920 A

A-type

513 x 223 x 223 mm
 20.2 x 8.8 x 8.8 inch

49 kg / 108 lb



MVG 12/200

64002000

12 V

200 Ah

100 A

630 A

1100 A

A-type

518 x 274 x 238 mm
 20.4 x 10.8 x 9.4 inch

70 kg / 154.3 lb



MVSV 420

68000420

2 V

420 Ah

210 A

F-M8

126 x 208 x 515 mm
 5 x 8.2 x 20.3 inch

30 kg / 66.1 lb



MVSV 500

68000500

2 V

500 Ah

250 A

F-M8

147 x 208 x 515 mm
 5.8 x 8.2 x 20.3 inch

35 kg / 77.2 lb



MVSV 580

68000580

2 V

580 Ah

290 A

F-M8

168 x 208 x 515 mm
 6.6 x 8.2 x 20.3 inch

39 kg / 86 lb



MVSV 750

68000750

2 V

750 Ah

375 A

F-M8

147 x 208 x 690 mm
 5.8 x 8.2 x 27.2 inch

49 kg / 108 lb



MVSV 1000

68001000

2 V

1000 Ah

500 A

F-M8

212 x 193 x 690 mm
 8.3 x 7.6 x 27.2 inch

66 kg / 145.5 lb



MVSV 1250

68001250

2 V

1250 Ah

625 A

F-M8

212 x 235 x 690 mm
 8.3 x 9.3 x 27.2 inch

80 kg / 176.4 lb



MVSV 1650

68001651

2 V

1650 Ah

825 A

F-M8

212 x 277 x 759 mm
 8.3 x 10.9 x 29.9 inch

115 kg / 253.5 lb



MVSV 2200

68002200

2 V

2200 Ah

1100 A

F-M8

216 x 400 x 816 mm
 8.5 x 15.7 x 32.1 inch

160 kg / 352.7 lb



MVSV 2700

68002700

2 V

2700 Ah

1350 A

F-M8

214 x 489 x 816 mm
 8.4 x 19.3 x 32.1 inch

198 kg / 436.5 lb



* C10 = battery capacity at a discharge time of 10 hours, till 1.80 V per cell.
 C20 = battery capacity at a discharge time of 20 hours, till 10.5 V per battery.

AGM Series

FEATURES

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

Specifications AGM Series



**AGM 12/55
(group 24)**

Product code	62000550
Nominal battery voltage	12 V
Nominal battery capacity C20*	55 Ah
Max. charge current	15.3 A
CCA to DIN	250 A
CCA to SAE	400 A
Battery terminal	M6 / A-type
Outside dimensions, l x w x h (incl. handles, without automotive terminal post)	257 x 132 x 200 mm 10.1 x 5.2 x 7.9 inch
Weight	17 kg / 37.5 lb

AGM SlimLine Series

FEATURES

- Ideal universal and very slim battery; suitable for starter functions.
- Compressed AGM technology.
- Saves up to 15 % in volume.
- Saves up to 15 % in weight.
- Miniscule footprint; 2x 185 Ah for a 200 Ah battery footprint.
- Convenient M6 connections.
- Two year warranty.

Specifications AGM SlimLine Series



AGM-SL 12/150

Product code	63001500
Nominal battery voltage	12 V
Nominal battery capacity C20*	150 Ah
Max. charge current	43 A
CCA to DIN	490 A
CCA to SAE	790 A
Battery terminal	M6
Max. outer dimensions, l x w x h (incl. terminals/grip handles)	560 x 110 x 280 mm 22 x 4.3 x 11 inch
Weight	40.5 kg / 89.3 lb

AGM 6-volt Series

FEATURES

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

Specifications AGM 6-volt Series



AGM 6/260 Ah

Product code	61002600
Nominal battery voltage	6 V
Nominal battery capacity C20*	260 Ah
Max. charge current	72 A
CCA to DIN	590 A
CCA to SAE	1040 A
Battery terminal	A-type + stud M10
Max. outer dimensions, l x w x h (incl. terminals/grip handles)	295 x 180 x 298 mm 11.6 x 7.1 x 11.7 inch
Weight	35.5 kg / 78.3 lb

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



**AGM 12/70
(group 27)**

62000700

12 V
70 Ah
19.5 A
290 A
460 A
M8 / A-type
348 x 167 x 178 mm
13.7 x 6.6 x 7 inch
21 kg / 46.3 lb



**AGM 12/90
(group 31)**

62000900

12 V
90 Ah
25.5 A
360 A
570 A
M8 / A-type
330 x 173 x 220 mm
13 x 6.8 x 8.7 inch
28 kg / 61.7 lb



AGM 12/130

62001300

12 V
130 Ah
36 A
590 A
940 A
M8 / A-type
408 x 176 x 228 mm
16.1 x 6.9 x 8.9 inch
37.6 kg / 82.9 lb



**AGM 12/160
(group 4D)**

62001600

12 V
160 Ah
45 A
550 A
870 A
M8 / A-type
485 x 170 x 242 mm
19.1 x 6.7 x 9.5 inch
42.3 kg / 93.3 lb



**AGM 12/225
(group 8D)**

62002250

12 V
225 Ah
63 A
680 A
1080 A
M8 / A-type
522 x 240 x 224
20.6 x 9.5 x 8.8 inch
63.5 kg / 140 lb



**AGM 12/270
(group Super 8D)**

62002700

12 V
270 Ah
76.5 A
750 A
1200 A
M8 / A-type
522 x 268 x 226 mm
20.6 x 10.6 x 8.9 inch
73 kg / 161 lb



AGM-SL 12/185

63001850

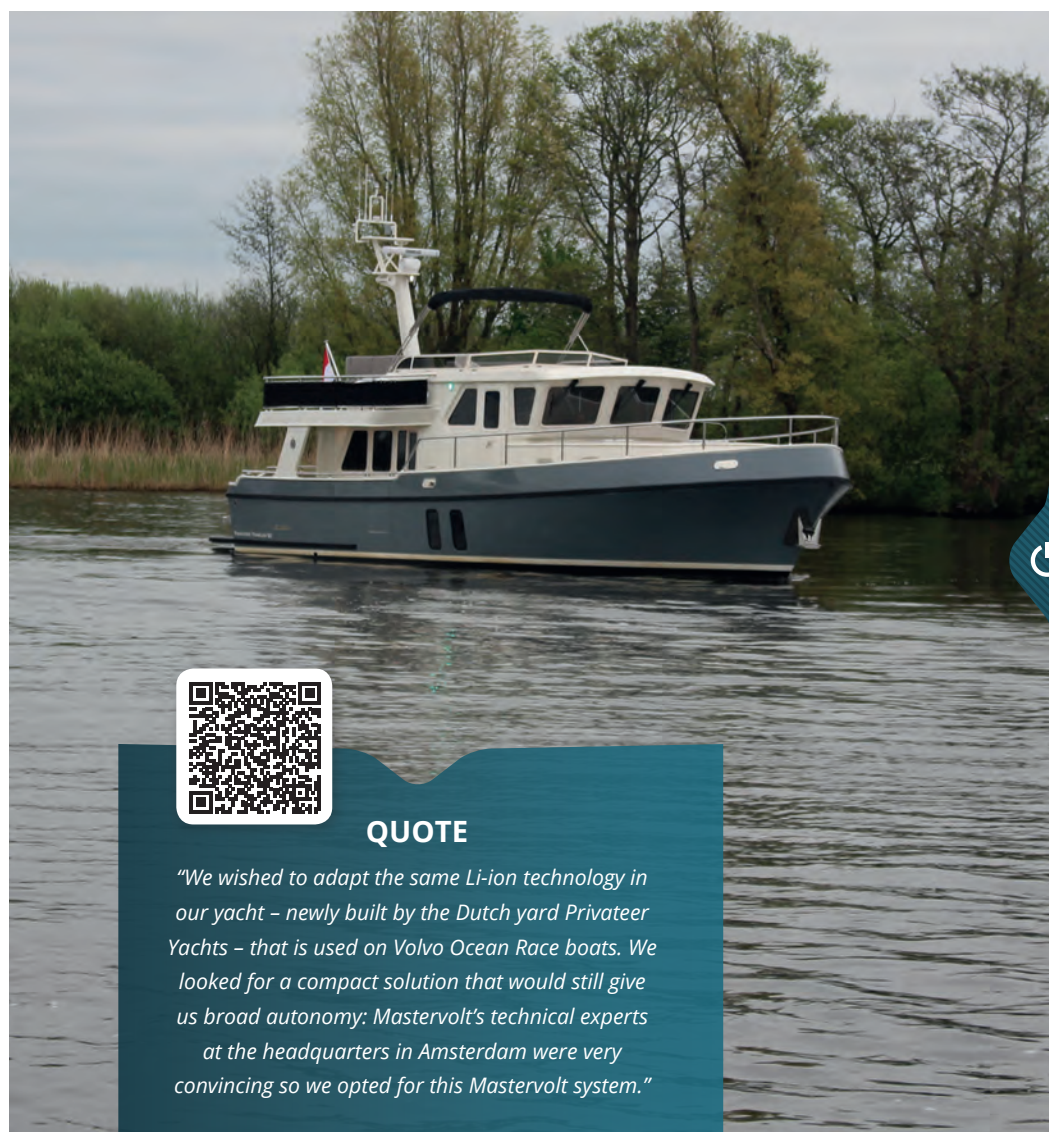
12 V
185 Ah
53 A
580 A
930 A
M6
560 x 126 x 280 mm
22 x 5 x 11 inch
51.2 kg / 112.9 lb



AGM 6/400 Ah

61004000

6 V
400 Ah
110 A
620 A
1100 A
A-type + stud M10
295 x 180 x 428 mm
11.6 x 7.1 x 16.9 inch
53 kg / 116.8 lb



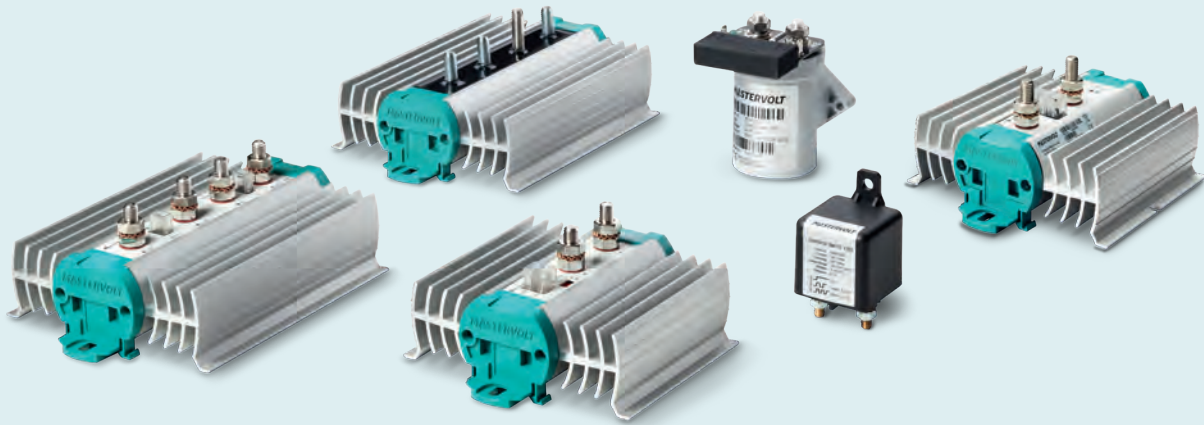
QUOTE

"We wished to adapt the same Li-ion technology in our yacht – newly built by the Dutch yard Privateer Yachts – that is used on Volvo Ocean Race boats. We looked for a compact solution that would still give us broad autonomy: Mastervolt's technical experts at the headquarters in Amsterdam were very convincing so we opted for this Mastervolt system."

**MR BOL, PROUD OWNER OF THE PRIVATEER
TRAWLER 50 BOLWERK, THE NETHERLANDS**

Optimal division of charge current over multiple batteries

Onboard systems usually consist of two or more batteries that function independently when powering the 12 or 24 V consumers. These batteries require independent charging with reliable battery isolators or battery combiners.



Mastervolt offers several intelligent solutions:

- Battery isolators that divide your charge current with a minimum energy loss.
- The Charge Mate for connecting and/or disconnecting two batteries.
- Battery Watch for monitoring the condition of your batteries (also usable as main switch).

Complete range for every system

- **BI series** battery isolators for conventional systems with an alternator or battery charger and two or three batteries.
- **Battery Mate** battery isolators with a negligible voltage drop; most suitable for charging multiple batteries, possibly with various brands of alternators, even if their charge voltage cannot be adjusted. Ensures high efficiency and negligible energy loss.
- **Charge Mate** for switching two batteries in parallel while charging.
- **Battery Watch** battery switch with protection against overvoltage and depletion of the battery.

Charging two or three batteries at high capacity

The Battery Mate is ideal for alternators with a maximum charge current of 160 A or 250 A. It can charge two or three batteries with a very high yield and without voltage drop.

Robust and Durable

Completely corrosion-proof material with aluminium heat sinks. The electronic components are encased in synthetic materials, the BI models have molded diode splitters.

Clear Monitoring

Safety guaranteed: The Battery Mate LED display indicates whether the power input is active.

Fast Installation

The synthetic end plates feature connection lugs, the solid bolt connections with nuts and locking rings ensure easy installation.





Compact and Lightweight

The Mastervolt BI battery isolators are compact and fully solid state, preventing wear. The weight varies from 580 to 1300 grams.

BI Battery Isolators

Mastervolt's BI battery isolators are based on conventional diode technology. The diode voltage drop (ca. 0.6 V) 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.




Specifications BI battery isolators

				
	BI 702-S	BI 703	BI 1202-S	BI 1203-S
Product code	83007021	83007030	83012021	83012031
Number of battery banks	2	3	2	3
Max. output charger	50 A	50 A	80 A	80 A
Max. output alternator	70 A	70 A	120 A	120 A
Compensation diode	yes	no	yes	yes
Dimensions, hxxwxd	157 x 140 x 80 mm 6.2 x 5.5 x 3.1 inch	207 x 140 x 80 mm 8.1 x 5.5 x 3.1 inch	207 x 140 x 80 mm 8.1 x 5.5 x 3.1 inch	207 x 140 x 80 mm 8.1 x 5.5 x 3.1 inch
Weight	0.58 kg / 1.3 lb	1.1 kg / 2.4 lb	1.2 kg / 2.6 lb	1.3 kg / 2.9 lb

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.

Specifications Battery Mate

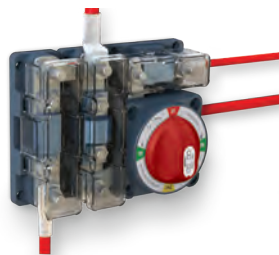
			
	Battery Mate 1602 IG	Battery Mate 1603 IG	Battery Mate 2503 IG
Product code	83116025	83116035	83125035
Number of battery outlets	2	3	3
Max. output charger	120 A	120 A	200 A
Max. output alternator	160 A	160 A	250 A
Dimensions, hxxwxd	207 x 140 x 80 mm 8.1 x 5.5 x 3.1 inch	207 x 140 x 80 mm 8.1 x 5.5 x 3.1 inch	207 x 140 x 80 mm 8.1 x 5.5 x 3.1 inch
Weight	1 kg / 2.2 lb	1 kg / 2.2 lb	1 kg / 2.2 lb



Mastervolt also offers ProMariner battery isolators, the ProIsoCharge series.

For more information, please consult the ProMariner product catalogue and website.

ProMariner™
PROMARINER.COM



Mastervolt offers a comprehensive range of battery switches, bus bars, fuses and fuse holders for safe and reliable operation: the Pro Installer series.

See also the BEP product catalogue and website where we offer the most extended product portfolio worldwide, including the EZ-Mount switches.

Mastervolt also offers a Digital Voltage Sensing Relay from BEP, the DVR.

BEP

BEPMARINE.COM

Check out how
Pro Installer compares to
a conventional system:



QUOTE





"Our demanding technicians had been looking for a simple way to make serial DC distribution boards for some time. Pro Installer products offered the perfect solution, allowing us to easily connect and switch various components. This involves both Mastervolt power electronics and the products by Pro Installer, BEP and Blue Sea. It saves our mechanics a great deal of installation time, helps save space and results in clear, well-organised DC distribution boards."

**SANDER JETTEN, TECHNICAL DIRECTOR
JETTEN SHIPYARD, THE NETHERLANDS**

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 40 A or 90 A. 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.


Specifications Charge Mate

				
	Charge Mate 1202	Charge Mate 2502	Charge Mate Pro 40	Charge Mate Pro 90
Product code	83301202	83302502	83304002	83309002
GENERAL SPECIFICATIONS				
Monitoring	n.a.	n.a.	LED (warnings and status indication)	
Number of battery outlets	n.a.	n.a.	2	
Input voltage range	n.a.	n.a.	9-32 V	
Parallel configuration	n.a.	n.a.	yes	
Battery voltage	12/24 V	12/24 V	automatic 12/24 V detection	
Output current	120 A	500 A	limited to 40 A	limited to 90 A; > 25 °C derating power
Remote switch functions	n.a.	on, off, auto, start assist	on, off, auto, start assist	on, off, auto, start assist
Dimensions, hxxwxd	76 x 46 x 46 mm 3 x 1.8 x 1.8 inch	90 x 80 x 85 mm 3.5 x 3.1 x 3.3 inch	157 x 140 x 80 mm 6.2 x 5.5 x 3.2 inch	157 x 140 x 80 mm 6.2 x 5.5 x 3.2 inch
Weight	0.125 kg / 0.3 lb	0.65 kg / 1.4 lb	0.88 kg / 1.94 lb	0.88 kg / 1.94 lb
Approvals	CE	CE	CE	CE
TECHNICAL SPECIFICATIONS				
Connection possibilities	n.a.	n.a.	3 x fast-on connectors (switch, ground and status) • switch: for an optional single pole ON-OFF-ON switch for remote operation • status: for an optional LED indicator	
Power consumption	switch open: < 1 mA at 12/24 V DC		switch open: < 1 mA at 12/24 V DC	
Battery types	n.a.	n.a.	all types (Lithium Ion protection via Multi purpose contact, product code 77030500)	
Inrush current (250 ms)	2000 A	2000 A	n.a.	n.a.
Switch on voltage	13-15 V (12 V) 26-30 V (24 V)	13-15 V (12 V) 26-30 V (24 V)	13.5 V (12 V) 27 V (24 V)	13.5 V (12 V) 27 V (24 V)
Switch on delay	5 seconds	30 seconds	5 seconds	5 seconds
Switch off voltage	< 12.75 V (12 V) < 25.5 V (24 V)	< 12.25... > 15 V (12 V) < 25.5... > 30 V (24 V)	12.75 V (12 V) 25.5 V (24 V)	12.75 V (12 V) 25.5 V (24 V)
Switch off delay	no	3 minutes	2.5 seconds	2.5 seconds
Relay	electro-mechanical	electro-mechanical	electronically (mosfets with low voltage drop of max. 0.2 V)	
Ambient temperature	-40 to 65 °C	-40 to 60 °C / -40 °F to 140 °F		
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 limit can be set using DIP switches.

Specifications Battery Watch

	
	Battery Watch
Product code	83200150
Input voltage	8-32 V
Max. DC load	150 A
Switch off under voltage 12 V	9-12 V
Switch off under voltage 24 V	18-24 V
Dimensions, hxxwxd	157 x 140 x 80 mm 6.2 x 5.5 x 3.2 inch
Weight	0.6 kg / 1.3 lb

Battery accessories for convenience, safety and comfort

Capacity and the right type of battery are important, but so too are safety, comfort and ease of installation; three aspects of your battery for which Mastervolt has numerous intelligent accessories. We will help you get the most out of your 12 V, 24 V or 48 V system, and ensure a maximum lifespan for your batteries.

Strong Connections for maximum safety

Your battery set is not complete without a proper and safe connection with the electrical system. Mastervolt recommends connections with corrosion-proof links and heavy-duty screw bolts. A proper cover and isolation of the battery poles prevents sparks or short circuiting.

Secure Fuses

The MasterShunt (page 84) can be fitted with a Class T fuse or ANL fuse. The Class T fuse is suitable for the high short-circuit current of Lithium Ion batteries.

For the DC distribution, Mastervolt offers an extensive range of ATM, ATO/ATC and MAXI fuses and fuse holders in addition to ANL fuses. A comprehensive portfolio is featured in the BEP and Blue Sea System product catalogues and on their websites.

BEP
BEPMARINE.COM

BLUE SEA
SYSTEMS
BLUESEA.COM

Battery Switches

Mastervolt offers a comprehensive range of battery switches that allow you to isolate your on board power or starter system from its supply voltage.



The full product portfolio is available in the product catalogues and on the websites of BEP and Blue Sea Systems.

CHECK THE MASTERVOLT SITE FOR
INTERESTING REAL-LIFE SYSTEMS:
MASTERVOLT.COM/REFERENCES
AND
EXTENDED TECHNICAL BACKGROUND
ON OUR PRODUCTS:
[MASTERVOLT.COM/TECHNICAL-
BACKGROUND](http://MASTERVOLT.COM/TECHNICAL-BACKGROUND)

Specifications

Description	Product code
BATTERY TERMINALS	
Battery terminal with M10 thread plus	68061100
Battery terminal with M10 thread min	68061200
Battery terminal with M12 thread plus	68061300
Battery terminal with M12 thread min	68061400
ISOLATION COVERS	
Cover 457N3V02 red, for product code 68061100 & 68061300	68457302
Cover 457N3V14 black, for product code 68061200 & 68061400	68457314
MASTERSHUNT & DC DISTRIBUTION FUSES	
Class T fuse 500 A / 160 V DC, current limiting capability 20 kA	77049000
Bus bar	77020150
ANL fuses	
20 A	77049020
40 A	77049040
50 A	77049050
63 A	77049063
80 A	77049080
100 A	77049100
125 A	77049125
160 A	77049160
175 A	77049175
200 A	77049200
250 A	77049250
300 A	77049300
355 A	77049355
400 A	77049400
425 A	77049425
500 A	77049500
EARTH LEAKAGE SWITCHES	
DPN VIGI 16 A/B/30 mA, 1P+N	6385401610
Shore Fix 16 A/30 mA; basic fuse between AC plug and onboard system.	124001000

MASTER TIP



A discharge deeper than the battery capacity will greatly shorten the life of your battery. Mastervolt delivers very accurate battery monitors, which help you keep track on the charge status of your battery.



RELATED PRODUCTS



Battery Monitoring,
page 117.

Easy power management and extensive monitoring

Mastervolt delivers top-quality components which communicate with each other through an extensive network. Thanks to multiple remote panels and the possibility to integrate equipment by other brands, customers can control their energy system in whatever way they find suitable, at any time and in any place.

MASTERVOLT



In modern systems “open” communication is the standard. It is expected that the complete system from displays, chart plotters, fish finders to battery chargers and digital switches all communicate on the same common channel, without specific knowledge of the components.

The purpose of a common channel is to easily share information and facilitate a better user experience. To facilitate this sharing of information, Mastervolt devices will – next to the familiar MasterBus communication protocol – also feature CZone / NMEA 2000 communication. With the known infrastructure of CZone you can easily create configuration files that can be shared and multiplied in other systems.

MASTERBUS

The MasterBus platform automates your power system by facilitating seamless communication between all Mastervolt products, bringing advanced system functions easily within reach at reasonable cost, for perfect control!

82 DISPLAYS

The waterproof EasyView 5 system monitor makes operating your system personal and simple. The MasterView Read-out provides a clear overview of your batteries' charging status and any errors.

84 NETWORK COMPONENTS

Mastervolt offers various MasterBus components to further optimise your power system. Examples include MasterShunt, an intelligent battery monitor that enables system automation, and DC Distribution, the smallest DC distributor on the market.

86 INTERFACES

Seamless integration of products not equipped with a MasterBus interface, or communication standards such as NMEA 2000, CANopen, Modbus, FireCAN, PBUS and many others.

91 ACCESSORIES

MasterBus accessories such as MasterShunt fuses, cables and terminators, plus DIY packages.

RECOMMENDED FOR:



Manage & Monitor



CZONE

Decentralised switching results in smart systems, fewer cables and less installation work. The CZone operating and monitoring system offers decentralised digital switch modules for operating equipment such as lighting, pumps and navigation equipment.

96 DISPLAYS

The Touch 5 and Touch 10 touchscreen displays form the interface between the CZone network and the user.

100 COMPONENTS

The CZone operating and monitoring system offers a bespoke solution for any operating system including COI; DC input/output interface, ACOI for AC circuits or the ACMI; a grid voltage transfer system.

RECOMMENDED FOR:



108 INTERFACES

The Wireless Interface enables safeguarding and monitoring of your on board system using an iPad. The CZone MasterBus Bridge Interface combines MasterBus and CZone into one compact operating and monitoring system.

110 ACCESSORIES

Accessories such as NMEA 2000 certified cables, remotes, cable glands and connector blocks complete your CZone system.

BATTERY MONITORING

A Mastervolt battery monitoring system prevents unpleasant surprises.

117 BATTMAN

Choose the easy-to-use BattMan Lite, or the complete BattMan Pro for indication of remaining time and historical data.

117 MASTERLINK BTM-III

The comprehensive BTM-III monitors three batteries, including indication of remaining time and capacity.

117 MASTERSHUNT + EASYVIEW 5

A MasterShunt and EasyView enable complete energy management in a personalised way.

RECOMMENDED FOR:



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 customise 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.

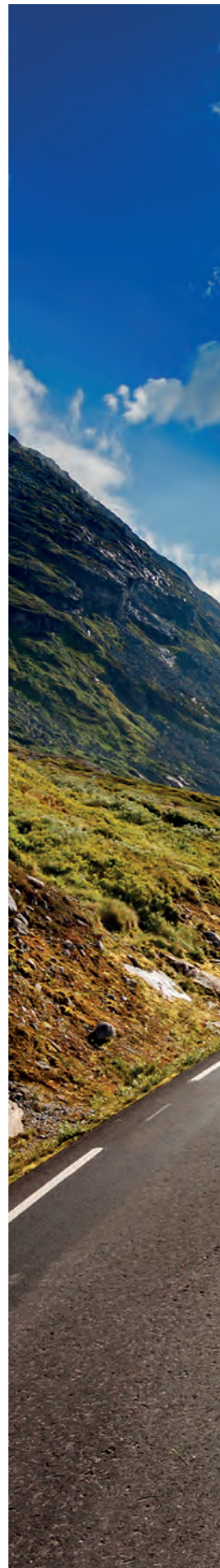
The wide range of interfaces and modules allows you to connect any equipment you wish to your MasterBus system and manage, monitor or operate it locally, centrally or even from your home. The galvanic isolation of the MasterBus network ensures a safe and stable network.

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 'recognises' 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.





QUOTE

"Mastervolt is the only manufacturer that designs & produces most of its products in-house. That is why all their products work together almost seamlessly, and the reason why we've been working exclusively with Mastervolt for the past 26 years!"

MIGUEL SAS, MANAGING DIRECTOR
NAVEX ELEKTRO NV, BELGIUM



CHECK THE MASTERVOLT SITE FOR
INTERESTING REAL-LIFE SYSTEMS:
[MASTERVOLT.COM/REFERENCES](https://mastervolt.com/references)
AND
EXTENDED TECHNICAL BACKGROUND
ON OUR PRODUCTS:
[MASTERVOLT.COM/TECHNICAL-
BACKGROUND](https://mastervolt.com/technical-background)

MasterBus Displays: Monitor & control your MasterBus network

Fast and clear information about your 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

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

The EasyView 5 completes any MasterBus system. With its handy functionality and compact size, the EasyView is ideal for yachts, vehicles and stationary systems. Controlling your Mastervolt system has never been easier!

FEATURES

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

	EasyView 5
Product code	77010310
GENERAL SPECIFICATIONS	
Power supply	MasterBus powered, or 12/24 V 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	panel mounting, flush mounting, MasterView Easy retrofit
Alarms	buzzer integrated
Dimensions, hxxwxd	113 x 127 x 43 mm 4,4 x 5,0 x 1,7 inch
Weight	300 gr / 0.7 lb
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, 12/24 V
Protection degree	IP67; waterproof front



Some examples of the many possibilities:



Customize Favourites

Customize favourite 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.

NEW

SmartRemote

Compact single-device display

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 local device readout in larger systems. Applications include boats, vehicles and stationary systems.

Easy to use

The new SmartRemote single-device display is unique in many ways. It communicates with Mastervolt devices*, shows key parameters, allows simple device settings and is fun to use. Checking your batteries, adjusting your shore fuse or controlling your Mastervolt charger/inverter has never been easier.

Easy of Installation

The SmartRemote display can be panel mounted or may be integrated into a Blue Sea Systems Custom 360 bezel. Connection is easy as 1-2-3: simply click the network cable into a Mastervolt device and off you go.

FEATURES

- Full color display for local device monitoring.
- Displays four key parameters.
- Control key device functions.
- CZone and MasterBus network compatible.
- Universal, easy mounting.
- Plug & Play – no configuration, no power supply needed.
- Blue Sea Systems Custom 360 integration.

* SmartRemote supports CombiMaster communication over the MasterBus network. Support for Mastervolt battery chargers, inverters, charger/inverters, MLI batteries and MasterShunt devices is under development. Wondering if your device is supported? Check the Downloads section for an overview of supported devices or contact your dealer.



NEW
MODEL

SmartRemote

Product code	77010600 (retail version) 77010500 (OEM version) <i>Includes 10 pcs. SmartRemote displays only, no MasterBus or Mastervolt-CZone drop cables are included. Please order the cables separately when needed.</i>
Interfaces	CZone, MasterBus
Power supply	bus powered, < 160 mW (idle mode)
Display/read-out	2.8 inch, 320 x 240 pixels, high colour
Mounting	panel mount (cutout: Ø 52 mm / 2 inch, 4 screws included); Blue Sea 360 panel mount (locking ring included)
Protection degree	IP20
Dimensions, hwxwx	72 x 72 x 29.4 mm 2.8 x 2.8 x 1.2 inch
Weight	0.075 kg 0.2 lb
Delivered with	MasterBus cable (6 mtr), Mastervolt-CZone drop cable (1 mtr), user's manual

MasterView Read-out

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



MasterView Read-out

Product code	77010050
Display	7 LEDs
Dimensions, hwx	60 x 65 mm / 2.4 x 2.6 inch
Weight	70 g / 0.15 lb
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

Product code	77010030
--------------	----------

MasterBus Network Components

NEW MasterShunt 500 CZONE

MasterShunt is the heart of every MasterBus 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, Combis, 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.

A new service mode prevents loss of valuable information, such as the state of charge, during system maintenance. A maximum Depth of Discharge (DOD) can be set and time remaining will be adjusted accordingly.

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 (CZone model only).
- Fits in a CZone system including setup tools and configuration file (CZone model only).
- 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	
Product code	77020115
Dimensions, hwxwd	150 x 150 x 65 mm 5.9 x 5.9 x 2.5 inch
Weight	0.7 kg / 1.54 lb
Battery types	Gel, AGM, flooded, Lithium Ion
Battery voltage	12, 24 or 48 V DC
Current	300 A continuously, 400 A for 10 min, 500 A for 5 min and 600 A for 2 min
MasterBus powering	yes, incl. Smart MasterBus Powering (switched off for CZone or NMEA 2000 communication)
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, 1 mtr CZone-Mastervolt drop cable

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, alternators and solar panels. With the plug & play cable it can be easily connected to the MasterBus network. The EasyView panel gives all fuses logical names, for instance, referring to the connected equipment, to ensure you receive understandable error notifications (for example: battery charger fuse defect).

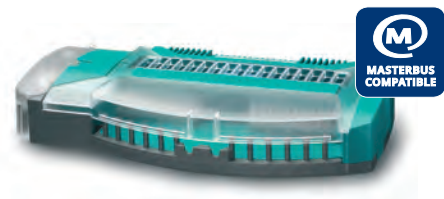


DC Distribution 500	
Product code	77020200
Dimensions, hxxwxd	150 x 216 x 65 mm 5.9 x 7.9 x 2.5 inch
Weight	1.2 kg / 2.6 lb
Battery voltage	12, 24 or 48 V DC
Current	300 A continuous / 500 A for 5 minutes
MasterBus powering	no
Standard fuses	80 A (2x), 160 A and 125 A - ANL type (deviating values can be ordered separately)
Spare fuse	125 A - 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 10 A 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 100 A) with parallel switching of multiple outputs.
- Logical Blocks.



Digital DC 10x10A	
Product code	77020400
Dimensions, hxxwxd	40 x 229 x 110 mm 1.6 x 9.0 x 4.3 inch
Weight	750 gr / 1.7 lb
MasterBus powering	yes
Power consumption	< 2 mA at 12/24 V
Protection degree	IP21
DC OUTPUT	
Connection	cable max. 4 mm ²
Maximum software fuse current	10 A per channel
Hardware fuse current	15 A per channel
DC INPUT	
Connections	max. 95 mm ² or directly connected to MasterShunt or DC Distribution
Maximum current	100 A
Supply voltage	8-30 V DC



CHECK THE MASTERVOLT SITE FOR
INTERESTING REAL-LIFE SYSTEMS:
MASTERVOLT.COM/REFERENCES
AND
EXTENDED TECHNICAL BACKGROUND
ON OUR PRODUCTS:
MASTERVOLT.COM/TECHNICAL-BACKGROUND

Integrate your MasterBus System: 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, CANopen or Modbus network, and vice versa.

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

NIEUW
MODEL

MasterBus AC Master Interface

The MasterBus AC Master Interface is an addition to our range of MasterBus interfaces, allowing seamless integration of an AC Master inverter into every MasterBus network. Just as all other MasterBus interfaces, the AC Master Interface can be installed on DIN rails or as surface mounting.

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.



MasterBus AC Master Interface

Product code	77032700
MasterBus powering	no
Dimensions, hwxwx	66 x 78 x 32 mm 2.6 x 3.1 x 1.3 inch
Weight	± 70 g / 0.18 lb
Protection degree	IP21
Delivered with	RJ11 connection cable (1 m), MasterBus cable (6 m), MasterBus terminator, user's manual

NIEUW
MODEL

MasterBus LIN Bus Interface

The MasterBus LIN Bus Interface has been developed to enable the Volkswagen Crafter to communicate with the Mastervolt MLI Ultra Lithium Ion battery. The MasterBus LIN Bus Interface is designed for use in vehicles equipped with a LIN enabled (secondary) alternator option.

It will guaranty a seamless integration of the MLI Ultra battery into the vehicle's LIN Bus and provide the alternator and Engine Control Unit (ECU) with the necessary data from the MLI Ultra battery to monitor and charge the battery accordingly.

Just as all other MasterBus interfaces, the LIN Bus Interface can be installed on DIN rails or as surface mounting. The LIN Bus Interface can be used in combination with the Mastervolt MLI Ultra batteries (MLI Ultra 12/2500 or MLI Ultra 12/5000).



MasterBus LIN Bus Interface

Product code	77032800
MasterBus powering	no
Dimensions, hwxwx	66 x 78 x 32 mm 2.6 x 3.1 x 1.3 inch
Weight	± 70 g / 0.18 lb
Protection degree	IP21
Delivered with	screw terminal, MasterBus cable (1 m), MasterBus terminator, user's manual

MasterBus FireCAN Interface

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



MasterBus FireCAN Interface	
Product code	77032400
MasterBus powering	no
Dimensions, hwxwd	66 x 78 x 32 mm 2.6 x 3.1 x 1.3 inch
Weight (excl. cable)	70 g / 0.15 lb
Protection degree	IP21
Delivered with	FireCAN connection cable, MasterBus terminator, user's manual

MasterBus NMEA 2000 Interface

The MasterBus NMEA 2000 Interface provides the MasterBus network with NMEA 2000 information, and vice versa.



MasterBus NMEA 2000 Interface	
Product code	77031800
MasterBus powering	no
Dimensions, hwxwd	66 x 78 x 32 mm 2.6 x 3.1 x 1.3 inch
Weight (excl. cable)	70 g / 0.15 lb
Protection degree	IP21
Delivered with	NMEA connection cable, MasterBus cable, MasterBus terminator, user's manual

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.



MasterBus Modbus Interface	
Product code	77030800
MasterBus powering	no
Dimensions, hwxwd	66 x 78 x 32 mm 2.6 x 3.1 x 1.3 inch
Weight	± 80 g / 0.18 lb
Protection degree	IP21
Delivered with	MasterBus cable, MasterBus terminator, user's manual

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.



MasterBus CANopen Interface	
Product code	77032600
Programmability	MasterAdjust conventional configuration or string-based mapping
Data communicated	all MasterBus information and control items
Power consumption	< 40 mA
MasterBus powering	no
Dimensions, hwxwd	66 x 78 x 32 mm / 2.6 x 3.1 x 1.3 inch
Weight (excl. cable)	70 g / 0.15 lb
Protection degree	IP21
Delivered with	CANopen adapter cable (100 mm, M12 5-pin connector) and MasterBus terminator, user's manual

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.



MasterBus Philippi Interface	
Product code	77031850
Programmability	automatic & manual configuration
Data communicated	selection of most popular values per product
Power consumption	< 40 mA
MasterBus powering	no
Dimensions, hwxwd	66 x 78 x 32 mm / 2.6 x 3.1 x 1.3 inch
Weight (excl. cable)	70 g / 0.15 lb
Protection degree	IP21
Delivered with	connection cable (100 mm), MasterBus cable, MasterBus terminator, user's manual

MasterBus USB Interface

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



	MasterBus USB Interface
Product code	77030100
MasterBus powering	yes (when the PC is switched on)
Dimensions, hxxwx d	66 x 78 x 32 mm 2.6 x 3.1 x 1.3 inch
Weight	± 80 g / 0.18 lb
Protection degree	IP21
Delivered with	USB connection cable, MasterBus cable, MasterBus terminator, user's manual

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.



	GPRS Module
Product code	77031000
MasterBus powering	no
Dimensions, hxxwx d	66 x 78 x 32 mm 2.6 x 3.1 x 1.3 inch
Weight	± 80 g / 0.18 lb
Protection degree	IP21
Delivered with	GPRS antenna, MasterBus cable, MasterBus terminator, user's manual, SIM card not included

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.



GPRS Module: Communicate with your system via mobile phone.

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.



	MasterBus Inverter Interface
Product code	77030700
MasterBus powering	no
Dimensions, hxxwx d	66 x 78 x 32 mm 2.6 x 3.1 x 1.3 inch
Weight	± 80 g / 0.18 lb
Protection degree	IP21
Delivered with	Interface connection cable, MasterBus cable, MasterBus terminator, user's manual

MasterBus Serial Interface

Connect 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.



	MasterBus Serial Interface
Product code	77030450
MasterBus powering	no
Dimensions, hxxwx d	66 x 78 x 32 mm 2.6 x 3.1 x 1.3 inch
Weight	± 80 g / 0.18 lb
Protection degree	IP21
Delivered with	Interface connection cable, MasterBus cable, MasterBus terminator, user's manual

AC Power Analyser

The AC Power Analyser is a multi-functional measuring device which can visualise 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 series, and offers a free programmable potential-free contact.



	AC Power Analyser
Product code	77031200
MasterBus powering	yes
Dimensions, hxxwx d	80 x 181 x 28 mm 3.1 x 7.1 x 1.1 inch
Weight	± 530 g / 1.17 lb
Protection degree	IP65
Delivered with	MasterBus cable, MasterBus terminator, current transformer 100:5, user's manual

Use it to connect AC power devices such as generators or isolation transformers to the MasterBus network.

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. Communication remains possible.



	MasterBus Power Interrupter
Product code	77031550
MasterBus powering	no
Dimensions, hxxxd	66 x 78 x 32 mm 2.6 x 3.1 x 1.3 inch
Weight	± 80 g / 0.18 lb
Protection degree	IP21
Delivered with	user's manual

MasterBus Repeater

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



	MasterBus Repeater
Product code	77031100
MasterBus powering	yes
Dimensions, hxxxd	66 x 78 x 32 mm 2.6 x 3.1 x 1.3 inch
Weight	± 90 g / 0.20 lb
Protection degree	IP21
Delivered with	MasterBus cable, MasterBus terminator, user's manual

Multipurpose Contact Output

This potential-free programmable contact can be customised and programmed to give your MasterBus network unprecedented possibilities. Use it, for example, to control a ventilator, or to operate a generator.



	Multipurpose Contact Output
Product code	77030500
Potential free contact	NO-C-NC - 1 A / 30 V DC
MasterBus powering	no
Dimensions, hxxxd	66 x 78 x 32 mm 2.6 x 3.1 x 1.3 inch
Weight	± 80 g / 0.18 lb
Protection degree	IP21
Delivered with	MasterBus cable, MasterBus terminator, user's manual

MasterBus Tank Level Interface

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



	MasterBus Tank Level Interface
Product code	77030300
MasterBus powering	no
Dimensions, hxxxd	66 x 78 x 32 mm 2.6 x 3.1 x 1.3 inch
Weight	± 80 g / 0.18 lb
Protection degree	IP21
Delivered with	MasterBus cable, MasterBus terminator, user's manual

Digital Input

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



	Digital Input
Product code	77030900
MasterBus powering	no
Dimensions, hxxxd	66 x 78 x 32 mm 2.6 x 3.1 x 1.3 inch
Weight	± 80 g / 0.18 lb
Protection degree	IP21
Delivered with	cable with plug, MasterBus cable, MasterBus terminator, user's manual

Digital AC 1x6A

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



	Digital AC 1x6A
Product code	77031500
MasterBus powering	no
Max. relay current	6 A (230 V AC single pole)
Dimensions, hxxxd	66 x 78 x 32 mm 2.6 x 3.1 x 1.3 inch
Weight	± 80 g / 0.18 lb
Protection degree	IP21
Delivered with	MasterBus cable, MasterBus terminator, user's manual

Switch Input 3 PCB

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



Switch Input 3 PCB	
Product code	77031300
MasterBus powering	no
Dimensions, hwxwd	54 x 86 x 58 mm 2 x 3.4 x 2.3 inch (incl. mounting frame)
Distance between switches	26.1 mm
Weight	35 g / 0.08 lb (incl. MasterBus terminator)
Protection degree	IP21
Delivered with	MasterBus terminator, user's manual. <i>Switches and mounting frame not included</i>

Switch Input 4 PCB

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



Switch Input 4 PCB	
Product code	77031400
MasterBus powering	no
Dimensions, hwxwd	56 x 120 x 65 mm 2.2 x 4.7 x 2.6 inch (incl. mounting frame)
Distance between switches	27.3 mm
Weight	45 g / 0.1 lb (incl. MasterBus terminator)
Protection degree	IP21
Delivered with	MasterBus terminator, user's manual. <i>Switches and mounting frame not included</i>

CHECK THE MASTERVOLT SITE FOR INTERESTING REAL-LIFE SYSTEMS:
MASTERVOLT.COM/REFERENCES
AND
EXTENDED TECHNICAL BACKGROUND ON OUR PRODUCTS:
MASTERVOLT.COM/TECHNICAL-BACKGROUND

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.

FEATURES

- Control of Mastervolt inverters and chargers from CZone displays, switches or partner products.
- Display MasterBus acquired systems information such as tank and power levels on CZone displays.
- Transfer of alarms between both systems.



CZone Masterbus Bridge Interface	
Product code	80-911-0072-00
MasterBus powering	no
Dimensions, HxLxP	69 x 69 x 50 mm 2.7 x 2.7 x 2 inch
Weight	145 g / 0.32 lb
Protection degree	IP65
Delivered with	MasterBus cable adapter, MasterBus terminator, user's manual

Please contact Mastervolt or your local dealer for possibilities in your specific application.

Practical: MasterBus Accessories

Fuses

The MasterShunt standard comes with a bus bar. You can also choose a robust Class T fuse, suitable for high short circuit currents of the Lithium Ion batteries, or for ANL fuses.

Product code	
77049000	Class T fuse 500 A / 160 V DC, current limiting capability 20 kA
77020150	bus bar



The DC Distribution standard comes with five ANL fuses: 80 A (2x), 125 A and 160 A, and a 125 A spare fuse. Replacement fuses and other amperages:

Product code	ANL fuse	Product code	ANL fuse
77049020	20 A	77049175	175 A
77049040	40 A	77049200	200 A
77049050	50 A	77049250	250 A
77049063	63 A	77049300	300 A
77049080	80 A	77049400	400 A
77049100	100 A	77049425	425 A
77049125	125 A	77049500	500 A
77049160	160 A		



MasterBus Terminator

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

Product code	
77040000	



MasterBus DIY kit

Cut your own cables to length and finish, comprising:

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

Product code	
77050000	

NEW

Mastervolt-CZone Drop Cable

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

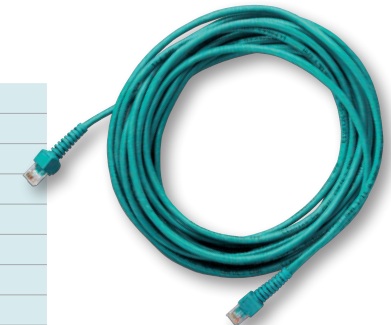
Product code	
77060050	0.5 m
77060100	1 m
77060200	2 m
77060500	5 m



MasterBus Communication Cable

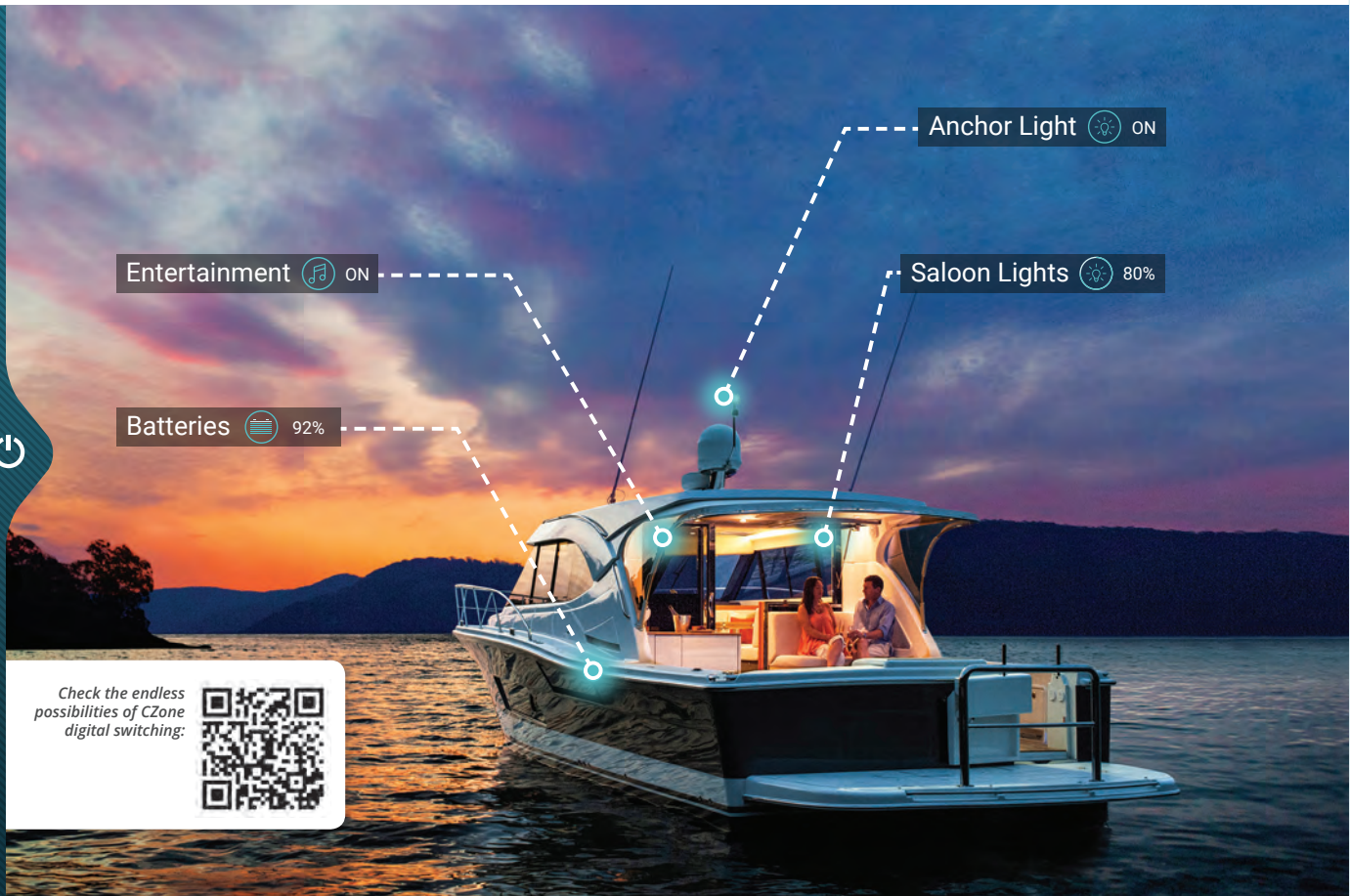
Suitable for data traffic and powering peripheral equipment in harsh environments, this is the only cable you need for your MasterBus network. MasterBus compatible products come standard with two ports, while other equipment requires an interface. A DIY kit is optional.

Product code	
77040020	0.2 m
77040050	0.5 m
77040100	1 m
77040300	3 m
77040600	6 m
77041000	10 m
77041500	15 m
77042500	25 m
77045000	100 m



Separately available:

Product code	
77040010	25 x MasterBus RJ45 connectors, 8-pole
77040015	25 x green isolation caps for RJ45 connector



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.

Check the endless possibilities of CZone digital switching:



QUOTE

"CZone provides Riviera owners with reliable onboard power electronics. The integrated system gives our owners more functionality with less components, while straightforward and practical design make installation simple. In Mastervolt, we have a partner that understands our requirements and provides Riviera with the quality and reliability our owners demand."

GREIG PAYNE, ELECTRICAL MANAGER RIVIERA YACHTS, AUSTRALIA

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



Monitoring & System Alarms

CZone digital control and monitoring offers peace of mind by consolidating system information and pre-empting 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.

Complete Control

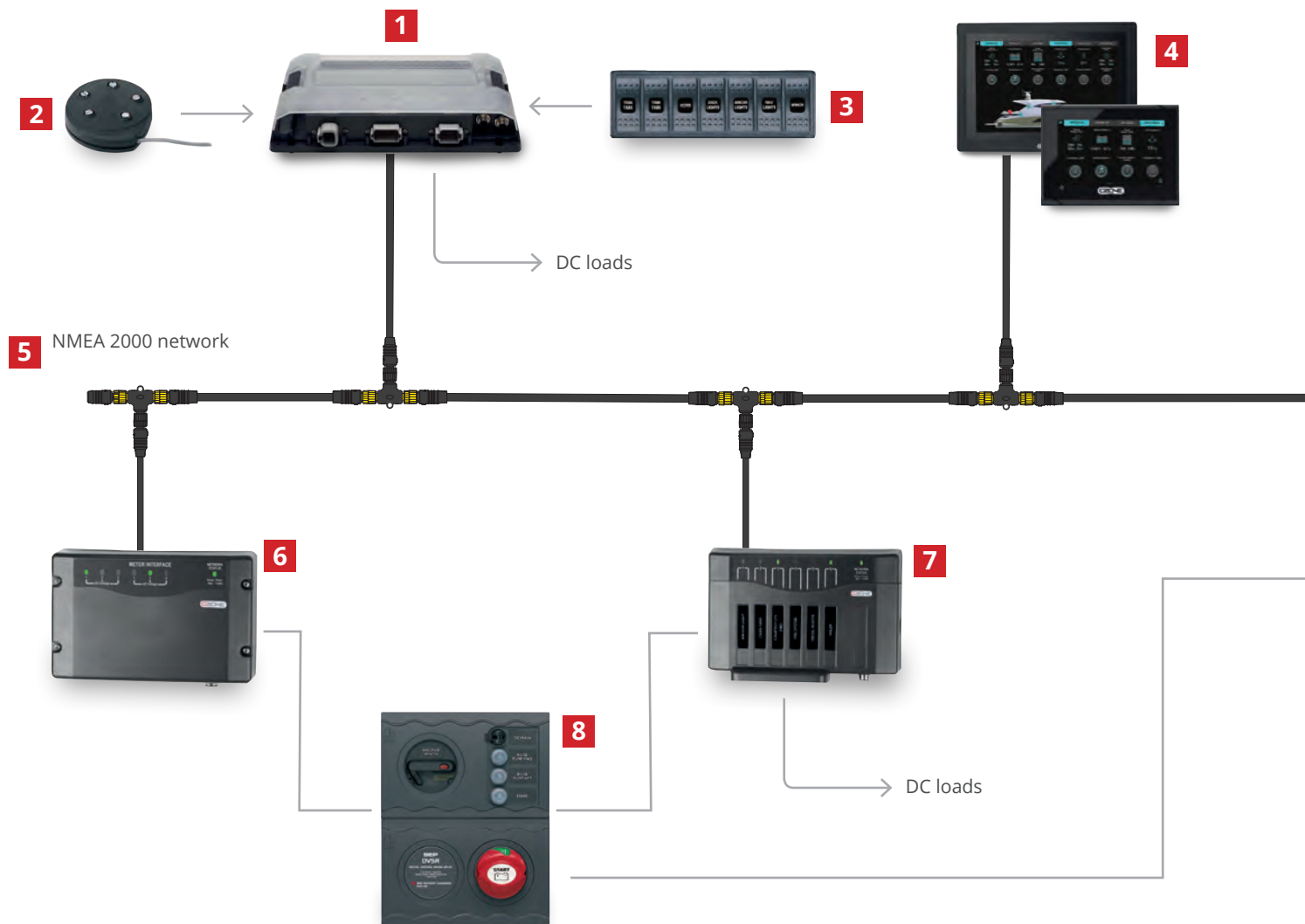
CZone offers leading system control of onboard systems, from Modes selection that transforms the entire system at a single touch, wirelessly via iPad or Key fob, or remotely via satellite or data networks. Full direct control is accessible using intuitive touch screen interfaces or through integrated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



Fully Integrated CZone® MasterBus System

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

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.



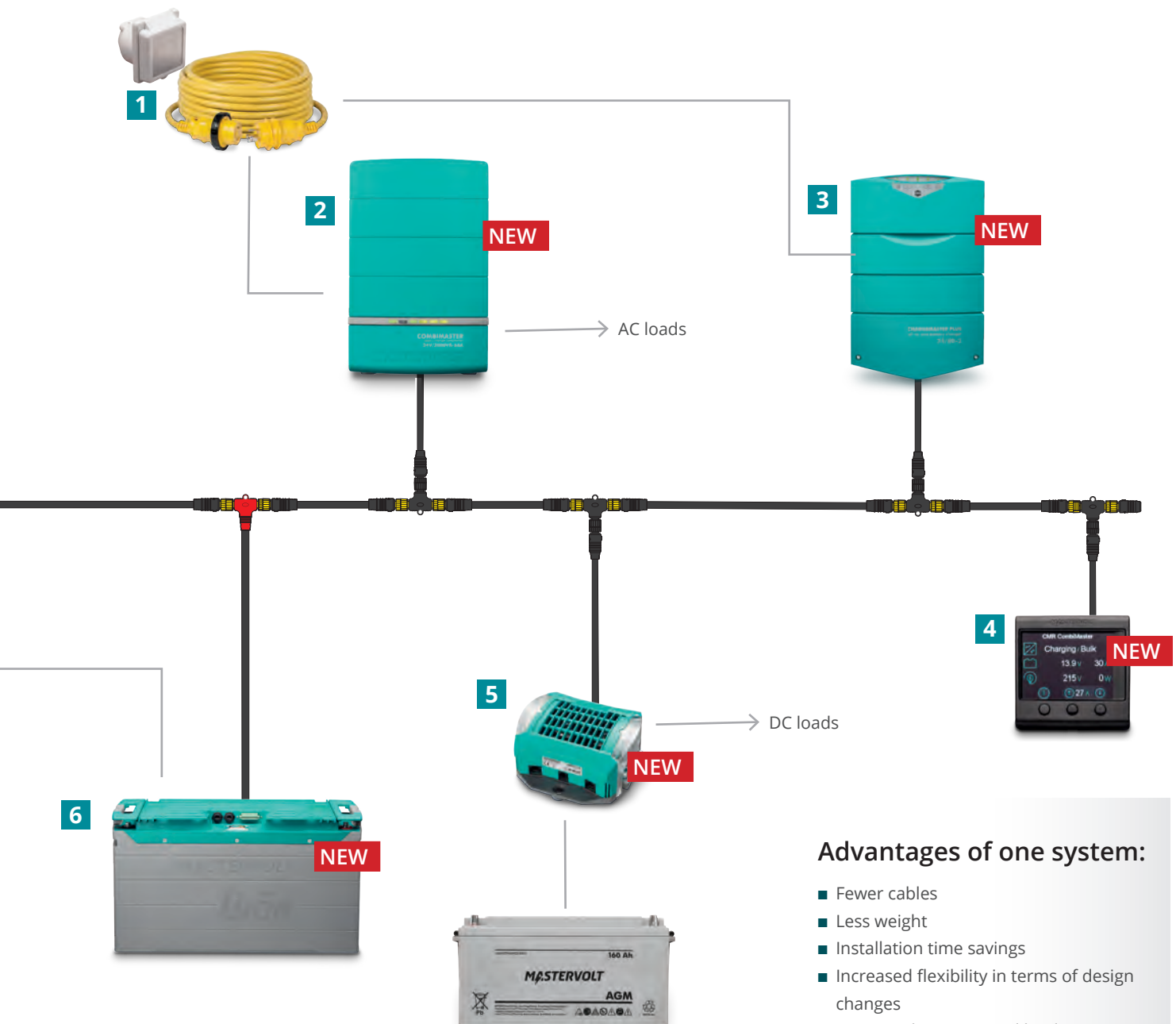
- | | |
|---|-------------------------------------|
| 1 Combination Output Interface (COI) | 5 NMEA 2000 network |
| 2 Ultrasonic tank sender | 6 Meter Interface |
| 3 Switch cluster | 7 Output Interface |
| 4 Displays | 8 Battery distribution panel |

CZone Ready Products

Instant plug and play integration.

The following products have been updated for 2020 to directly integrate with CZone as well as MasterBus.

ChargeMaster Plus battery charger	p. 20
CombiMaster inverter/charger	p. 46
MLI Ultra batteries	p. 66
SmartRemote	p. 83
MasterShunt 500	p. 84



Advantages of one system:

- Fewer cables
- Less weight
- Installation time savings
- Increased flexibility in terms of design changes
- 'Superyacht' power and load management capabilities
- Remotely accessible
- Easy to maintain
- Integrated solution
- Single button 'mode' selection
- Reliable and safe
- Global service network

- 1 Grid power
- 2 CombiMaster
- 3 ChargeMaster Plus
- 4 SmartRemote
- 5 MasterShunt 500
- 6 MLI Ultra Lithium Ion (service) battery
- 7 AGM battery

CZone® Displays

The CZone® displays are designed with both the manufacturer and end-user in mind. The easy-to-use display screens put the control of all components directly at your fingertips. Multiple display interfaces can be used in the same system. The scroll and click interface is simple to use in the roughest of seas or bumpiest of roads.

CZone displays are the interface between the CZone network and the user. They offer full control of circuits as well as the ability to view important onboard system information, such as tank levels and power levels (for both AC and DC supplies). Audio and visual alarms with systems diagnostics are also provided.



CZone displays are extremely intuitive to use with simple controls and a menu structure that is easy to follow. The 'modes of operation' feature allows the control of multiple circuits with a single push of a button. For instance, 'night running' mode turns pre-selected lights on to dim levels. These modes can all be configured by the user.



Settings

Allows an OEM or technician access (via password) to the configuration of a system. No need for a computer to set or change configuration settings such as circuit labels, circuit breaker sizes, etc.



Modes

Ease of operation assured. With one press of the key users can turn on a group of circuits without having to scroll, search for, and turn on the individual circuits that they need for the operation of their vessel or vehicle. When leaving, simply press "systems off" to turn off all non-essential circuits. Entertainment mode allows preset activation of lounge lights, music, etc. All functions can be controlled remotely.



Control

Breaks down the circuits into easy to identify groups for quick control, i.e. to turn on fresh water pump the user can open the "pumps" group and make the appropriate selection. This screen also allows the user to monitor the status of the circuit i.e. on, off, fault and current draw.

Power Control

- Turn circuits on and off, including timer and light dimming control.
- Set modes of operation.



Monitoring

Allows user to easily monitor AC and DC power, tanks, data, alarms, and circuit status. Presents data in analogue and digital form.

DC Power Meter

- Displays voltages of multiple battery banks, includes low and high voltage alarms.
- Displays charge and discharge (amp) of multiple battery banks.
- Displays battery capacity in ampere hours and % charge/discharge, includes low ampere hour alarm.
- Logging of battery minimum and maximum voltage levels.
- Logging of minimum battery capacity level.

AC Power Meter

- Displays multiple line voltages (230 and 120 V), includes high and low voltage alarm.
- Displays AC line frequencies, includes high and low frequency alarm and AC power consumption in kW.
- Logging of minimum and maximum voltage and frequency levels.
- Logging of maximum AC current.

Tank Levels

- View tank level information for multiple tanks and fluid types.

Data

- Displays standard NMEA 2000 information.
- Displays temperature and pressure values.
- Monitors all circuits connected to the CZone network.

Alarms and Diagnostics

- Logging of circuit run time and on cycles.
- CZone network status reporting.
- Indicates alarms for onboard faults in audio and visual form (bilge pump operation, smoke alarm).
- Logging of alarms with date and time.

CZone® Displays

CZone Touch 10

The gateway to your CZone digital switching and Mastervolt power electronics system has just been transformed by the 'state of the art' Touch 10.

The sleek, attractive screen design will complement the interior of any high-end vessel or recreational vehicle, while offering the very latest generation capacitive touchscreen technology, high bright display for use in sunlight and high resolution providing a more crisp and detailed graphical user interface.

All of this has been packaged into an innovative, splash-proof marine mounting system to provide an outstanding 'human-machine' experience.



Product code	
80-911-0100-00	CZone Touch 10
80-911-0101-00	Retrofit plate (required for retrofitting old 10" Touch Screen)
Screen	10.1" LED-backlit projected capacitive touchscreen display with IPS technology
Aspect ratio	widescreen 16:10
Resolution	1280 x 800 pixels
Protection degree	IP66
Brightness	500 cd/m ²
Supply voltage	8-32 V
Power consumption	1 A at 12 V, 500 mA at 24 V
Interfaces	NMEA 2000, USB2.0, Ethernet
Dimensions, hxxwxd	196 x 275 x 41 mm 7.7 x 10.8 x 1.6 inch
Weight	1.8 kg

ACCESSORIES



Power cable for Touch 10
2 pin, 2 m / 6.5 ft
80-911-0032-00

Supplies power for
Touch 10 display

CZone Touch 5

The sleek Touch 5 adds a compact touchscreen option to your CZone installation. While offering many of the same features as its bigger brother, the Touch 10, this display module adds WiFi connectivity as well as the higher specification IPx7 waterproofing.

With a super bright widescreen display and the latest capacitive touchscreen technology, this compact unit outperforms perfectly in sunlight. It also suits smaller applications where space is at a premium, or on larger applications as a secondary display.

FEATURES

- Easy to use touch interface.
- Glass dash styling.
- Super bright widescreen display.
- Low profile flush mounting.
- Reduced system cost and complexity, combines display and Wireless Interface functionality into one unit.
- IPx7 water ingress protection.
- Built-in WiFi connectivity.
- Micro SD card slot.
- NMEA 2000 compatible.



Product code	
80-911-0124-00	CZone Touch 5
80-911-0135-00	Retrofit plate 12 V (required for retrofitting old 3.5" Display Interface)
80-911-0136-00	Retrofit plate 24 V (required for retrofitting old 3.5" Display Interface)
Screen	5" LED-backlit projected capacitive widescreen touch
Resolution	800 x 480 pixels
Protection degree	IPx7
Brightness	1200 cd/m ²
Supply voltage	12 V DC
Power consumption	900 mA at 13.5 V
Interfaces	NMEA 2000, Micro SD
Dimensions, hxxwxd	120 x 152 x 58 mm 4.7 x 6.0 x 2.3 inch
Approvals	CE, RCM

Let CZone® do the thinking...

CZone removes the one-to-one relationship between each physical switch and the item being controlled, and allows multiple devices to be controlled by a single touch.

This simplifies the display and ensures critical items are not forgotten, like navigation lights when running at night. The combinations can also overlap, allowing the same device to be controlled in different ways by different modes.

Modes

So for example a mode for "Daytime Running" might turn on the fridge, fresh-water pump, toilet pump and bilge blower.

A "Night Running" mode might add navigation lights to this and dim the instrument lights, while a "Night Anchor" mode would turn these off and replace them with the anchor light, interior lights and underwater lights. In this way a small number of programmed modes could cater for all the combinations required during normal operation.

Creating modes is done using the CZone configuration software, and this can incorporate suitable graphics. Modes can then be programmed to display graphically which devices are enabled for each mode, ensuring immediate understanding of what the state is of each device in the current mode.



QUOTE

"Al Harrington commissioned Nexus Yachts to build a fast cruising technologically advanced bluewater cruising Catamaran. After a thorough investigation into electrical systems Al concluded that a combination of CZone Digital Switching and Mastervolt power electronics was the correct choice for him. Waterline Systems was contracted to design and install the system. Sixty eight CZone and twenty five MasterBus components were integrated using the CZone MasterBus Bridge Interface. After 1.5 years of cruising we are pleased to report that this was a great choice. The system has proved to be reliable, flexible and user friendly. This resounding success has resulted in a very happy yard and owner."

STRUAN BUTLER, MANAGING DIRECTOR WATERLINE SYSTEMS, SOUTH AFRICA

CZone® DC Interfaces

CZone Combination Output Interface (COI)

The Combination Output Interface (COI) combines multiple input and output devices into one module, offering a compact and intelligent replacement for traditional DC fuse boxes and circuit breaker panels with digital switching technology.

Digital switching systems just became more cost effective and easier to install with the CZone Combination Output Interface (COI). This one box replaces up to five separate units, with convenient Deutsch connectors and IPx5 water resistance, providing a complete CZone system for smaller applications. The COI's high continuous power output (150 amps), plus space, installation time and cost savings also make it the perfect building block for larger systems.








Quick Access and Overview

Partnered with either a dedicated CZone display, or with a multi-functional display from one of our integration partners (B&G, Furuno, Garmin, Lowrance, Simrad), the Combination Output Interface heralds a new era in providing simple, intuitive control over the increasingly complex systems found on today's applications.

FEATURES

- High density 30 channel module minimizes installation, interconnections and footprint, while delivering best value per circuit.
- Full mechanical fuse protection plus bypass on all circuits as required by ABYC/CE.
- Industry standard Deutsch connectors provide fast, plug & play installation. A Deutsch connector kit is delivered as standard with product code 80-911-0119-00.
- Optional cable cover offers improved aesthetics and greater mounting flexibility.
- Proven, rugged CZone design includes IPx5 water ingress protection and NMEA 2000 certification.
- High power bilge pump channels allow manual control plus 'pump running' feedback from a single channel – without additional wiring.
- USB port provides easy system update from USB flash drive.

Product code	
80-911-0119-00	CZone COI with connectors
80-911-0120-00	CZone COI without connectors (for refit or service purposes)
Communication protocol	NMEA 2000
Channels	30
Output channels (high)	4 x 25 A
Output channels (low)	12 x 10 A (dimmable)
Analogue inputs	8 (positive or negative switching, 0-32 V)
Additional monitoring	2 voltage sensors (on main positive stud and NMEA 2000 power)
Circuit current monitoring	all 16 output channels
Circuit protection	configurable electronic fuse + mechanical fuse and bypass
Digital switch inputs	6 digital input switches with backlight via digital breakout
Max. continuous current	150 A at 40 °C (derating > 40 °C)
NMEA 2000 power consumption	250 mA at 12 V 180 mA at 12 V standby
Connectors	Deutsch
Power supply	M8 (5/16") stud positive, M6 (1/4") stud negative
Supply voltage	9-32 V (with power available LED and voltage monitoring)
Bilge pump circuits	4 high current channels: integrated manual control and 'pump running' detection
Protection degree	IPx5 (mounted at 0° +/- 90°)
Dimensions (incl. optional cable cover), h x w x d	338 x 235 x 62 mm 13.3 x 9.3 x 2.4 inch
Weight	1.9 kg / 4.2 lb
Approvals	CE, ABYC, NMEA

ACCESSORIES	
	COI cable cover 80-911-0123-00 Optional cover for clean finish, covers connectors and cables.
	COI Digital Switch Breakout 80-911-0134-00 The COI Digital Switch Breakout (DSB) interfaces CZone digital switches with your CZone COI module. Including 2 mtr DSB to COI cable.
	COI DSB cable, 5 mtr 80-911-0129-00
	COI Deutsch connector kit (delivered as standard with 80-911-0119-00) 80-911-0131-00 Includes all necessary Deutsch plugs, contacts, wafers & seals for COI.
	Deutsch HDT-48-00 crimp tool 80-911-0133-00 Crimp tool for Deutsch contacts.

NEW

CZone Control 1 Interface

The Control 1 Interface combines multiple input and output devices into one module. This minimizes time and effort during installation by reducing connections between multiple modules and the footprint required. The Control 1 Interface incorporates many of the core features and benefits of the fully featured Combination Output Interface (COI), but has been re-engineered to offer improved cost-per-channel value.

The Control 1 Interface features the same rugged design as the fully featured COI with IPx5 water ingress protection and complete mechanical fuse and bypass on all circuits. Industry standard Deutsch connectors provide reliable plug and play installation.

Control 1 Interface builds onto CZone's portfolio of leading digital control and monitoring products. Delivering only the essential features required for small systems, the Control 1 Interface increases affordability and ensures the benefits of CZone are accessible to a wider range of applications than ever before.



FEATURES

- Complete CZone Control and Monitoring system in a single box.
- Modular design provides system options for wide range of vessels and RV's.
- Compatible with marine multi-function and black box chartplotter / fishfinders.
- Equipped with advanced core CZone feature set.
- Competitive price point for cost sensitive applications.
- ABYC compliant ATC fusing and mechanical bypass for redundancy.
- PWM (pulse-width modulation) light dimming capability & smooth start.
- Monitor tank levels, battery voltage, temperature and pressure using industry standard sensors.
- Bilge Pump Run Detection allows pump control and monitoring from a single wire.
- Status LEDs for all outputs, DC supply and NMEA 2000.
- Additional volt monitoring on main DC connection and NMEA 2000.
- In-built load shedding allows non-necessary loads to be turned off to preserve battery life.
- USB port allows full system firmware and configuration updates (no PC or adapters required).

NEW
MODEL

Product code	CZone Control 1 Interface
80-911-0122-00	
Communication protocol	NMEA 2000
Output channels (high)	4 x 25 A
Output channels (low)	12 x 10 A (dimnable)
Analogue inputs	8 inputs (positive or negative switching, 0-32 V), 0-1000 Ohm resistance, 4-20 mA current
Additional monitoring	1x voltage sense on main positive stud
NMEA 2000 PGN output	fluid Level, pressure, temperature, battery voltage
Circuit current monitoring	no
Circuit protection	ATC fuse with fuse tripped & fuse in bypass alarms
Circuit bypass	mechanical protection / bypass all output channels
Max. continuous current	150 A at 40 °C / 104 °F (derating > 40 °C / 104 °F)
Power consumption	operating (all channels On) = 100 mA at 13.2 V / operating (all channels Off) = 75 mA at 13.2 V
Connectors	Deutsch
Power supply	M8 (5/16") stud positive, M6 (1/4") stud negative
Supply voltage	9-32 V (with power available LED)
Bilge pump circuits	4 high current channels: integrated manual control and 'pump running' detection
Protection degree	IPx5 (mounted at 0° +/-90°)
Dimensions (incl. optional cable cover), hwxwd	339 x 194 x 65 mm 13.3 x 7.6 x 2.6 inch
Weight	1.9 kg / 4.2 lb
Approvals	CE, ABYC, NMEA, ISO8846/SAEJ1171 Ignition Protected

CZone® DC Interfaces

NEW

CZone Contact 6 PLUS

Utilising proven CZone digital switching technology the Contact 6 PLUS is a robust and affordable digital switching solution. Featuring 6x 15A solid state ignition protected fused outputs with circuit bypass for system redundancy.

The Contact 6 PLUS can be networked into an existing CZone system or installed stand-alone with the CZone Waterproof Keypads or compatible multi-function displays. The Contact 6 PLUS integrates with all major marine chart plotter and multi-function display manufacturers for direct control of electrical systems from your display, including fault warning notifications and circuit status indication.

FEATURES

- Circuit dimming & smooth start capability.
- Status LED's for all outputs.
- Ultra low current draw.
- Built-in timer functions for circuits like live bait tanks.
- Voltage monitoring on the NMEA 2000 network.
- Built-in Load Shedding allows non-essential loads to be turned off to preserve battery life.
- Built-in default configurations selectable via dip switch.
- Affordable add-on module to larger CZone systems.
- Blown fuse detection and warning.


**NEW
MODEL**

Product code	
80-911-0160-00	CZone Contact 6 PLUS
Output wire range	0.5 -6 mm (24 AWG – 8 AWG)
NMEA 2000 connectivity	1 x CAN Micro-C port
Output channels	6 x 15 A – 12/24 V
Dimming	all channels, PWM at 100 Hz
Circuit protection	ATC fuse with blown fuse alarms
Circuit bypass	mechanical fuse bypass on all channels
Max. current	60 A total module current
Power supply	M6 (1/4")
Supply voltage	9-16 V via NMEA 2000 network
Protection degree	IPx5 (mounted vertical)
Power consumption	max. 75 mA / standby 0.3 mA
Temperature range (ambient temp.)	-15 °C to 55 °C 5 °F to 131 °F
Temperature range (storage/non operating)	-40 °C to 85 °C -40 °F to 185 °F
Dimensions, hxxwxd	128.5 x 202.5 x 45 mm 5.1 x 8 x 1.8 inch
Weight	0.6 kg / 1.3 lb
Approvals	CE, ABYC, NMEA, ISO8846/SAEJ1171 Ignition Protected

CHECK THE MASTERVOLT SITE FOR INTERESTING REAL-LIFE SYSTEMS: MASTERVOLT.COM/REFERENCES AND EXTENDED TECHNICAL BACKGROUND ON OUR PRODUCTS: MASTERVOLT.COM/TECHNICAL-BACKGROUND

ACCESSORIES



CZone 2 Module Smart Harness
80-911-0171-00

CZone utilizes the industry standard NMEA 2000 network for its communication protocol. The 2 Module Smart Harness replaces the need for a complete network backbone in a small system, meaning a robust, simpler and more cost-effective installation. The Smart Harness can also be fitted independent to any CZone installation where a small network comprising 2 devices is required.



CZone 3 Module Smart Harness
80-911-0134-00

The 3 Module Smart Harness replaces the need for a complete network backbone in a small system. 3 Module Smart Harness connects two 6-button Waterproof Keypads to the Contact 6 PLUS Module. Not required when connecting to NMEA 2000 network. The Smart Harness contains internal network terminations and will compromise a standard backbone.



CZone Waterproof Keypad (portrait)
80-911-0163-00
CZone Waterproof Keypad (landscape)
80-911-0162-00

The CZone Waterproof Keypad range features dimmable RGB circuit backlighting in a robust IPx7 waterproof enclosure and is available in portrait and landscape orientations.



CZone Contact 6 Plus Connector & Seal Kit
80-911-0179-00

The CZone Contact 6 PLUS Connector & Seal Kit contains additional or replacements, suitable for the Contact 6 PLUS Module.

CZone Contact 6 PLUS System

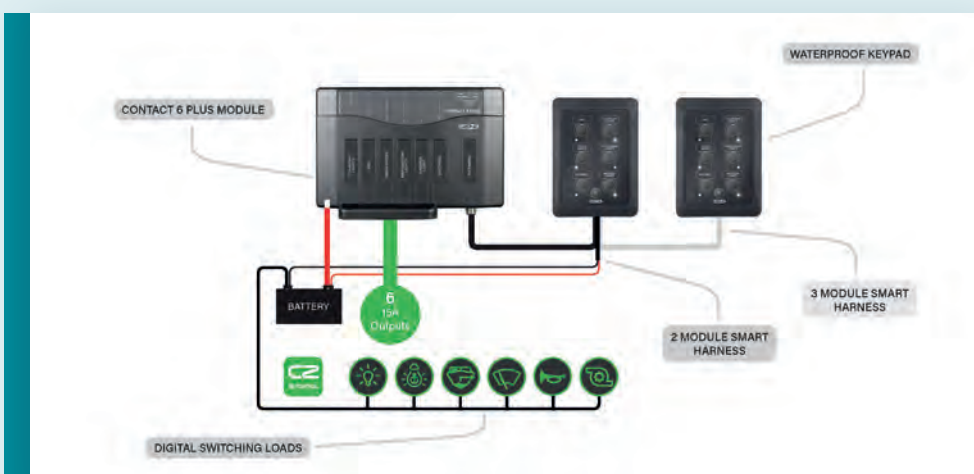
Combine Contact 6 PLUS with the Waterproof Keypad and Smart Harness to achieve a very affordable digital switching system, that reduces installation time, network component cost and delivers a robust electrical system with fewer connection points than a conventional installation. The CZone Contact 6 PLUS System provides an ultra-low current draw state to reduce demand on small electrical systems yet still delivers features such as timer functions and Load Shedding to preserve critical battery life by turning off non-essential loads as voltage drops.

- Low cost digital switching system.
- Simple installation.
- Greater reliability with fewer connections.

System examples

STANDALONE

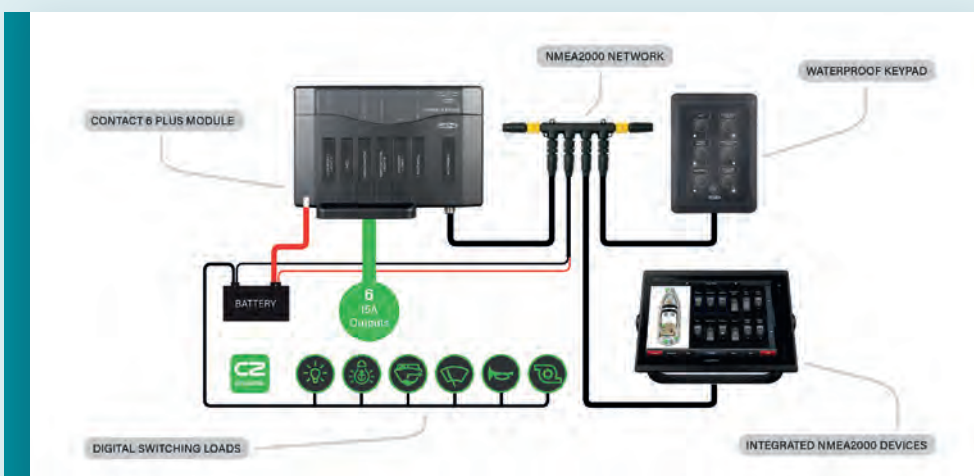
The Contact 6 PLUS and Waterproof Keypad can be networked using the Smart Harness without the need for a full NMEA 2000 network backbone. The Smart Harness is available in 2 and 3 module versions which are perfect for a Contact 6 PLUS Module and one or two Waterproof Keypads providing six or twelve switch positions.



- No NMEA 2000 network backbone required.
- Cost effective and simple installation.
- More reliable with less connection points.

NETWORKED

The Contact 6 PLUS and Waterproof Keypad are fully NMEA 2000 compatible and can be used as low cost components of a larger CZone installation with a full network backbone. In a networked installation the NMEA 2000 backbone replaces the Smart Harness.



- Low cost addition to a larger installation.
- Compatible with most Marine multi-function displays.

CZone® Network Components

NEW

CZone Contact 6 Interface


Product code

80-911-0140-00

NEW MODEL

Delivered with gland and plug pack

The CZone Contact 6 is an entry level digital switching module. It offers six independent channels of positively or negatively switched output channels and is ideal to standalone on smaller marine or recreational vehicle applications, or as part of a larger network. The Contact 6 can be networked via NMEA 2000 and controlled using a CZone Touch display, wirelessly using a CZone Wireless Interface, networked Multifunction Display or digital push or toggle switch.

CZone Contact 6 Interface

Entry level digital switching module for 12 V marine and RV applications.

Stand alone or networked with other CZone products.

Compatible with CZone integrated Multifunction Displays (MFD's).

Six independent dry contact relays allow positive, negative and reversing motor control.

Dimensions, hxxxd:
100 x 156 x 42 mm / 3.9 x 6.1 x 1.7 inch

IPx5 water ingress protection.

Conform NMEA 2000.

Proven CZone technology.

Internal auto-resetting fuses.

Electronic relay bypass switch.

Status LEDs/fault codes for all channels.

CZone Switch Control Interface (SCI)


Product code

80-911-0011-00

Switch Control Interface with seal

Product code

80-911-0012-00

Switch Control Interface only

The Switch Control Interface provides an interface between the CZone network and the traditional mechanical switches with which manufacturers and users are familiar. The SCI simplifies your wiring, supports your existing choice of switches, protects against failures and allows for more installation options.

CZone Switch Control Interface (SCI)

Single switch position can control multiple OI channels.

Attaches to switch panels via custom SCI cable.

Multiple SCI switches can control single OI channel.

Output for backlighting of switch labels (dimmable).

Outputs systems on and function/fault codes to systems on LED of switches (dimmable).

Dimensions, hxxxd:
100 x 156 x 42 mm / 3.9 x 6.1 x 1.7 inch

IPx5 water ingress protection.

Programmable switch types.

8 inputs per module (16 individual controls).

Sequential button press functionality.

Choice of push button or rocker style switch.

ACCESSORIES


Cable gland for SCI, silicone
80-911-0035-00

Hole plugs for SCI cable glands, 5 mm
80-911-0017-00

CZone Signal Interface (SI)


Product code

80-911-0013-00

Signal Interface with seal and connector

Product code

80-911-0014-00

Signal Interface only

The Signal Interface connects the CZone system to your external sensors, alarms and switching devices. The SI allows intelligent, automated operation of circuits depending on the state of the input.

CZone Signal Interface (SI)

Accepts inputs from traditional switch types being used to control outputs.

Accepts inputs from switches to trigger alarm i.e. high water float switch.

Accepts inputs from industry-standard tank senders (0-5V, 10-180 Ohm, 240-33 Ohm).

Accepts inputs from general voltaic or resistive signals, can be used for controlling outputs or to display a physical position, e.g. show a hatch is partially open.

LED status indicators for each input.

Dimensions, hxxxd:
100 x 156 x 42 mm / 3.9 x 6.1 x 1.7 inch

IPx5 water ingress protection.

Outputs standard NMEA 2000 sentences.

Resistive input range 0-1000 Ohms.

Voltage sensing input range 0-34 V DC.

ACCESSORIES


Cable gland for SI, silicone
80-911-0036-00

Terminal block for SI, 8-way
80-911-0043-00

Hole plugs for SI cable glands, 3.2 mm
80-911-0016-00

NOTE: High and low alarm levels can be set for all inputs.

CZone Meter Interface (MI)



Product code	Product code
80-911-0005-00	80-911-0006-00
Meter Interface with seal and plug	Meter Interface only

The Meter Interface accepts inputs from external AC and DC power metering sensors such as: AC and DC voltage and amps, AC kWatts, and DC battery capacity in amp hours and % remaining. All with user definable high and low alarms.

CZone Meter Interface (MI)

AC

3 x AC voltage inputs (multi voltage).
2 x AC current inputs.
Calculates true RMS power.

DC

3 x DC voltage inputs (multi voltage).
2 x DC current inputs.
Calculates battery capacity as ampere hours and percentage charge remaining.
Resolution for current metering down to 0.1 A.

GENERAL

Dimensions, hwxwd:
100 x 156 x 42 mm / 3.9 x 6.1 x 1.7 inch
IPx5 water ingress protection.
Outputs standard NMEA 2000 power monitoring sentences.

ACCESSORIES		Cable gland for MI, silicone 80-911-0033-00
		Terminal block for MI, 8-way 80-911-0043-00
		Terminal block for MI, 6-way 80-911-0042-00
		Hole plugs for MI cable glands, 3.2 mm 80-911-0016-00

CZone Motor Output Interface (MOI)



Product code	Product code
80-911-0007-00	80-911-0008-00
Motor Output Interface with connector and protective boot	Motor Output Interface only

The Motor Output Interface has an output pair for controlling DC motors which require a reversal of polarity to change the direction of their mechanical operation. For example, a DC motor for an electric window mechanism will move the window up or down depending on the polarity of the feed to the motor. The MOI also incorporates two standard output channels as found on the Output Interface (OI).

CZone Motor Output Interface (MOI)

Single motor control and two normal channels per unit, 20 A per output.
Built-in circuit protection.
IPx5 water ingress protection.
Dimensions, hwxwd:
128 x 200 x 45 mm / 5 x 7.9 x 1.8 inch

ACCESSORIES		Terminal block for MOI, 6-way 80-911-0041-00
		Seal boot for MOI, 6-wire, silicone 80-911-0034-00

CZone Output Interface (OI)



Product code	Product code
80-911-0009-00	80-911-0010-00
Output Interface with connector and protective boot	Output Interface only

The Output Interface provides an intelligent replacement for traditional circuit breaker and fuse panels. It has six high power, robust output channels which provide the power supply, control and fusing for a circuit as well as integrating many other features such as timers and dimmers. Connection to the unit is simple: a large 6-way plug allows connections to cables of up to 16 mm² (6AWG) in size, or multiple smaller conductors. No need for specialised crimp terminals and expensive crimp tools to be carried for terminations to CZone, just a blade screwdriver. A protective flexible boot offers protection to the connections from harsh environment conditions.

CZone Output Interface (OI)

4 levels of backup fusing including manual override (as required by ABYC).
Multiple channels can be bridged together to offer higher current switching.
Power consumption 12 V: 85 mA (standby 60 mA).
Dimensions, hwxwd:
128 x 200 x 45 mm / 5 x 7.9 x 1.8 inch
Small, non-metallic, easy to install case.
IPx5 water ingress protection.
6 x 20 amps circuits.
Programmable software 'fuse' sizes.

ACCESSORIES		Terminal block for MOI, 6-way 80-911-0041-00
		Seal boot for MOI, 6-wire, silicone 80-911-0034-00

CZone® Network Components

AC Output Interface (ACOI)

Searching for a simplified way to network, monitor and control onboard AC circuits? The AC Output Interface does it all and provides circuit protection for onboard AC devices. It is easy to install, configure and operate the digital control system with pre-wired components for quick connections.

This gives you a customizable solution to suit unique installation and application needs, including 'night operation' as well as control at multiple locations. It has eight outputs (up to 50 A each), supports multiple pole designs and has two separate buss feeds. To facilitate things, status LEDs and manual bypass are located right at the enclosure.

FEATURES

- Circuit status and run current displayed for each circuit.
- Customizable to suit installation requirements.
- Pre-wired for quick connection.
- Staggered start up of loads.
- 110 V, 240 V, 110/220 V.
- Supports multiple pole designs, i.e. double, triple, four pole.
- Utilizes standard DIN rail mounted components for circuit protection and control.
- Can support two separate buss feeds (i.e. 2 load groups) in one box.
- Delay before circuits come on to allow generators to come up to speed.
- Provides circuit protection and control.
- Status LEDs at enclosure.
- Manual bypass at enclosure.
- Provision for MCB/RCDs.
- Timers.
- 50 or 60 Hz.



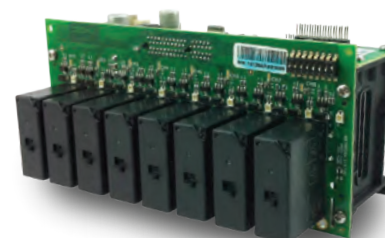
Sample AC control screen.



Product code 80-911-0069-00
For quotation purposes only, contact Mastervolt for custom requirements.

ACOI standard

8 x 50 A relays protected with 10 A MCB's.
Pre-wired.
Current monitoring on each channel.
IPx5 enclosure.
LED status indicators for each input.
Dimensions, hxxwx d:
430 x 276 x 186 mm / 17 x 10.9 x 7.3 inch



Product code 80-911-0082-00 Brown tails (APAC/Europe)
80-911-0096-00 Black tails (US)

ACOI DIN rail mount

8 x 50 A relays.
Fitted with 600 mm tails.
Cost effective solution, own enclosures and MCB's can be sourced.
Current monitoring on each channel.
Dimensions, hxxwx d:
77 x 160 x 60 mm / 3 x 6.3 x 2.4 inch

AC Mains Interface (ACMI)

A sophisticated source selector or transfer switch, the AC Mains Interface enables the user to specify the AC power source (generator, inverter, mains).

Developed for use with the CZone digital control system, but may also be used as a stand-alone device.

The ACMI can be programmed to automatically change the supply source when the current rating is exceeded, and includes a manual override and user-friendly display screen that ensures easy current, voltage, frequency, and power monitoring. Other features include six monitored, over-current protected main power inputs of up to 100 A each, as well as two outputs, which enables two separate load groups and a parallel option for use with a single source. To simplify installation, the ACMI comes pre-wired.



Product code 80-911-0068-00
For quotation purposes only, contact Mastervolt for custom requirements.



FEATURES

- Six source inputs up to 100 A (e.g. 2 x mains, 2 x generator).
- Monitoring of channel status (on/off/fault).
- Provides circuit protection and control.
- Manual override at enclosure and via remote panel.
- Customizable to suit installation requirements.
- Supports multiple pole designs, i.e. double, triple, four pole.
- 110 V, 240 V, 110/220 V.
- IPx5 enclosure.
- Utilizes standard DIN rail mounted components for circuit protection and control.
- Current, voltage, frequency and power monitoring incorporated (six channels).
- Physical and software lockouts between source controls (prevents two sources from becoming connected).
- Reverse polarity and bad power supply alarms including auto disconnect and lockouts.
- Two outputs (load groups), allows for two separate load groups with parallel option for use with single source.
- Auto changeover.
- Provision for RCD's.
- Load shedding.
- Status LEDs at enclosure.
- Pre-wired for quick connection.
- Timer controls.
- 50 or 60 Hz.

ACMI standard

Three inputs: 1 x 16 A mains, 1 x 32 A mains, 1 x 50 A generator parallel.

Two load groups: 40 A.

230 V AC 50 Hz.

Current, voltage, frequency and power monitoring incorporated.

Manual override panel on enclosure.

Dimensions, hxxwxd:

430 x 540 x 186 mm / 17 x 21.3 x 7.3 inch



Sample AC mains screen.

Wireless Interface

Monitor and control your onboard systems from your iPad



iPad® is a trademark of Apple Inc.

The Wireless Interface allows your iPad to interface with the onboard CZone® 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 communication networks of MasterBus and CZone®.

FEATURES

- User-friendly homepage to monitor and control onboard circuits.
- Integrated control and monitoring of Mastervolt power products including battery chargers and inverters.
- Monitor AC/DC power and battery data.
- Monitor tank levels.
- Receive visible alarms.
- Connect a maximum of three devices simultaneously.
- Ability to personalise homepage to display favourite circuits, modes and monitoring.
- Connects to CZone or MasterBus network for control and monitoring of systems.
- Customise your layout.
- The Wireless Interface acts as the hub between MasterBus/CZone networks and local WiFi devices.
- Ethernet connection to connect to other LANs.
- USB connection for configuration updates.
- Power cable and aerial included.

NOTE: WI MasterBus connector required for MasterBus connection.



Product code	
80-911-0090-00	Wireless Interface
80-911-0095-00	WI MasterBus connector (required for MasterBus connection)
MasterBus powering	no
Dimensions, hwxwd	105 x 190 x 60 mm 4.1 x 7.5 x 2.4 inch
Weight	0.685 kg / 1.5 lb
Protection degree	IP54
Delivered with	power cable, WiFi antenna, USB cable, user's manual



Wireless Interface Configuration Tool

User-friendly configuration tool for PC.

- Allows full customization of CZone app home page.
- Import multiple images for your own layout.
- Easy drag and drop of circuits and alarms onto application image.
- Configure network settings on wireless server.
- Create user profiles for logging into the CZone app.



QUOTE

"The needs of our customers and ongoing changes in the market have been the main reasons to choose for Mastervolt. Our customers like to have a sleek dashboard on their vessels, with as many buttons as possible replaced by intuitive touch screens. I also see the global service that Mastervolt can provide as an international brand to be an important asset for Da Vinci owners."

**ERIK VAN VEEN, GENERAL DIRECTOR
DA VINCI YACHTS, THE NETHERLANDS**



CZone® Accessories

Single T-connector

Connects a single device into the NMEA 2000 backbone.



Product code

80-911-0029-00

2 Way T-connector

Connects multiple devices into the NMEA 2000 backbone.



Product code

80-911-0047-00

4 Way T-connector

Connects multiple devices into the NMEA 2000 backbone.



Product code

80-911-0048-00

Blanking Caps

Protects unused T-connectors from dust and water.



Product code

Male

80-911-0050-00

Female

80-911-0051-00

Terminating Resistors

Use at either end of the NMEA 2000 backbone to complete the network. Each network must have a male and female terminator.



Product code

Male

80-911-0031-00

Female

80-911-0030-00

90° Elbow Connector

Space saving connector for modules, displays and cabling connections.



Product code

80-911-0046-00

NMEA 2000 Power Isolator

NEW MODEL

Used for isolating power between two independent NMEA 2000 networks. Reduce battery current draw by powering one bus off while the other remains operational, or can be used to assist with voltage drop issues on long networks.



Product code

80-911-0137-00

Backbone Cable

Special low voltage drop backbone cable ensures ultimate reliability for your NMEA 2000 network.



Product code

0.5 m / 1.6 ft

80-911-0026-00

2 m / 6.5 ft

80-911-0027-00

5 m / 16 ft

80-911-0024-00

10 m / 32 ft

80-911-0025-00

Network Cable

Thinner, more flexible cables connect individual devices to the NMEA 2000 network.



Product code

0.5 m / 1.6 ft

80-911-0116-00

1 m / 3.2 ft

80-911-0117-00

2 m / 6.5 ft

80-911-0118-00

5 m / 16 ft

80-911-0115-00

NMEA 2000 Power Cable

Provides power to the NMEA 2000 network. 0.8 mm² (18 AWG) conductors meet ABYC standard to protect the network from electromagnetic interference.



1 m / 3.2 ft

Product code

80-911-0028-00

Mastervolt-CZone Drop Cable

NEW MODEL

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



0.5 m / 1.6 ft

Product code

1 m / 3.2 ft

77060050

2 m / 6.5 ft

77060100

5 m / 16 ft

77060200

77060500

CZone Wireless Remote Kit

Simple to set up, wireless remote control. Buttons are configurable for momentary on or latching control of circuits.

- 80 m (250 ft) operating range.
- Includes (2) key fobs and a receiver box.
- Rolling code.

Product code
80-911-0045-00



AC Transducer

- Includes 3 voltage transformers for up to 3 voltage inputs.
- Dimensions: 69 x 140 x 50 mm / 2.75 x 5.5 x 2 inch.
- Used for AC voltage measurement Meter Interface.

Product code
AC-VSEN-4



Cable Assembly

Suitable for Switch Control Interface and Digital Switch Breakout, to suit push buttons.

	Product code
0.5 metres	80-911-0085-01
1 metres	80-911-0086-01
2 metres	80-911-0087-01
5 metres	80-911-0088-01
8 metres	80-911-0089-01



Cable Assembly

Suitable for Switch Control Interface and Digital Switch Breakout, to suit Rocker switches.

	Product code
0.5 metres	80-911-0018-00
1 metres	80-911-0019-00
2 metres	80-911-0020-00
3 metres	80-911-0021-00
4 metres	80-911-0022-00
5 metres	80-911-0023-00



USB CAN Adapter

Connects your PC to the CZone network for configuration and system setup.



Product code
80-911-0044-00

DC Current Shunt

- 450A / 50mV shunt supplied with DC Systems Monitor (DCSM), product code 80-600-0027-00.
- Dimensions, h x w x d:
83 x 45 x 44 mm /
3.25 x 2.8 x 2.75 inch.

Product code
LB-450-50



Current Transformer

Max. current 150 A AC.
One CT-10-3 current transformer is supplied with the AC Systems Monitor (**product code 80-600-0023-00**). A second current transformer must be ordered if a twin line system is in use.
Dimensions: 37.5 x 39 x 14 mm /
1.5 x 1.55 x .55 inch.
Hole size: 12 mm / 0.5 inch.

Product code
CT-10-3



Through Bulkhead Adaptor

For use on the backbone to transition through a waterproof bulkhead or to connect removable equipment such as a computer interface.

- NMEA 2000 network.



Product code
80-911-0052-00

Female Field Service Connector

To make your own NMEA cables.

- NMEA 2000 network.



Product code
80-911-0053-00

Male Field Service Connector

To make your own NMEA cables.

- NMEA 2000 network.



Product code
80-911-0054-00

CZone® Accessories

Push Buttons

For use with CZone systems only (3.3 V).

- Momentary and latched actuation options available.
- Blue and red circuit status indication LED options.
- 19 mm mounting hole.
- IP67 environmental protection.
- Stainless steel components.
- Maximum 5 amps each.



	Product code
Momentary (ON)/OFF, red LED	80-911-0060-00
Latching ON/OFF, red LED	80-911-0063-00
Momentary (ON)/OFF, blue LED	80-911-0062-00
Latching ON/OFF, blue LED	80-911-0061-00

Custom Rocker Switches

Red or blue systems in operation and backlighting LEDs. *Multiple Rocker labels available upon request.*



	Product code
ON/OFF, red LED	80-911-0037-00
Mom (ON)/OFF, red LED	80-911-0038-00
ON/OFF/ON, red LED	80-911-0039-00
Mom (ON)/OFF/(ON), red LED	80-911-0040-00
Mom (ON)/OFF, blue LED	80-911-0066-00
Mom (ON)/OFF/(ON), blue LED	80-911-0071-00

Wireless Interface

Wireless monitoring and control of onboard systems from your iPad.

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 MasterBus and CZone.



	Product code
Wireless Interface	80-911-0090-00
WI MasterBus connector (required for MasterBus connection)	80-911-0095-00

More information on page 108.



CHECK THE MASTERVOLT SITE FOR
INTERESTING REAL-LIFE SYSTEMS:
MASTERVOLT.COM/REFERENCES
AND
EXTENDED TECHNICAL BACKGROUND
ON OUR PRODUCTS:
MASTERVOLT.COM/TECHNICAL-
BACKGROUND

Heavy Duty Current Transformer



Max. current 150 A AC.
CT-HD is available for systems with large mains cables, too large for CT-10-3 (order separately).
Dim.: Ø 47 x 10.5 mm / 1.85 x 0.4 inch.
Hole size: 32 mm / 1.25 inch.

Product code
CT-HD

CZone Network Bridge Interface



For isolating sections of a NMEA 2000 network to decrease standby current draw. Isolation when bridging between two CAN networks, (e.g. connecting CZone to Simrad Simnet). For expansion of the NMEA 2000 network when the maximum node limit for the network has been reached (*node = any device connected to the NMEA 2000 network*). Once fitted, 40 additional nodes can be added.

Product code
80-911-0057-00

Surge Protection Module



Protect your electronics from being damaged by harmful high voltage spikes. When fitted to the battery supply, these modules look for sudden increases in voltage then switch into protection mode to absorb and suppress the high energy spike.

	Product code
12 V DC	80-707-0004-00
24 V DC	80-707-0005-00

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.

FEATURES

- Control of Mastervolt inverters and chargers from CZone displays, switches or partner products.
- Display MasterBus acquired systems information such as tank and power levels on CZone displays.
- Transfer of alarms between both systems.



	CZone Masterbus Bridge Interface
Product code	80-911-0072-00
MasterBus powering	no
Dimensions, hxxwxd	69 x 69 x 50 mm 2.7 x 2.7 x 2 inch
Weight	145 g / 0.32 lb
Protection degree	IP65
Delivered with	MasterBus cable adapter, MasterBus terminator, user's manual

Please contact Mastervolt or your local dealer for possibilities in your specific application.

CZone® Integration Partners

CZone has partnered with leading manufacturers of multifunctional displays, such as Navico (Simrad, B&G, Lowrance), Mercury, Volvo Penta, Garmin and Furuno. This makes it even easier to monitor and check energy systems and circuits on board.

CZone technology is integrated with easy-to-read graphics into chartplotters and multi-function displays. View CZone monitoring data, tank levels and battery capacity alongside radar, fish finder, video and chart plotter information or navigate to the CZone page to operate any circuit from the intuitive control page.

Integrate various sonar technologies, autopilot, connectivity, apps, engine data and multimedia.

CZone mode controls, visible on the touchscreens, allow multiple circuits to be turned on and off with a single touch, all customisable to your needs.

With CZone technology, control and monitoring is available at your fingertips, at the helm or flybridge, at desired locations on the boat or vehicle, programmed into the remote key fob, or from an app on your tablet.

SIMRAD

B&G

LOWRANCE

GARMIN

FURUNO

QUOTE

"Garmin strives to provide the easiest and most intuitive user experience to the market, and we've taken it to the next level, integrating Mastervolt's automated power and circuit management with the Garmin GPSMAP 8000 Helm Series. From controlling various lighting configurations to monitoring bait well levels and more, CZone technology puts the simplicity of automated operations at the boater's fingertips."

DAN BARTEL, VICE PRESIDENT WORLDWIDE SALES
GARMIN, USA



Mastervolt Monitoring: A window into the life of your batteries



Unexpected flat batteries are never a good start to the day. 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 complex task, 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. Additionally 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 control provides information on the charge process as well as other system information.




MASTER TIP



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.



Specifications Battery Monitoring

				
	BattMan Lite	BattMan Pro	Masterlink BTM-III	MasterShunt + EasyView 5
Product code	70405060	70405070	70403163	77020115 + 77010310
Application	Battery monitor, 12/24 V DC with large, splash proof display (IP65) and power bar.	Battery monitor, 12/24 V DC with large, splash proof display (IP65) and power bar. Displays remaining time and stores special battery status events.	Battery monitor, 12/24 V 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, hwxwd	Ø 64 mm, diepte 79 mm Ø 2.5, diepte 3.1 inch	Ø 64 mm, diepte 79 mm Ø 2.5, diepte 3.1 inch	65 x 120 x 40 mm 2.6 x 4.7 x 1.6 inch	113 x 127 x 43 mm / 4.5 x 5 x 1.7 inch
Dimensions shunt, hwxwd	87 x 45 x 35 mm - M8 3.3 x 1.7 x 1.4 inch - M8	87 x 45 x 35 mm - M8 3.3 x 1.7 x 1.4 inch - M8	84 x 44 x 44 mm - M8 / 3.3 x 1.7 x 1.7 inch - M8	150 x 150 x 65 mm / 5.9 x 5.9 x 2.5 inch
Built-in depth	72.5 mm 2.8 inch	72.5 mm 2.8 inch	40 mm / 1.6 inch (55 mm / 2.2 inch incl. cover and cable)	surface mount
Weight (excl. shunt)	0,1 kg / 0.22 lb	0,13 kg / 0.29 lb	0.25 kg / 0.6 lb	1 kg / 2.2 lb
TECHNICAL SPECIFICATIONS				
Max. Ah capacity	999 Ah	9999 Ah	9999 Ah	9999 Ah
Supply voltage	9-35 V	9-35 V	8-50 V	8-60 V
Voltage range	0-35 V	0-35 V	7-35 V	0-60 V
Current consumption (backlight off)	8 mA / 12 V 6 mA / 24 V	8 mA / 12 V 6 mA / 24 V	28 mA / 12 V 16 mA / 24 V	32 mA / 12 V 17 mA / 24 V
Current consumption (backlight on)	30 mA / 12 V 18 mA / 24 V	30 mA / 12 V 18 mA / 24 V	100 mA / 12 V 50 mA / 24 V	100 mA / 12 V 50 mA / 24 V
Voltage resolution	0.1 V	0.01 V	0.1 V	0.1 V
Voltage accuracy	± 0.3 %	± 0.3 %	± 0.6 %	± 0.6 %
Shunt specification	500 A / 50 mV (service set)	500 A / 50 mV (service set)	500 A / 50 mV (service set)	digital shunt
Current measurement range	0-500 A	0-500 A	0-500 A (option incl. 1000 A)	0-500 A
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

From the sun to your alternator: you decide how!

Whether you are on a trip across the world or just on the move for a few days, alternative sources of energy are indispensable in order to remain independent of grid power: in other words, you need a mobile source of electricity. Mastervolt has multiple solutions for generating electricity, from solar charge regulators to high-output alternators.

MASTERVOLT



ALTERNATORS AND CHARGE REGULATORS

Mastervolt's alternators and charge regulators ensure you get the most out of your propulsion engine. An ideal alternative for a generator.

122 ALPHA COMPACT ALPHA

Standard alternators only supply the specified capacity at a high rpm. The Mastervolt Alpha alternator is specifically designed for powerful charging, even at low rpm and high ambient temperatures. It is suitable for various installation methods, and also available as a multi-belt model.

Alpha Compact 'automotive style' alternators provide an easy fit on factory-installed PTO (power take-off) brackets, available from most engine manufacturers.

RECOMMENDED FOR:



124 ALPHA PRO

Alpha alternators are supplied with an Alpha Pro charge regulator as standard. This charge regulator maximises the capacity of the alternator and ensures the battery bank is optimally charged via the 3-step+ charge method. It is suitable for 12 V and 24 V, MasterBus compatible and appropriate for alternators up to 400 amps charge current.

RECOMMENDED FOR:



Generate



SOLAR CHARGE REGULATORS

Mastervolt solar charge regulators ensure a maximum yield from the often highly irregular availability of sunlight.

128 SOLAR CHARGEMASTER

The Solar ChargeMaster series SCM includes two types of charge regulators: PWM charge regulators with an excellent price/quality ratio, and MPPT modes for medium to large systems. The MPPT version charges the batteries up to 30 % faster than the PWM models, with the same number of solar panels.

CHECK THE MASTERVOLT SITE FOR
INTERESTING REAL-LIFE SYSTEMS:
MASTERVOLT.COM/REFERENCES
AND
EXTENDED *TECHNICAL BACKGROUND*
ON OUR PRODUCTS:
MASTERVOLT.COM/TECHNICAL-BACKGROUND

RECOMMENDED FOR:



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 maximises 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.

Alpha Pro Charge Regulator

- Suitable for 12 and 24 V.
- Including plug & play connection cable, an adapter cable for Bosch alternators is optional.
- The Alpha Pro charge regulator is suitable for alternators up to 800 amps charge current.
- Automatic voltage and temperature compensation.
- 'Keep alive' function for tachometer.
- MasterBus compatible.
- 3-Step+ charging technology for fast and complete charging.

Alpha Alternator Series

- Fast and complete charging of all batteries.
- Power supply for all consumers.
- 12 V and 24 V versions.
- 75 A to 150 A charge current.
- Delivered with Alpha Pro charge regulator for 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

- Plug and play solution.
- Suitable for high ambient temperatures.
- Patented magnetic design.
- 40 % lighter and 25 % more compact than conventional alternators.
- Up to 30 % lower fuel consumption.
- High charge current at idle RPM.
- Cable and electronics protected against oil, moisture and dirt.
- Wide range of accessories available.
- Models with suffix "VP" are a perfect fit for Volvo Penta engines.

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, the Alpha Compact can also be used to exchange the stock alternator for a more powerful model.

MASTER TIP



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





For all engine types

Alpha alternators are equipped with several fixations for customised 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

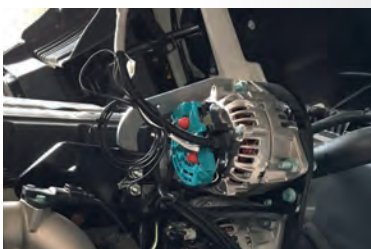
Easy operation LEDs on the body of the charge regulator indicate the charge phase. The Alpha Pro is designed as a 'fit all' solution. Just one unit is needed for both 12 and 24 V applications, with a simple selector switch to set the regulator to the right voltage. The charge regulator can also be used 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, the Alpha Compact offers lower weight, smaller dimensions and reduced fuel consumption.



MasterBus Connectivity








The Alpha Pro charge regulator 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 40 °C









Forced cooling by integrated fan on the pulley. Providing high power even at high ambient temperatures, like in engine compartments.

Specifications Alpha Compact Alternators

	NEW MODEL	NEW MODEL	NEW MODEL	NEW MODEL	NEW MODEL	NEW MODEL	NEW MODEL
							
	Alpha Compact 14/120	Alpha Compact 14/200	Alpha Compact 28/110	Alpha Compact 28/150	Alpha Compact 28/80 VP	Alpha Compact 28/110 VP	Alpha Compact 28/150 VP
Product code	46214120	46214200	46228110	46228150	46228082	46228112	46228152
Delivered with Alpha Pro III charge regulator	46614120	46614200	46628110	46628150			
GENERAL SPECIFICATIONS							
Charge regulation	delivered as standard or via optional Alpha Pro III charge regulator (product code 45513000)						
Isolated operation	yes, with optional isolation bushings						
Rotational direction	clockwise	clockwise	clockwise	clockwise	clockwise	clockwise	clockwise
Galvanic isolation	non-isolated	non-isolated	non-isolated	non-isolated	non-isolated	non-isolated	non-isolated
Cooling	integrated dual fan	integrated dual fan	integrated dual fan	integrated dual fan	integrated dual fan	integrated dual fan	integrated dual fan
Mounting	swivel arm	direct mounting	swivel arm	swivel arm	swivel arm	swivel arm	swivel arm
Pulley included	no	no	no	no	yes	yes	yes
Weight	6.7 kg 14.8 lb	7.5 kg 16.5 lb	7.4 kg 16.3 lb	7.9 kg 17.4 lb	6.9 kg 15.2 lb	7.4 kg 16.3 lb	7.9 kg 17.4 lb
TECHNICAL SPECIFICATIONS							
System voltage	12 V	12 V	24 V	24 V	24 V	24 V	24 V
Nominal current (at 6000 rpm, 25 °C / 77 °F)	120 A	200 A	110 A	150 A	85 A	110 A	150 A
Charge current (at 1800 rpm, 25 °C / 77 °F)	70 A	106 A	41 A	28 A	45 A	40 A	30 A
Cut-in speed	1300 rpm	1350 rpm	1400 rpm	1700 rpm	1400 rpm	1400 rpm	1700 rpm
Max. rotational speed	20.000 rpm	20.000 rpm	15.000 rpm	16.000 rpm	15.000 rpm	15.000 rpm	16.000 rpm
Power Take Off (kW / hp)	3.4 / 4.5	5.6 / 7.6	6.2 / 8.3	8.4 / 11.4	4.8 / 6.4	6.2 / 8.3	8.4 / 11.4
Max. operating temperature	120 °C / 248 °F	120 °C / 248 °F	120 °C / 248 °F	120 °C / 248 °F	120 °C / 248 °F	120 °C / 248 °F	120 °C / 248 °F
Temperature sensor	integrated, RJ12 connection	integrated, RJ12 connection	integrated, RJ12 connection	integrated, RJ12 connection	integrated, RJ12 connection	integrated, RJ12 connection	integrated, RJ12 connection
CONNECTIONS							
Positive output stud	2x M8	2x M8	2x M8	2x M8	2x M8	2x M8	2x M8
W (rpm) signal connection	isolated fast-on	isolated fast-on	isolated fast-on	isolated fast-on	isolated fast-on	isolated fast-on	isolated fast-on
Field current connection	Mastervolt plug	Mastervolt plug	Mastervolt plug	Mastervolt plug	Mastervolt plug	Mastervolt plug	Mastervolt plug

NEW		
ACCESSORIES		Multigroove pulley Ø 49.8 mm 48420110
		Multigroove pulley Ø 56.2 mm 48420120
		Multigroove pulley Ø 55 mm 48420130
		Multigroove pulley Ø 57.4 mm 48420100
		Multigroove pulley Ø 56 mm 48420140
		Isolating bushing Ø 10.5 mm 48420210
		Isolating bushing Ø 12.5 mm 48420230
The negative pole of Alpha Compact alternators connects to the housing. Isolated operation is possible by installation of isolating bushings.		

NEW		
ACCESSORIES		Multigroove pulley Ø 50 mm 48420150
		Multigroove pulley Ø 66.1 mm 48420160
		Multigroove pulley Ø 48.1 mm 48420170
		Multigroove pulley Ø 49.8 mm 48420180
		Oil pressure switch isolated 48420200
		B+ adapter M10 48420220
M10x1		
B+ adapter for M10 cable eye		

Specifications Alpha Alternators



	12/90 III	12/130 III	24/75 III	24/110 III	24/150 III
Product code	48612090	48612130	48624075	48624110	48624150
Delivered with multigroove pulley		48612131	48624076		
GENERAL SPECIFICATIONS					
Charge regulation	an Alpha Pro III charge regulator comes standard with all models				
Cable length regulator/alternator	1.5 metre, 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				
Weight	5.5 kg / 12.1 lb	10.1 kg / 22.3 lb	10.1 kg / 22.3 lb	10.1 kg / 22.3 lb	13.1 kg / 28.9 lb
TECHNICAL SPECIFICATIONS					
System voltage	12 V	12 V	24 V	24 V	24 V
Charge voltage absorption	14.25 V	14.25 V	28.5 V	28.5 V	28.5 V
Charge voltage float	13.25 V	13.25 V	26.5 V	26.5 V	26.5 V
Nominal diameter pulley	73 mm / 2.9 inch	89 mm / 3.5 inch	89 mm / 3.5 inch	89 mm / 3.5 inch	89 mm / 3.5 inch
ACCESSORIES					
Multigroove pulley (sold separately) 48400030	n.a.	option	option	option	option

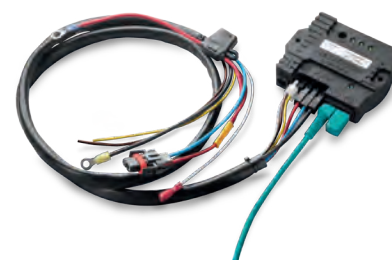


Specifications Alpha Pro





Alpha Pro III

Product code	45513000
GENERAL SPECIFICATIONS	
Link to MasterShunt	yes
Connection to Mastervolt alternator	yes
Connection to Bosch alternator	yes, using a Bosch adapter cable (product code 45510500)
Cooling	fanless
Nominal output voltage	12 V / 24 V
Cable length regulator/alternator	1.5 mtr / 5 ft oil resistant connection cable
Connection plug regulator/alternator	Alpha/Mastervolt
MasterBus powering	yes
Battery temperature sensor	yes, included / alternator temperature sensor is optional
Dimensions, hwxwd	90 x 109 x 30 mm 3.5 x 4.3 x 1.2 inch
Weight	0.4 kg / 0.9 lb
Delivered with	battery temperature sensor with 6 m (20 ft) cable, connection cable, MasterBus cable, MasterBus terminator, user manual
Approvals	CE
TECHNICAL SPECIFICATIONS	
Charge characteristic	user defined charge characteristics
Temperature compensation	yes, -30 mV / °C (-17 mV / °F)
Voltage drop compensation	yes, up to 3 V
Alternator type	alternators with negative excitation
Field current	up to 20 amps
MasterBus compatible	yes



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

ACCESSORIES		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 using the Alpha Pro 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 maximises 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 maximises 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 for ever.



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.

CHECK THE MASTERVOLT SITE FOR
INTERESTING REAL-LIFE SYSTEMS:
[MASTERVOLT.COM/REFERENCES](https://mastervolt.com/references)
AND
EXTENDED TECHNICAL BACKGROUND
ON OUR PRODUCTS:
[MASTERVOLT.COM/TECHNICAL-
BACKGROUND](https://mastervolt.com/technical-background)

ALTERNATORS AND CHARGE REGULATORS
ALPHA PRO



QUOTE

"Having Mastervolt's Lithium Ion batteries and system onboard gives me a comfortable feeling on the road. The two main energy sources are an alternator on the truck's engine and four solar panels on the roof. To properly charge the Lithium Ion batteries, an Alpha Pro charge regulator is used for the alternator. I know that wherever in the world I park my truck I will be able to enjoy the comforts of 'home' before continuing my travels."

MICHAEL WISSINGER, GLOBETROTTER
GERMANY



The sun as an additional energy source

Solar cells provide power from sunlight. This renewable energy source boosts your independence and also helps keep your battery in optimal condition. Mastervolt Solar ChargeMaster charge regulators maximize 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 12 V, 24 V and 48 V (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.

The Solar ChargeMaster series comprises two charge regulators based on PWM (Pulse Width Modulation) technology and two models that are equipped with MPPT (Maximum Power Point Tracker) technology.

The robust PWM charge regulators offer a great solution for simple power systems, using lead-acid batteries. Unlike other PWM regulators, the Mastervolt PWM regulators are compatible with negative grounding, making them especially suited for marine and mobile applications.

For advanced systems, Mastervolt solar regulators with integrated Maximum Power Point Tracker draw the maximum output from your solar panels. The MPPT models are suitable for both lead-acid and Lithium Ion batteries in 12 V, 24 V and 48 V.



QUOTE

"The conception and development of the E-NA project allowed us to create the company ZEST, which today offers its products and systems all over the world. We chose Mastervolt for the reliability of its products, especially in harsh environments."

**MATTHIEU DELASTRE, R&D MANAGER
ZEST, FRANCE**



Which Solar ChargeMaster is best for your application?

■ PWM models

The SCM20 and SCM40 PWM models are both suitable for 36 cells panels (12 V systems) and 72 cells panels (24 V 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 12, 24 and 48-volt battery banks and an integrated MasterBus connection, this Solar ChargeMaster is perfect for large and medium-sized systems. Besides the traditional 36 and 72-cell panels, the MPPT models are also ideal for the inexpensive 60-cell panels.

FEATURES

- 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 12 V, 24 V and 48 V (SCM60 MPPT-MB).
- Switchable output.
- Noiseless operation.
- Large, clear LCD display.
- Fully protected against over-temperature, over load, high/low battery voltage, high/low PV voltage, short circuit and reverse polarity.

Additional features MPPT models:

- Charges up to 30 % faster with the same number of solar panels.
- Less 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).

Specifications

Solar ChargeMaster

PWM models



NEW
MODEL**SCM20 PWM**

131822000

NEW
MODEL**SCM40 PWM**

131824000

Product code	131822000	131824000
SPECIFICATIONS BATTERY CHARGER		
System voltage (battery)	12/24 V auto select	12/24 V auto select
Battery types	AGM, Gel, flooded	AGM, Gel, flooded
Battery temperature sensor	optional	optional
Nominal charge current at 40 °C / 104 °F	20 A	40 A
Switchable output (max. current)	20 A	40 A
Energy consumption (night)	< 7 mA	< 7 mA
SOLAR INPUT (DC) SPECIFICATIONS		
Panel type (12 V system)	36 cells	36 cells
Panel type (24 V system)	72 cells	72 cells
Max. PV current (Imp)	20 A	40 A
Recommended PV power (12 V system)	360 Wp	720 Wp
Recommended PV power (24 V system)	720 Wp	1440 Wp
GENERAL SPECIFICATIONS		
Display/read-out	backlit LCD with PV power, load power, battery voltage, charge current, warnings, battery state of charge, battery setting	
Dimensions, hxxwx d	98 x 189 x 53 mm 3.9 x 7.4 x 2.1 inch	98 x 189 x 53 mm 3.9 x 7.4 x 2.1 inch
Weight	0.5 kg / 1.1 lb	0.5 kg / 1.1 lb
Cooling	passive	passive
Protection degree	IP23	IP23
Grounding	common negative grounding	common negative grounding
TECHNICAL SPECIFICATIONS		
Technology	PWM (Pulse Width Modulation)	PWM (Pulse Width Modulation)
Temperature range (ambient temp.)	-20 °C to 50 °C, derating power > 40 °C / -4 °F to 122 °F, derating power > 104 °F	
Cable size	max. 16 mm² Litz wire	max. 16 mm² Litz wire
Protections	over-temperature, overload, high/low battery voltage, short circuit, reverse polarity	
MasterBus communication	no	no
Relative humidity	95 % non-condensing	95 % non-condensing

ACCESSORIES		Temperature sensor 6m 41500500	option	option
		Temperature sensor 15m 41500800	option	option



Specifications Solar ChargeMaster MPPT models

SOLAR CHARGE REGULATORS

SCM20 PWM
SCM40 PWM
SCM25 MPPT
SCM60 MPPT-MB



	SCM25 MPPT	SCM60 MPPT-MB
Product code	131902500	131906000
SPECIFICATIONS BATTERY CHARGER		
System voltage (battery)	12/24 V auto select	12/24/48 V auto select
Battery types	AGM, Gel, flooded, Lithium Ion	AGM, Gel, flooded, Lithium Ion
Battery temperature sensor	included	included
Lithium Ion protection	via Multipurpose Contact Output product code 77030500	yes, via MasterBus connection
Max. charge current at 40 °C / 104 °F	25 A	60 A
Switchable output (max. current)	25 A	via MasterBus
Energy consumption (night)	5 mA	< 1 mA
SOLAR INPUT (DC) SPECIFICATIONS		
Nominal PV current at 40 °C / 104 °F	18 A	50 A
PV start voltage 12/24 V	15 V/27 V	n.a.
PV start voltage 12/24/48 V	n.a.	15 V/27 V/51 V
Nominal PV voltage 12 V	15-66 V	13.2-115 V
Nominal PV voltage 24 V	30-66 V	26.4-115 V
Nominal PV voltage 48 V	n.a.	52.8-115 V
Max. PV voltage (Tmin)	75 V	145 V
Max. PV power 12 V	360 Wp	900 Wp
Max. PV power 24 V	720 Wp	1800 Wp
Max. PV power 48 V	n.a.	3600 Wp
Max. efficiency	> 98 %	> 98 %
Static MPP efficiency	99.9 %	99.9 %
GENERAL SPECIFICATIONS		
Display/read-out	backlit LCD with PV power, load power, battery voltage, charge current, warnings, battery state of charge, battery setting	
Dimensions, hxxwxd	135 x 190 x 75 mm 5.3 x 7.5 x 3.0 inch	398 x 168 x 104 mm 15.7 x 6.6 x 4.1 inch
Weight	1.3 kg / 2.9 lb	5.5 kg / 12.1 lb
Alarms	buzzer	via MasterBus
Cooling	passive	passive
Protection degree	IP23	IP23
Grounding	(-) terminal	(-) terminal
TECHNICAL SPECIFICATIONS		
Technology	MPPT (Max. Power Point Tracker)	MPPT (Max. Power Point Tracker)
Temperature range (ambient temp.)	-20 °C to 55 °C -4 °F to 131 °F	-20 °C to 55 °C -4 °F to 131 °F
Cable size	max. 10 mm ² Litz wire	max. 35 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
Relative humidity	95 % non-condensing	95 % non-condensing

ACCESSORIES		Temperature sensor 6m 41500500	included	included
		Temperature sensor 15m 41500800	option	option

MASTER TIP



The innovative technology in the Mastervolt MPPT charge regulators increases the efficiency of the solar panels. As a result, Mastervolt MPPT regulators charge the batteries up to 30 % faster.



CHECK THE MASTERVOLT SITE FOR
INTERESTING REAL-LIFE SYSTEMS:
MASTERVOLT.COM/REFERENCES
AND
EXTENDED TECHNICAL BACKGROUND
ON OUR PRODUCTS:
MASTERVOLT.COM/TECHNICAL-BACKGROUND

When you wish to stay connected

Whether you are looking for a safe connection with the electricity grid or would like to automatically select the right energy source, Mastervolt has the solution. With our extensive range of high quality grid connections, cables, isolating transformers and transfer systems, a seamless power supply is guaranteed.

MASTERVOLT



AC TRANSFER SYSTEMS

A Mastervolt transfer system regulates the power supply from various energy sources and automatically selects the right source at the right time.

134 MASS SYSTEMSWITCH

Complete system solution up to 16 kW, with automatic transfer system to prevent damage to your inverter. MasterBus compatible and also suitable for systems from other brands.

134 MASTERSWITCH

The Masterswitch has two AC inputs and one or two outputs up to 25 kW. Model with automatic fuse available.

ISOLATION TRANSFORMERS

Professional galvanic isolation prevents corrosion of metal parts and enhances safety. Mastervolt's isolation transformers help protect your valuable investment and provide solid earthing.

138 MASS GI

Lightweight and highly compact with a high yield and low heat generation. With Soft Start function and parallel switching for higher capacities.

138 IVET

High-quality isolation transformers for built-in installation, suitable for capacities from 2.5 kW to 22 kW. Also available with Soft Start and automatic transfer system.

RECOMMENDED FOR:



RECOMMENDED FOR:



RECOMMENDED FOR:



RECOMMENDED FOR:



Connect



POWER CABLES AND ADAPTERS

Mastervolt provides a comprehensive range of products for high-quality connections to the grid with a focus on safety, reliability and ease of installation.

141 POWER CABLES, EXTENSION CABLES

Wear-proof, UV-proof and equipped with integrated plugs. The power cables feature integrated LED power indicators. Available in lengths of 15 and 25 metres.

141 GRID CONNECTIONS

Mastervolt's stylish and easy-to-install stainless steel grid connections are available for 16 A/230 V and 32 A/230 V.

141 ACCESSORIES

Mastervolt offers various accessories to complement your cables, including plug adapters and splitters, with or without power indicators. The 16 A power cables are supplied in a stylish bag with leather handles (also available separately).

RECOMMENDED FOR:



RECOMMENDED FOR:



RECOMMENDED FOR:



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 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 25 to 63 A.
- 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 20 to 125 A.

QUOTE

"When we evaluate a potential supplier for one of our custom built yachts, we value technical excellence, innovation capabilities, reliable solutions and world class global service capabilities. After working with Mastervolt for more than 20 years, we at Baltic Yachts are confident about Mastervolt's ability to deliver on all these points."

OLAV AHLÖ, PURCHASER ELECTRICAL EQUIPMENT
BALTIC YACHTS OY AB LTD., FINLAND





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 EasyView 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.



Specifications AC Transfer Systems



	Mass Systemswitch 16 kW	Masterswitch 5 kW	Masterswitch 3 kW	Masterswitch 10 kW
Product code 230 V	55008205	55006010		55006015
Product code 120 V			55106000	
GENERAL SPECIFICATIONS				
Nominal input voltage	230 V (50/60 Hz)	230 V (50/60 Hz)	120 V (60/50 Hz)	230 V (50/60 Hz)
Input voltage range	200-250 V AC	200-250 V AC	100-125 V AC	200-250 V AC
Number of inputs	3	2	2	2
Number of outputs	4	1	1	1
Dimensions, hxxwxd	340 x 261 x 144 mm 13.4 x 10.3 x 5.7 inch	200 x 110 x 115 mm 7.9 x 4.3 x 4.5 inch	200 x 110 x 115 mm 7.9 x 4.3 x 4.5 inch	200 x 110 x 115 mm 7.9 x 4.3 x 4.5 inch
Weight	5 kg / 11 lb	1.2 kg / 2.6 lb	1.2 kg / 2.6 lb	1.3 kg / 2.9 lb
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	63 A	20 A	25 A	40 A
Nominal input current grid	40 A	20 A	25 A	40 A
Nominal input current inverter	25 A	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	25 A	n.a.	n.a.	n.a.
Nominal current power output	40 A	20 A	20 A	40 A
Nominal current generator output	63 A	n.a.	25 A	n.a.
Automatic circuit breakers	no, system dependent	no, system dependent	no, system dependent	no, system dependent
Power consumption (AC all inputs)	33 W	7 W	7 W	7 W
Power consumption (only inverter power)	<1 W	0 W	0 W	0 W
Temperature range (specified)	-5 °C to 60 °C / 23 °F to 140 °F			
Temperature range (allowed)	-25 °C to 70 °C / -13 °F to 158 °F (may not meet the specified tolerances)			
Temperature range (storage/non operating)	-60 °C to 80 °C / -76 °F to 176 °F			
Relative humidity	max. 95 %, non condensing			
Transfer time	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 230 V sources: Grid power, inverter and generator (adjustable to amperage of grid power, for instance 6 A).
- Prevents parallel connection between inverter and other 230 V sources, avoiding damage to the inverter.
- Fully compatible with Mastervolt systems, and suitable for installations from other brands, other generators and/or inverters.

CHECK THE MASTERVOLT SITE FOR
INTERESTING REAL-LIFE SYSTEMS:
[MASTERVOLT.COM/REFERENCES](https://www.mastervolt.com/references)
AND
EXTENDED TECHNICAL BACKGROUND
ON OUR PRODUCTS:
[MASTERVOLT.COM/TECHNICAL-
BACKGROUND](https://www.mastervolt.com/technical-background)

TRANSFER SYSTEMS
MASS SYSTEMSWITCH
MASTERSWITCH



**MasterSwitch
7 kW**



**MasterSwitch
25 kW**

55003500

55106100

120 V (60/50 Hz)	230 V (50/60 Hz)
100-125 V AC	200-250 V AC
2	2
1	1
200 x 154 x 148 mm 7.9 x 6.1 x 5.8 inch	291 x 241 x 168 mm 11.5 x 9.5 x 6.6 inch
2.5 kg / 5.5 lb	3.8 kg / 8.4 lb
no	no
no	no
no	no
60 A	125 A
60 A	125 A
n.a.	n.a.
n.a.	n.a.
no	no
0-10 sec (adjustable)	0-10 sec (adjustable)
n.a.	n.a.
40 A	125 A
60 A	n.a.
no, system dependent	no, system dependent
7 W	26 W
0 W	0 W
-5 °C to 60 °C / 23 °F to 140 °F	
-25 °C to 70 °C / -13 °F to 158 °F (may not meet the specified tolerances)	
-60 °C to 80 °C / -76 °F to 176 °F	
max. 95 %, non condensing	
switch on 12-22 ms / switch off 4-19 ms	
no	no
0.5-10 mm ² / AWG 20-7	4-50 mm ² / AWG 10-1/0
IP55	IP55



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

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.

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

IVET Heavy-duty Series

High-output E-core isolation transformer without casing, for self installation. The product is multi tap, meaning you can handle 120/230/240 V going in and out.

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

QUOTE

"At the request of the owners, this Lemsteraak has been kept as green as possible. That's why we opted for a full hybrid vessel with a relatively light engine. Mastervolt's Lithium Ion batteries fit this solution perfectly thanks to their low weight and high power. The electric system, with electrically operated winches and sails, is based entirely on CZone MasterBus so that all components can easily be switched, linked and monitored."

CHRIS BEUKER, CHRIS BEUKER MARITIEM
GRONINGEN, THE NETHERLANDS





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. Mastervolt recommends to install the IVET heavy-duty isolation transformer with Soft Start.

Higher capacity via parallel switching

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

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 230 V/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 monitored via a MasterBus compatible display (EasyView 5). The Mass GI is 75 % lighter and 60 % smaller compared to low frequency transformers.

Install anywhere

With its robust aluminium casing, the Mass GI 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.




MASTER TIP

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








Specifications Isolation Transformers

					
	Mass GI 3.5	Mass GI 7	IVET 3.5	IVET 4.5	IVET 6
Product code	88000355	88000705	85000350	85000450	8500060
Product code with casing					
INPUT					
Input voltage	90-255 V	90-255 V	110/220/240 V	110/220/240 V	110/220/240 V
Input frequency	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
Nominal input current at 230 V	16 A	32 A	16 A	20 A	26 A
No-load consumption	22 W	44 W	< 10 W	< 10 W	< 10 W
Earth leakage protection	no	no	no	no	no
OUTPUT					
Output voltage (± 5 %)	90-255 V	90-255 V	120/220/240 V	120/220/240 V	120/220/240 V
Output frequency	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
Soft Start	yes	yes	option	option	option
Switch off behaviour breaker	B-characteristic	B-characteristic	n.a.	n.a.	n.a.
Efficiency	> 93 %	> 93 %	> 93 %	> 93 %	> 93 %
GENERAL SPECIFICATIONS					
Power	3500 W (up to 4 units parallel = 14 kW)	7000 W	3500 W	4500 W	6000 W
Technology	high frequency	high frequency	E-core	E-core	E-core
Dimensions, hxxwxd	340 x 261 x 144 mm 13.4 x 10.3 x 5.7 inch	340 x 261 x 250 mm 13.4 x 10.3 x 9.8 inch	330 x 200 x 185 mm 13 x 7.9 x 7.3 inch	330 x 240 x 185 mm 13 x 9.4 x 7.3 inch	380 x 240 x 215 mm 15 x 9.5 x 8.5 inch
Weight	6 kg / 13.2 lb	10 kg / 22 lb	30 kg / 66.1 lb	35 kg / 77.2 lb	49 kg / 108 lb
Approvals	CE, ABYC	CE, ABYC	CE, ABYC	CE, ABYC	CE, ABYC
Ambient temperature	0 °C to 40 °C, derating power > 40 °C	0 °C to 40 °C, derating power > 40 °C	0 °C to 40 °C, derating power > 40 °C	0 °C to 40 °C, derating power > 40 °C	0 °C to 40 °C, derating power > 40 °C
Switch off at	80 °C	80 °C	n.a.	n.a.	n.a.
Cooling	variofan	variofan	natural cooling	natural cooling	natural cooling
Operating humidity	max. 95 %	max. 95 %	max. 95 %	max. 95 %	max. 95 %
Protection degree	IP23	IP23	IP00	IP00	IP00
MasterBus compatible	yes	yes	no	no	no

ACCESSORIES		EasyView 5 77010310	option	option	n.a.	n.a.	n.a.
	Waterproof system monitor with 'daylight readable' colour 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	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.	n.a.
Automatic switch that suppresses the inrush current from the isolation transformer to prevent the shore power fuse from blowing.							

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

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



IVET 8

85000800



IVET 10

85001000

86001000



IVET 13

85001300



IVET 18

85001800



IVET 22

85002200

110/220/240 V	110/220/240 V	110/220/240 V	110/220/240 V	110/220/240 V	110/220/240 V
45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
35 A	44 A	57 A	78 A	96 A	
< 10 W	< 10 W	< 10 W	< 10 W	< 10 W	
no	no	no	no	no	
120/220/240 V	120/220/240 V	120/220/240 V	120/220/240 V	120/220/240 V	120/220/240 V
45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
option	option	option	option	option	option
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
> 93 %	> 93 %	> 93 %	> 93 %	> 93 %	> 93 %
8000 W	10 kW	13 kW	18 kW	22 kW	
E-core	E-core	E-core	E-core	E-core	E-core
430 x 280 x 210 mm 16.9 x 11 x 8.3 inch	430 x 280 x 240 mm 16.9 x 11 x 9.5 inch	490 x 320 x 230 mm 19.3 x 12.6 x 9 inch	490 x 320 x 260 mm 19.3 x 12.6 x 10.2 inch	490 x 320 x 290 mm 19.3 x 12.6 x 11.4 inch	
59 kg / 130 lb	75 kg / 165.4 lb	90 kg / 198.4 lb	110 kg / 242.5 lb	130 kg / 286.6 lb	
CE, ABYC	CE, ABYC	CE, ABYC	CE, ABYC	CE, ABYC	
0 °C to 40 °C, derating power > 40 °C	0-40 °C, derating power > 40 °C	0 °C to 40 °C, derating power > 40 °C	0 °C to 40 °C, derating power > 40 °C	0 °C to 40 °C, derating power > 40 °C	
n.a.	n.a.	n.a.	n.a.	n.a.	
natural cooling	natural cooling	natural cooling	natural cooling	natural cooling	
max. 95 %	max. 95 %	max. 95 %	max. 95 %	max. 95 %	
IP00	IP00	IP00	IP00	IP00	
no	no	no	no	no	

n.a.	n.a.	n.a.	n.a.	n.a.	
option	option	option	n.a.	n.a.	
n.a.	n.a.	option	option	option	

CHECK THE MASTERVOLT SITE FOR
INTERESTING REAL-LIFE SYSTEMS:
MASTERVOLT.COM/REFERENCES
AND
EXTENDED TECHNICAL BACKGROUND
ON OUR PRODUCTS:
[MASTERVOLT.COM/TECHNICAL-
BACKGROUND](http://MASTERVOLT.COM/TECHNICAL-BACKGROUND)



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

For more information, please consult the
ProMariner product catalogue and website.

ProMariner™
PROMARINER.COM



Electrical Cables and Adapters: Your life line to the grid

A safe and carefree power connection is your ticket to a comfortable and smooth onboard experience during your stay. The 230 V grid is the source to run your appliances and charge the batteries. Mastervolt offers you everything you need for a high quality grid connection, with safety, security and performance given the highest priority.

Practical tips

- Based on the maximum load for onboard power consumption, choose either a 16 A or a 32 A connection.
- For high loads choose multiple parallel connections to the grid.
- Choose the appropriate connection: Standard is an earthed two-pole plug or the more familiar blue CEE three-pole plug.

You need:

- Cable between the grid and application: Industrial, electric triple-core cable with European colour coding (brown, blue, yellow/green) with a thick synthetic sheath.
- An onboard connection: Perfectly protected easy lock system for grid power plug.
- Required safety measures.
- Shore Fix fuse/earth leakage circuit breaker; basic fuse between AC plug and onboard system (product code 124001000).
- High or low frequent isolation transformer (page 132). The safest solution for complete isolation of your network and the grid; prevents corrosion via electrolysis.



QUOTE

"Mastervolt's level of quality, innovation and design impressed us immediately. Our sales associates embraced the brand and the products began to gain recognition throughout the US marine industry. The Sales & Engineering Teams are 'Best in Class' and continue to produce 'Best in Class' products which my team is proud to sell."

KEVIN OSBORN, VICE PRESIDENT
WEST MARINE / PORT SUPPLY, USA



■ 16 A models



Power Cable

Product code 15 m 121160150
Product code 25 m 121160250

- UV-proof and wear-proof
- Moulded plugs
- Integrated LED power indicator
- 2.5 mm²
- Delivered in sturdy canvas bag with leather handles.



Extension Cable

Product code 15 m 121160151
Product code 25 m 121160251

- UV-proof and wear-proof
- Moulded plugs
- Integrated LED power indicator
- 2.5 mm²



RVS Inlet

Product code 121160000

- 230 V



Adapter CEE 7/7 - CEE

Product code 121160900

- From CEE-7/7 to CEE plug
- UV-proof and wear-proof
- Integrated LED power indicator



Adapter CEE - CEE 7/7

Product code 121160910

- From CEE to CEE-7/7 plug
- UV-proof and wear-proof



Splitter for CEE Plug

Product code 121160920

- UV-proof and wear-proof
- Integrated LED power indicator

■ 32 A model



RVS Inlet

Product code 121320000

- 230 V

■ 25 A model



Power Cable

Product code 25 m 121320250

- UV-proof and wear-proof
- Moulded plugs
- Integrated LED power indicator
- 4 mm²

ACCESSORIE



Mastervolt carrying case
121160930
Sturdy canvas bag with leather handles.



In addition to Mastervolt cables, we also offer an extensive range of Ancor cables.

For more information, please consult the Ancor product catalogue and website.

ANCOR

ANCORPRODUCTS.COM



In addition to the Mastervolt power connections, we also supply the complete Marincos product range.

For more information, please consult the Marincos product catalogue and website.

MARINCO

MARINCO.COM



QUOTE

"The integration of control and monitoring on the dashboard of this vehicle enabled our customer to quickly see and adapt the status of the whole system, getting the team on the road as quickly as possible to answer emergency calls. They no longer have to worry about the capabilities of the system. Instead they are able to focus on the stressful situation they are driving out to, backed by a vehicle with a highly reliable electrical system."

CHRISTIAN BERGER, KEY-ACCOUNT-MANAGER EMERGENCY SERVICES
WALTER BÖSENBERG FAHRZEUGEINRICHTUNGEN GMBH, GERMANY



Technical Terms - glossary



■ **Absorption phase**

The second stage in a modern 3-step+ charging process.

Batteries are charged from around 80 % up to 100 % during this stage. Voltage is somewhat lower than the gas voltage of the battery, which is 2.4 volt per cell at 20 °C (or 14.4 volt for a 12-volt and 28.8 volt for a 24-volt battery). The absorption phase follows the bulk phase and is, in turn, followed by the float phase.

■ **ABYC standards**



The American Boat & Yacht Council is a non-profit organisation that represents American builders. It sets standards and gives recommendations for nautical equipment (including electrical equipment) on pleasure vessels with the goal of enhancing safety. The ABYC therefore issues certification for products.

■ **AGM battery**

Battery in which the electrolyte (a mix of water and sulphuric acid) is largely absorbed in glass fibre matting. As these batteries are entirely maintenance-free and do not normally produce gas, they can be fitted anywhere and ventilation is usually unnecessary. Thanks to their construction, AGM batteries can be swiftly discharged while providing a very powerful current. This makes them highly suitable for systems that require high levels of current, such as bowthrusters, winches and engine starting.

■ **Alarm contact**

A contact in a battery charger or inverter that is activated when an external or internal malfunction occurs.

■ **Alternating current (AC)**

AC is the electricity that for example comes out a socket in your home. Other terms used for AC include shore power, generator power or inverter power. AC voltage changes polarity with a given frequency: In Europe, for instance, the polarity of the electrical voltage is reversed 50 times per second.

The supply therefore has a frequency of 50 hertz (Hz).

■ **Amps (A)**

The unit that measures the current following through a circuit. The current can be calculated by dividing the voltage by the resistance of the consumer.

A resistance of 6 ohm and voltage of 12 volt gives a current of 2 amps.

■ **Amp-hour (Ah)**

The unit that denotes the capacity of a battery, calculated by multiplying current in amps by the duration of the discharge in hours. For example: If a battery delivers a current of 5 amps in 20 hours with the voltage constantly above 10.5 volt, this amounts to $20 \times 5 = 100$ Ah.

The capacity of a battery usually depends on the amount of lead and battery acid it contains.

■ **Auto-ranging**

The term auto-ranging refers to the ability of a programmable DC power supply to provide its rated maximum power over a wide range of output voltage and current conditions. Auto-ranging ensures perfect fully automatic operation anywhere in the world, regardless of the available mains voltage (80-275 V AC, 50 or 60 Hz). All Mastervolt battery chargers are featured with this function.



■ **Battery**

Converts chemical energy into electrical power and vice versa. The nominal voltage of a battery is 2 volt, and higher voltages are achieved by connecting several batteries in series. For instance, six 2-volt batteries can be combined to provide a nominal voltage of 12 volt.

■ **Battery acid**

An electrolyte that consists of water and sulphuric acid. The specific gravity of battery acid in a charged battery varies between 1.28 and 1.30.

■ **Battery charger**

Used to charge batteries. Its capacity should be at least 15 to 25 % of the battery capacity with a flooded battery and max. 30 % with an AGM battery, up to 50 % with a Gel battery and up to 100 % with a Lithium Ion battery.

■ **Battery Management System**

A natural phenomenon of Li-ion batteries is the natural imbalance between stronger and weaker cells. In the charging process, one or more cells will reach their maximum charge level faster due to this imbalance, while others do not get fully charged. The lower cells will be discharged faster, causing the battery to be empty sooner due to under-voltage and so reducing the lifespan of the battery. To prevent this, Mastervolt Lithium Ion batteries are equipped with a Battery Management System that automatically compensates for the imbalance between the cells and increases the lifespan and the total capacity of the battery.

■ **Battery monitor**

Indicates the battery status. Mastervolt offers a selection of 4 models. Firstly, the BattMan with spray-proof display and energy meter, which is available in two models. Next is the Masterlink BTM-III with detailed battery information via the LCD display and LED bar. The modern MasterShunt combined with the EasyView 5 provides detailed information on voltage, current, and historical and user data. It is easily installed within the MasterBus network, with touchscreen controls for all functions. See pages 116-117 in this Powerbook for more information on the battery monitors.

■ **Bulk phase**

The first stage in a modern 3-step+ charging system. The output current of the battery charger is 100 % during this stage, while voltage depends on the power remaining in the battery.

The bulk phase is followed by the absorption phase.

■ **BV approval**

Bureau Veritas is a French classification society for shipping, passenger vessels and some large yachts. The requirements in terms of safety and functionality are stringent and approval is required by many insurance companies. Most Mastervolt equipment exceeds BV's rigorous standards.



■ **Cable losses**

A loss of voltage resulting from the resistance of the cable. The losses also depend on the current flow.

■ **CE marking**

Marking placed on a product by manufacturers or importers to declare that it meets EU safety, health and environmental requirements. These requirements are derived from European product directives, which have been incorporated into the national legislation of most EU member states. The CE mark therefore shows compliance with a law and is not informal advice. It should be visible on the outside of equipment and suppliers have to make available a declaration stating which requirements of the CE marking the equipment meets. All Mastervolt equipment exceeds these rigorous standards.



■ **Charge voltage**

Voltage used to charge batteries. On average, it amounts to 14.4 volt or 28.8 volt during the absorption phase and 13.25 volt and 26.5 volt during the float phase, both at 25 °C.

■ **Combi**

A device that combines a battery charger, an inverter and a transfer system in one.

■ **Cos phi or power factor**

Specifies in AC systems the degree to which current is out of phase with voltage: The lower this value, the larger the discrepancy.

In a heating element, for instance, the current is in phase with the voltage, so the cos phi is 1. In a motor, however, there is a divergence, and cos phi tends to be 0.8 or sometimes 0.6. The lower the cos phi, the more current is required to supply a given amount of power.

■ **Current**

The flow of electrons through a circuit. Electric current is measured in amps.

■ **Cycle**

The theoretical discharging of a battery from 100 % to 0 %, and recharging back from 0 % to 100 % in one cycle. Twice discharging to 50 % and fully recharging is also one cycle, as is four times discharging to 75 % and fully recharging again. This is all theory however: In practice a battery is discharged not more than 50 %.

■ **CZone®**

A CZone system decentralises the DC power distribution system, locates circuit control and protection modules closer to loads to shorten cable runs and reduce the size of conductors, significantly decreasing the cost and weight of the electrical wiring harness. The CZone system replaces complex wiring with a single data wire.



■ **Digital Switching**

Digital Switching is a Mastervolt innovation that radically simplifies installation, configuration, control and monitoring of onboard electrical systems. This CAN-based platform is proven in the automotive industry and is fully compatible with most A-brand navigation systems. It offers you a range of luxurious and comfortable options, including remote control.

■ **DIP switch**

A tiny switch usually found on a printed circuit board and used to set the various functions of Mastervolt equipment.

■ **Direct current (DC)**

Current that only flows in one direction, such as that in a battery, solar panel, alternator or battery charger.

■ **DNV-GL approval**

Det Norske Veritas is a Norwegian classification society for professional shipping and offshore activities. The requirements in term of safety and functionality are very strict, and approval is required by many insurance companies. Most Mastervolt equipment easily satisfies DNV-GL's stringent standards. Germanischer Lloyd is a German classification society for professional marine vessels. The requirements in terms of safety and functionality are very strict and this approval is often necessary for insurance purposes.



■ **Earth**

The electric no-load potential, also called reference potential. The negative pole of a battery is often connected to the steel chassis of a vehicle or boat, which then serves as the earth. In US English the term grounding is used.

■ **Earth leakage switch**

Monitors the onboard supply for electrical leakage, switching it off when leakage exceeds 30 milli-amps. An earth leakage switch protects you against an electric shock in the event of contact with a live component.

■ **Efficiency**

The efficiency of a power source is expressed in percentage terms (%). A device with an efficiency of 90 %, for instance, has 100 % power at the beginning and 90 % at the end. The 10 % that is lost is primarily transformed into heat. The higher the efficiency of an inverter, the longer the batteries will last.

■ **Electrolyte**

The liquid in batteries, composed of a mixture of sulphuric acid and water. Its specific gravity is 1.280 in a charged battery and 1.100 in a discharged one.

■ 3-Step+ charging

A modern charging technology that has been extended with an extra step in Mastervolt equipment, the Plus phase.

The three steps are:

- Bulk, where the charger supplies maximum power.
- Absorption, during which the charger delivers maximum charge voltage and the battery is charged from around 80 % to 100 %.
- Float, used for battery maintenance and delivering power to connected equipment.

The 'plus' phase is an automatic one-hour bulk phase once every 12 days when the battery is not being used.

■ E-Mark

This regulation is the type-approval test for European automotive electronics. It includes a variety of testing including RF immunity and emissions, transient immunity and emissions. It now includes a requirement for burst, surge, harmonics & flicker and provides advice and requirements for electrical vehicles. Most Mastervolt battery chargers, inverters and Lithium Ion batteries comply with these requirements.



■ EMC

Short for Electro-Magnetic Compatibility, EMC indicates how much, if any, electromagnetic interference a device may produce and whether it is sensitive to electromagnetic interference from the outside. A good example is that of a battery charger and a microwave oven. The microwave is not allowed to produce more interference than determined by the EMC standard, and the battery charger may not be affected by the interference generated by the microwave. Naturally, the opposite also holds true. Requirements in terms of EMC are established within the CE framework. Mastervolt equipment exceeds these strict requirements.

■ E-Propulsion

Electrical propulsion is growing in popularity and is compulsory in an increasing number of sailing and nature areas. A hybrid version is also available, allowing you to choose whether to sail using a diesel engine or electric motor.



■ Float phase

The final step in a modern 3-step+ charging process. Although the batteries are fully charged during this phase, they receive a maintenance charge, while the onboard DC circuit is supplied with power. Charge voltage is 2.25 volt per cell or 13.25 volt for 12-volt batteries and 26.5 volt for 24-volt ones at an ambient temperature of 25 °C.

■ Forced inverter

A function on the Mass Systemswitch. At the push of a button, a part of the onboard consumers are powered from the batteries via the inverter, while the battery charger stays connected to power. The power intake of the battery charger can be regulated via the system panel, up to the point where the maximum for the AC fuse has been reached. The advantage of this system is that heavy-duty consumers such as hair dryers are powered via the inverter and cannot therefore overload the AC fuse.

When such consumers are connected to the inverter, consumption from the batteries is usually higher than the battery charger can supply. This is rarely a problem as major consumers are usually used for a short time and the consumption measured in Ah tends to be low. After the consumer has been switched off the battery charger will recharge the battery automatically.

■ Frequency

The number of times per second that alternating current changes direction, expressed in hertz (Hz).



■ Galvanic isolation

A situation where two circuits are electrically connected without their grounding or earth coming in contact. Galvanic isolation is best achieved by means of a transformer.

■ Gas voltage

The voltage level at which a battery starts producing gas. At an ambient temperature of 20 °C, the gas voltage is 2.4 V per cell or 14.4 V for a 12 V battery and 28.8 V for a 24 V one.

■ Gel battery

Batteries where the electrolyte (mix of water and sulphuric acid) is absorbed in a gel. As they are entirely maintenance-free and rarely produce gas, Gel batteries can be fitted anywhere. Extra gas extraction is not necessary. Gel batteries are highly suitable for lighting and as onboard service batteries, and can be charged very quickly thanks to their special construction. With normal use the lifespan of a 12-volt Gel battery is between six and seven years. For the 2 volt traction Gel version, 15 years is not uncommon. A Gel battery is very suitable for (deep) cycle usage.



■ Hertz (Hz)

Unit that measures frequency, i.e. the number of times per second that an alternating current (AC) changes direction. In Europe this is 50 Hz, and in the USA 60 Hz.

■ High-frequency (HF) switch technology

This technology allows incoming alternating current to be rectified into direct current over a diode bridge. The resulting DC voltage is chopped into parts with a high frequency by means of an electronic switch that is turned on and off quickly. This creates a simulated alternating current with a high frequency, 35 kHz (35,000 Hertz) for instance. This AC can be converted to a higher or lower voltage via a very small transformer. The higher the frequency, the smaller the transformer can be. Mastervolt uses HF switch technology in all its equipment, offering major benefits in terms of compactness, weight and efficiency. Another advantage is that you say goodbye to the irritating hum of a transformer.

■ Hydrogen gas

Highly explosive gas mixture of hydrogen and oxygen formed during the charging of flooded batteries with an unsuitable charger. Extra ventilation prevents concentrations from becoming too high.

■ IEC approval
The International Electrotechnical Commission (IEC) is headquartered in Geneva, Switzerland, and develops general standards for the safety of electrical components and equipment. Although it proposes standards, the IEC is not responsible for their enforcement, which is usually carried out by independent test laboratories.



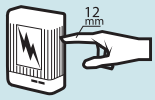

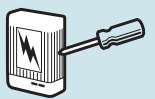

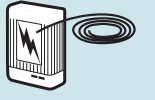







■ Inductive loads

These loads are, for example, the motors in air conditioning systems and diving compressors. They cause the current to flow out of phase with the voltage, a phenomenon also known as phase shift. The degree is indicated by a value, $\cos \phi$ or power factor, which ranges from 0 to 1 and is inversely proportionate to the size of the lag. In a heating element (which is resistive load), current flows in step with voltage and $\cos \phi$ is 1. In a motor, however, there will be a lag, as indicated by the typical value of 0.8 - or sometimes 0.6 - for $\cos \phi$. The lower the $\cos \phi$, the greater the lag, and the more current is necessary to supply a given level of power.

■ Ingress Protection (IP) Ratings Guide

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). 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	 Projected against a solid object greater than 50 mm such as a hand.	1	 Protected against vertically falling drops of water. Limited ingress permitted.
2	 Projected 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	 Projected 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	 Projected 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.
<div style="text-align: center;"> IP65 INGRESS PROTECTION </div>		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.

Example: An IP65 rating can be determined using the table.

- 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.

■ Inverter

Converts 12, 24 or 48 volt battery power to alternating current at 230 V/50 Hz (or 120 V/60 Hz). This allows appliances such as computers, microwave ovens and TVs to be powered without the need for a grid connection or generator.

■ Isolation transformer

Converts shore power voltage to a higher, lower or equal value to ensure that there is galvanic isolation between the shore power connection and the onboard electrical system. This prevents corrosion and increases safety.

■ Kilowatt (kW)

K

Unit for electrical power equivalent to 1000 watt.

Ten 100-watt light bulbs consume one kilowatt.

■ Kilowatt-hour (kWh)

One kW of electricity used in one hour. This is the most common measurement of power consumption.

■ LED (light emitting diode)

L

Electronic light with very low power consumption. LEDs are generally available in many different colours and sizes. Mastervolt uses them as signal lights on battery chargers and inverters. The latest generation of LEDs can be used as lights as well and are very low in use of energy.

■ Lithium Ion battery

Lithium Ion batteries have a high energy density and are perfect for cyclic applications. Compared to traditional lead-acid batteries, Lithium Ion batteries offer savings of up to 70 % in volume and weight, while the number of charging cycles is three times as large. Another major benefit of the Mastervolt Lithium Ion battery is that it is equipped with an integrated Battery Management System. The system keeps all the individual cells perfectly balanced, and ensures a long battery lifespan.

■ Lloyd's approval

Lloyd's Register of Shipping is a British classification society for yachts, professional shipping, drilling platforms, etcetera. Numerous insurance companies require large vessels to be approved by Lloyd's. This means that the vessel and the onboard equipment have to satisfy stringent requirements.



■ MasterBus

MasterBus is Mastervolt's



advanced standard for data communication and integration of Mastervolt components within your electric system. Advantages include complete system integration, easy operation and monitoring, and simple installation with fewer cables. A MasterBus network can be easily extended in a later stage.



■ NiCad batteries

Containing nickel and cadmium, this type of battery is unsuitable for use on boats due to the high charge voltage required. NiCad batteries will soon be banned because of their cadmium content. N.B. All NiCad batteries are considered to be chemical waste.

■ NMEA 2000

NMEA 2000 is a plug & play communications standard used for connecting marine equipment and displays within boats. Communication runs at 250 kb-per-second and allows any device to talk to any display, or other device compatible with NMEA 2000 protocols. NMEA 2000 is compatible with the J1939 CANbus network, used on road vehicles and fuel engines.



■ No-load consumption

Power consumed by an inverter when it is not powering any equipment. This is just a few watts with modern Mastervolt inverters and Combis. The lower the no-load consumption, the less power is used by the inverter.



■ Ohm

Unit for electrical resistance, indicated by the symbol Ω .

The electrical resistance of an electrical conductor is the opposition to the passage of an electric current through that conductor.

■ Ohm's law

Gives the relationship between voltage (U), current (I) and resistance (R). In formula terms this is expressed as $U = I \times R$. If two of the three values are known, the third can be calculated.

■ Overload

A concept related to the safety of an inverter, generator or power connection. A fuse, for instance, ensures against overload. All Mastervolt inverters have electronic protection against overload.



■ Parallel connection

In a parallel connection the current can flow through multiple circuits. By parallel connecting batteries (positive to positive, negative to negative), the capacity of the battery set is increased, while voltage stays the same. For example, while two 12V/55Ah batteries connected in parallel have a voltage of 12 volt, the capacity is $55 + 55 = 110$ Ah.

■ Peak power

The maximum current that can be supplied by an inverter for short periods of time. This is often necessary, as electric motors can consume up to ten times their nominal power when starting up. Mastervolt inverters can deliver a high peak current, often reaching two to three times their nominal capacity.

■ Peukert

The name of a German scientist who in 1897 observed that a battery supplies progressively less power as the discharge current increases. Peukert created a formula that gives the number of amp-hours a battery can supply at a given discharge current and time. Mastervolt battery monitors all take Peukert's law into account, ensuring that you always have a correct overview of your battery's status.

■ Power Sharing

This concept is related to the performance of the charger part of a Combi when connected to the grid or a generator. It involves the automatic power intake regulation of the battery charger when the power is very low. As soon as the power fuse is in danger of being overloaded, the battery charger automatically reduces its output current so that tipping of the power fuse is prevented.

■ Power Assist

A feature found in the Mastervolt Combi series. Power Assist ensures that the power supply to onboard consumers is partially provided by the batteries if the power is in danger of becoming overloaded. It is activated after the battery charger's output has been reduced to zero via the power sharing system in the Combi.



■ **RCM approval**



Regulatory Compliance Mark (RCM). This means that the product complies with the requirements of Electrical Regulatory Authorities Council (ERAC) in Australia.

■ Recombination technology

Used in AGM and Gel batteries to make sure that the gas (oxygen and hydrogen) generated by charging is recombined into water. This means that the batteries can be entirely maintenance-free and sealed.

■ RRR approval

The Russian River Register sets standards for products and manufacturers in terms of quality, safety and environmental friendliness. Only products certified by the RRR are allowed onboard vessels sailing on the country's inland and coastal waters.

■ RMRS approval

The Russian Maritime Register of Shipping sets standards that products and manufacturers must meet in order to be allowed onboard vessels flying the Russian flag within Russian territorial waters (seas and inland waters).



The institute is also responsible for related inspections.



■ Self-discharging

The decrease in the capacity of a battery that occurs when no load is connected. A flooded battery loses 1% per day, an AGM battery and Gel battery 2 % per month and a Lithium Ion battery less than 3 % per month. The higher the ambient temperature, the more self-discharging will occur. Current leakage due to intense pollution or humidity between the poles can also cause a higher level of self-discharging, so you should always keep the top of your batteries clean and dry.

■ Semi-traction battery

A semi-traction battery has fewer but thicker plates in each cell, compared to starter batteries. Semi-traction batteries supply a relatively lower starter current, but can be discharged more often and to a greater extent (200 to 500 full cycles). This kind of battery is highly appropriate for the combined function of starter/ service battery.

■ Series connection

A series connection (the positive pole of each battery is connected to the negative pole of the next) increases the voltage of the total battery set. For example, when two 12-volt batteries with a capacity of 55 Ah each are connected in series, the total voltage of the set will be 12 + 12 = 24 volt, while total capacity remains 55 Ah.

■ Sine wave

The alternation of voltage can be graphically indicated by a sine wave. This consists of a line that follows a wave pattern around a horizontal axis, which represents the passage of time and also the points at which voltage is zero. Once the line has traced one entire wave above the time axis and one entire wave below, a whole sine wave has been outlined.

■ Square millimetre (mm²)

Unit in which cable diameters are measured. With a direct current system of 12 or 24 volt, three amps should correspond to one mm² of cable thickness.

For 230 volt systems allow 6 amps for each mm². Both apply for a maximum length of 3 metres.

■ Soft start

Device used to reduce the inrush current of transformers and motors.

■ Standby mode

In this mode the inverter emits a small pulse instead of the usual 230 volt output. It detects when an appliance is switched on and then automatically switches on, supplying 230 volt until the output current falls below a pre-set value. When there is little or no output current, this means that no load is connected and the inverter switches back to stand-by. This system saves a great deal of energy.

■ Starter battery

Mainly used to start engines. Although these batteries can deliver a high current, they should not be excessively or too frequently discharged and are therefore not appropriate for lighting purposes. AGM batteries are ideal to serve as starter battery and limited cyclic use.



■ Temperature correction

If the battery temperature is lower than 25 °C, the charge voltage should be adjusted upwards. When higher, the charge voltage needs to be reduced. This temperature correction is 30 mV per °C for a 12 V battery and 60 mV per °C for a 24 V one. While this may seem insignificant, it is essential to ensure a long battery life.

■ Temperature sensor

A temperature sensor should be attached to the battery so that the charger can optimise charge voltage with respect to the battery temperature. The charge voltage depends on the battery temperature (see also Temperature correction).

■ Traction batteries

Used for propulsion, powering equipment and inverters, etc. They can be discharged often and completely, and in a Gel version are highly suitable for onboard use. Flooded cell batteries are only appropriate for forklifts, etc.

■ **Transfer system**

A (frequently automatic) system used to switch between multiple power sources, such as grid, generator and inverter.



■ **UL approval**

An American certification



provided by Underwriters Laboratories that is similar to the European CE-mark and mainly focused on safety issues.



■ **Volt (V)**

Unit in which electric potential (voltage) is measured.

■ **Volt-amps (VA)**

Unit for measuring electrical power.

■ **Voltage ripple**

A voltage ripple is a small alternating current on top of a direct current, which results in a DC voltage that is not entirely smooth but ripples slightly. While a battery delivers pure direct current without any ripple, this is not always the case with a battery charger. In an old-fashioned battery charger, 50 % of the voltage will contain ripples. A large voltage ripple shortens the lifespan of a battery, which needs to be charged with direct (not alternating) current. In addition, a voltage ripple can interfere with onboard audio, navigation and communications systems. Mastervolt battery chargers supply a flat DC voltage with no more than 0.3 % of ripple voltage.



■ **Watt (W)**

Unit that measures the rate of energy, calculated by multiplying volts by amps.

■ **Watt-hour (Wh)**

Measure of electrical power in time. One watt-hour of electricity is equal to one watt of power consumed over one hour. A 10-watt light bulb uses 10 watt-hours of electricity in one hour (see also kWh).

QUOTE

"Oyster aims to provide the best customer service in the industry. This is only possible if its key suppliers have similar aims and can provide the service and support that Oyster owners have become accustomed to. Mastervolt has always displayed the right dedication to service, supporting Oyster yachts around the world. Mastervolt is willing to go that extra mile to provide the service and support which set Oyster apart."

PETER INGRAM, TECHNICAL MANAGER
OYSTER YACHTS, UNITED KINGDOM





Sales and service, the Mastervolt way

Mastervolt products and components are designed to meet the most stringent demands of our customers. Our high-quality products are only supplied via specialists. These companies provide expert advice, carry out installation work if necessary and take care of service and maintenance.

Mastervolt offers its clients worldwide service via our global network. In case of a malfunctioning or defective product, we recommend contacting your local supplier or a Mastervolt dealer or service point in your region. You can find the Mastervolt dealers and service partners via the Dealer Locator on the Mastervolt site.

See www.mastervolt.com/dealer-locator for a complete overview of our dealers and service partners.

MASTERVOLT
THE POWER TO BE INDEPENDENT





Mastervolt has been working with the Royal Netherlands Sea Rescue Institution (KNRM) since 2015. Organisations like these are responsible for rescuing people and animals on the water throughout the world. In the Netherlands, the KNRM is a 100 % volunteer organisation which is financed by donations. Mastervolt supports the 45 rescue stations of the KNRM with free products and services.



QUOTE

"The KNRM is extraordinarily happy with being sponsored by Mastervolt. The combination of free delivery and service/ maintenance for a long time period is unique in its own right. But I am particularly pleased with the development even regardless of the free support. As a technical Inspector, I only want the best equipment on board. And Mastervolt has proven to be one of the best in the business. This partnership ensures that we have the best equipment at the best possible circumstances. The KNRM is very grateful to Mastervolt for its contribution to the life-saving work of our crew members!"

HANS VAN DER MOLEN,
TECHNICAL INSPECTOR AT KNRM, THE NETHERLANDS

Index

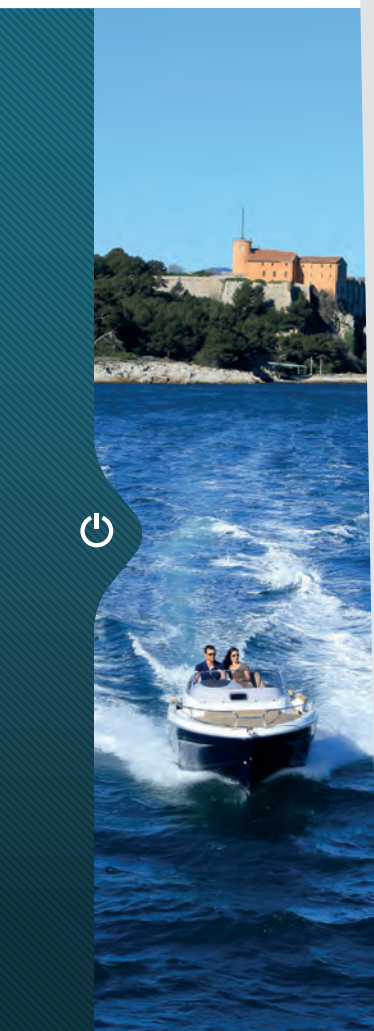
- 2 Way T-connector 110
- 3-Step+ charge method 12, 16, 17, 18, 20, 22, 23, 24, 28, 29, 43, 45, 46, 47, 49, 50, 62, 118, 120, 124, 126
- 4 Way T-connector 110
- 90° Elbow connector 110
-
- Absorption 143, 144
- AC Interfaces 106, 107
- AC Mains Interface 107
- AC Master 36, 38, 39, 40, 41
- AC Master Remote Control
- AC Output Interface 106
- AC Power Analyser 88
- AC transducer 111
- Adapter(s) 111, 122, 131, 140, 141
- Adapter cable 21, 46, 47, 67, 87, 91, 110, 120, 124
- AGM 6 volt batteries 70
- AGM batteries 61, 63, 143, 148
- AGM SlimLine batteries 70
- Alpha 118, 120, 121, 123
- Alpha Compact 118, 120, 121, 122
- Alpha Pro 118, 120, 124
- Alternator brackets 121
- Alternator(s) 118, 120, 121, 122, 123, 144
- Ancor 8, 141
- Automatic detection 127, 138
- Auto-ranging 143
-
- Backbone cable 110
- Batteries 13, 52, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 116, 143, 145, 146, 147, 148
- Battery charger(s) 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 143
- Battery isolator(s) 61, 72, 73, 75, 120
- Battery Management System 60, 63, 64, 65, 67, 143, 147
- Battery Mate 72, 73,
- Battery monitor 79, 84, 116, 117, 143
- Battery switch 72, 74, 76
- Battery terminals 77
- Battery Watch 72, 75
- BattMan Lite 79, 116, 117
- BattMan Pro 79, 116, 117
- BEP 8, 74, 76
- Blue Sea Systems 8, 76
- Bulk 143, 145
-
- Cable assembly 111
- Cable gland 104, 105
- Cable(s) 91, 110, 140, 141
- CCA 68, 70
- Charge characteristic 145
- ChargeMaster 10, 12, 22, 23, 24, 25, 26, 27
- ChargeMaster Plus 10, 12, 13, 18, 19, 20, 21
- Charge Mate 72, 75
- Charge Mate Pro 72, 75
- Charge regulator(s) 120, 121, 124
- Circuit breaker 100, 105
- Combi 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 144, 148
- CombiMaster 42, 44, 45, 46, 47
- Communication cable 91
- Communication protocol 80, 100
- Corrosion 147
- Covers battery terminals 77
- Current Control 15
- Current transformer 111, 113
- Custom Rocker switches 112
- CZone® 8, 92, 93, 94, 95, 99, 114, 115, 144
- CZone® accessories 110, 111, 112, 113
- CZone® Combination Output Interface (COI) 100
- CZone® Contact 6 Interface 104
- CZone® Contact 6 Plus 102, 103
- CZone® Contact 6 Plus Connector & Seal Kit 102
- CZone® Control 1 Interface 101
- CZone® displays 96, 97, 98
- CZone® DC Interfaces 100, 101, 102, 103
- CZone® MasterBus Bridge Interface 90, 113
- CZone® MasterBus system 94, 95
- CZone® 2 Module Smart Harness 102
- CZone® 3 Module Smart Harness 102
- CZone® network components 104, 105, 106, 107
- CZone® Network Bridge Interface 113, 216
- CZone® Waterproof Keypad 102
- CZone wireless remote kit 111
-
- DC current shunt 111
- DC-DC converter(s) 52, 53, 54, 55, 56, 57, 58, 59
- DC Distribution 85
- DC Distribution fuses 77, 91
- DC Master 52, 53, 58, 59
- Digital AC 89
- Digital DC 85
- Digital distribution 84, 85
- Digital Input 89
- Digital switching 92, 93, 99, 144
- Dimmer function 52, 53
-
- Earth leakage switch 77, 144
- EasyCharge 12, 28
- EasyCharge Portable 12, 29
- EasyView 5 82
- Efficiency 144
- E-Propulsion 145
- Extension cable 141



-
- Female blanking cap 110
- Float 145
-
- Galvanic isolation 52, 57, 80, 130, 145,
- Gel batteries 60, 63, 145
- GMDSS 15
- GPRS Module 88
- Grid connection 140, 141
- Grid power 30, 132, 136, 137
-
- High-frequency 146
- Hole plugs 104, 105
-
- Interfaces 86, 87, 88, 89, 90, 100, 101, 102, 103, 108
- Inverter(s) 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 145, 147
- Inverter/charger combination 42, 43, 44, 45, 46, 47, 48, 49, 50, 51
- Isolation transformer(s) 136, 137, 138, 139, 147
- IVET 136, 137, 138, 139
-
- Lenco 9
- Lithium Ion batteries 60, 63, 64, 65, 66, 67, 147
-
- Mac Plus 52, 53, 54, 55
- Magic 52, 53, 56, 57
- Male blanking cap 110
- Marinco 9, 141
- Mass Combi Pro 42, 43, 48, 49, 50, 51
- Mass Combi Ultra 42, 43, 48, 49, 50, 51
- Mass GI 130, 136, 137, 138
- Mass Sine 30, 31, 32, 33, 34, 35
- Mass Sine Ultra 30, 31, 32, 33, 34, 35
- Mass Systemswitch 132, 133, 134
- MasterBus 78, 80, 81, 147
- MasterBus accessories 91
- MasterBus AC Master Interface 86
- MasterBus CANopen Interface 87
- MasterBus displays 82, 83
- MasterBus DIY kit 91
- MasterBus Firecan Interface 87
- MasterBus Inverter Interface 88
- MasterBus Interfaces 86, 87, 88, 89, 90
- MasterBus LIN Bus Interface 86
- MasterBus Modbus Interface 87
- MasterBus network components 84, 85
- MasterBus NMEA 2000 Interface 87
- MasterBus Philippi Interface 87
- MasterBus Power Interrupter 89
- MasterBus Repeater 89
- MasterBus Serial Interface 88
- MasterBus Tanklevel Interface 89
- MasterBus Terminator 91
- MasterBus USB Interface 88
- Masterlink BTM-III 116, 117
- MasterShunt 84,
- Masterswitch 132, 134, 135
- MasterView Read-out 83
- MasterView Read-out OEM 83
- Mastervolt-CZone drop cable 91, 110
- Meter Interface 105
- MLI 64, 65, 66, 67
- MLI-E 64, 65, 66, 67
- MLI Ultra 64, 65, 66, 67
- Monitoring 78, 79, 82, 83, 92, 93, 108
- Motor Output Interface 105
- MPPT charge regulator 126, 127, 129
- MPPT solar charge regulator 126, 127, 129
- Multigroove pulley 122, 123
- Multipurpose Contact Output 89
- MVG Gel batteries 60, 63, 68, 69
- MVSV 2 Volt Gel batteries 60, 63, 68, 69
-
- Network cable 110
- Networked monitoring system 92, 93
- NMEA 2000 147
- NMEA 2000 network 94, 95
- NMEA 2000 power cable 110
- NMEA 2000 power isolator 110
-
- Output Interface 105
-
- Parallel (configuration) 147
- Peak power 147
- Power Assist 148
- Power cable(s) 110, 111, 140, 141
- Power Sharing 148
- Pro Installer 74
- ProMariner 9, 25, 29, 59, 73, 139
- Pulley 121, 122, 123
- Push buttons 112
- PWM charge regulator 126, 127, 128
-
- Remote control 82, 83, 96, 97, 98
- RVS inlet 141
-
- Seal boot 105
- Serviceable connector 111
- Shore Fix 77
- Shunt 84, 111
- Signal Interface 104
- Sine wave inverter(s) 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41
- Single T-connector 110
- SmartRemote 83

Index

Soft Start 138
 Solar ChargeMaster 119, 126, 127, 128, 129
 Splitter 141
 Surge protection module 113
 Switch Control Interface 104
 Switch Input 90
 System monitor 82
 ■
 Technical terms 143, 144, 145, 146, 147, 148, 149
 Temperature sensor 16, 26
 Terminal block 104, 105
 Terminating resistors 110
 Terminator 91
 Through bulkhead adaptor 111
 Touch 5 98
 Touch 10 98
 Touchscreen 82, 98
 Traction batteries 63, 148
 Transfer system(s) 130, 132, 133, 134, 135, 149
 ■
 USB CAN adaptor 111
 UV-proof 141
 ■
 Voltage ripple 149
 ■
 WiFi 98, 108
 WI MasterBus connector 108, 112
 Wireless Interface 108, 112
 Wireless Interface Configuration Tool 109



Colophon

This Powerbook is a result of a close co-operation between Mastervolt and the following companies:

CONCEPT AND DESIGN ■ Boerma Reclame Gouda, the Netherlands

LAYOUT ■ Mastervolt Amsterdam ■ Boerma Reclame Gouda, the Netherlands

TEXT ■ Mastervolt Amsterdam ■ Coppia Laren ■ Writewell Amsterdam, the Netherlands

PHOTOGRAPHY ■ Webfotografie.nl Amsterdam ■ MG Fotografie Voorburg, the Netherlands

STOCK PHOTOGRAPHY ■ Shutterstock/Getty Images/iStock/AdobeStock

PRINTING ■ Damen Drukkers Werkendam, the Netherlands

Special thanks to the following companies:

- Baltic Yachts Finland
- Walter Bösenberg Fahrzeugeinrichtungen GmbH, Germany
- Chris Beuker Maritiem the Netherlands
- Concorde Reisemobile GmbH Germany
- Da Vinci Yachts the Netherlands
- EarthRoamer USA
- Hallberg Rassy Sweden
- Jeanneau France
- Michael Wissinger Germany
- Niesmann+Bischoff GmbH Germany
- Nord West Yachts Germany
- Oyster Yachts United Kingdom
- Privateer Yachts the Netherlands
- Riviera Australia
- Scout Boats USA
- Zest France

and many other companies for lending us graphic material.

The material contained in this book is set out in good faith for general guidance and no liability can be accepted for loss or expense incurred as a result of relying in particular circumstances in statements made in this Powerbook.

Any unauthorised use of the content is expressly prohibited and may constitute a violation of copyright law, trademark law, patent law or other industrial property rights.

© Mastervolt International

EMEA

Snijdersbergweg 93
1105 AN Amsterdam
The Netherlands
T +31 (0) 20 34 22 100
www.mastervolt.com

AMERICAS

N85 W12545 Westbrook Crossing
Menomonee Falls, WI 53051
U.S.A.
T +1 800 307 67 02
www.powerprodllc.com

APAC

40-42 Apollo Drive
Albany, Auckland 0632
New Zealand
T +64 9 415 72 61
www.bepmarine.com

MASTERVOLT



Mastervolt is part of Power Products LLC.
Besides Mastervolt, we also represent other brands such as Ancor, BEP, Blue Sea Systems, CZone, Lenco, Marinco and ProMariner.
Check our website for the latest information.

€ 4,00

Version no. 141119EN
Product code 500004001
©2020 Mastervolt. All rights reserved.
www.mastervolt.com

POWER PRODUCTS 
Marine & Mobile Solutions



ANCOR

BEP

BLUE SEA
SYSTEMS

CZONE

LENCO

MARINCO

MASTERVOLT

ProMariner™