MASTERVOLT

CHARGEMASTER 1 SERIES

Battery chargers for recreational and semi industrial use 12/35-3, 12/50-3, 24/20-3, 24/30-3

Mastervolt is the leading manufacturer of state of the art power electronic products for Marine, Mobile and Solar applications. Since 1991 switch mode charger/ inverter and other power supply units have been sold in over sixty countries. One of the main goals of our organization is innovation of the products. This datasheet describes one of the latest innovations of Mastervolt: a high frequent battery charger range for recreational and semi industrial use.

For recreational and semi industrial use

With the introduction of the ChargeMaster 1 Mastervolt adds another member to the ChargeMaster family. All ChargeMasters combine the effective Mastervolt charging technology with smart, easy and fast installation. Designed to operate in the most difficult circumstances you can find in recreational and semi industrial applications in the Marine and Mobile market. The charger is equipped with three full outputs allowing to charge three batteries safely and prolong battery life. For optimal control the display gives an instant overview of the charge status, so no surprises with your battery power.

Installation and AC connection

The cabinet allows multiple installation options: free standing, fixed bulkhead mounting or quick and easy using the separated installation bracket. The cables can be routed in all directions via the smart cable entries designed in the housing. Left, right, straight out the bottom or even behind the charger thanks to the backbone. All of this without increasing the outer dimensions. The ChargeMaster comes standard with a cable of 2 metre 3x 1.5mm² pre-connected to connect the AC fast and easy. If, in any case, this 2 metre is too short you can easily exchange the cable on a rugged internal AC terminal block.

Three battery outputs

The ChargeMaster has three equal outputs that can either handle full current or divides the total charge current over the 3 outputs. For safe installation and to shorten installation time the minus is combined on one terminal meaning you can interlink the minus between the battery sets. All connections are isolated and equipped with a strain relieve for optimal safety.

Display & remote

The LED display gives the charge status, the total charge current and battery voltage. Other battery sets can be read by selecting it with the info button. Small changes to the charge characteristic can be made via the MasterView Easy panel. In case there is no remote panel connected or more customization is required we recommend to use the MasterAdjust program.

System operation

The ChargeMaster has MasterBus connectivity meaning this charger can be integrated in a MasterBus system with for example a MasterShunt. This device provides all kind of information allowing the ChargeMaster to optimize the charge process even further. This, for example, can result in a shorter charge time and longer life of your batteries. See the website for more information about the MasterBus features.

Operation and protections

The wide input voltage window (90-265 V) enables safe and smooth operation in all countries. To protect your installation and connected equipment the ChargeMaster is fully protected against all kind of fault conditions like overload, short circuit and over temperature. To protect you battery, the unit will switch off when the output voltage becomes too low or too high. To prevent the shore fuse from tripping, the charger has an in-rush current limiter.

Approvals and compliance

The ChargeMaster is built according to the latest standards applicable to battery chargers and therefore the units comply to the CE regulation including E-mark for mobile use. All units will be UL compliant.

- THREE FULL OUTPUTS
- AUTO RANGING (WIDE INPUT VOLTAGE WINDOW 90-265 V)
- EASY AND FAST (ECONOMIC) INSTALLATION
- MASTERBUS COMPATIBLE (SYSTEM INTEGRATION)
- 3-STEP⊕ CHARGE CHARACTERISTIC
- SUITABLE FOR ANY TYPE OF LEAD ACID BATTERY
- MEMORY FUNCTION AND BATTERY SAVING TECHNOLOGY
- CLEAR CHARGE STATUS INDI-CATION FOR ALL 3 BATTERIES
- AUTOMATIC VOLTAGE COMPENSATION
- STANDARD BATTERY TEMPERATURE SENSOR
- EASY CONFIGURABLE VIA MASTERBUS
- READY TO USE BATTERY CHARGER

ABYC — Setting Standards for Safer Boating

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	ChargeMaster 12/35-3	ChargeMaster 12/50-3	ChargeMaster 24/20-3	ChargeMaster 24/30-3
Article No.	44010350	44010500	44020200	44020300
GENERAL SPECIFICATIONS				
Nominal input voltage	---------- 120/230 V AC (90-135 & 180-265 V AC) ----------			
Nominal input frequency	50/60 Hz (45-65 Hz)	50/60 Hz (45-65 Hz)	50/60 Hz (45-65 Hz)	50/60 Hz (45-65 Hz)
Nominal output voltage	12 V	12 V	24 V	24 V
Total charge current (up to 40 °C)	35 A at 14.4 V	50 A at 14.4 V	20 A at 28.8 V	30 A at 28.8 V
Number of battery outlets	3 full outputs	3 full outputs	3 full outputs	3 full outputs
Charge characteristic	IUoU, automatic / 3-step$^{\oplus}$	IUoU, automatic / 3-step$^{\oplus}$	IUoU, automatic / 3-step$^{\oplus}$	IUoU, automatic / 3-step$^{\oplus}$
Charge voltage Bulk (25 °C)	14.40 V	14.40 V	28.8 V	28.8 V
Charge voltage Absorption (25 °C)	14.25 V	14.25 V	28.5 V	28.5 V
Charge voltage Float (25 °C)	13.25 V	13.25 V	26.5 V	26.5 V
Max absorption & max bulk time	8 hours (start max bulk timer at 13.25 V)		8 hours (start max bulk timer at 26.5 V)	
Min absorption time	15 min	15 min	15 min	15 min
Battery type settings	wet cel / gel-AGM-spiral	wet cel / gel-AGM-spiral	wet cel / gel-AGM-spiral	wet cel / gel-AGM-spiral
Dimensions (hxwxd)	301x210x131 mm	301x210x131 mm	301x210x131 mm	301x210x131 mm
Weight	4 kg	4 kg	4 kg	4 kg
Recommended battery capacity	70-350 Ah	100-500 Ah	40-200 Ah	60-300 Ah
TECHNICAL SPECIFICATIONS				
Power factor regulations	≥ 0.98	≥ 0.98	≥ 0.98	≥ 0.98
Full load consumption (230 V AC)	550 VA	775 VA	625 VA	925 VA
Temperature compensation	battery temperature sensor including 6 metre cable delivered as a standard			
Voltage compensation	yes, by means of automatic compensation			
DC consumption	<5 mA	<5 mA	<2.5 mA	<2.5 mA
LED display	the orderly designed LED display gives clear information about the charge stage, voltage and current for all 3 batteries			
MasterBus connectivity	smart system integration via MasterBus			
Temperature range	-25 to 70 °C, derating 3.3%/°C above 40 °C			
Cooling	vario fan and natural cooling to ensure optimized cooling when unit stored in corners etc.			
Sound level	<52 dBA at 1 m	< 52 dBA at 1 m	< 52 dBA at 1 m	< 52 dBA at 1 m
Protection degree	IP23	IP23	IP23	IP23
Approvals	fully CE and E-marking according to automotive directive 95/54/EG / UL pending			
OPTIONS				
MasterShunt (art. no. 77020100)	MasterBus compatible shunt including DC mainfuse, Ah counting and control of charger to ensure optimized charging			
MasterView Classic (art. no. 77010100)	MasterVision compatible display to control and monitor all MasterBus products			
MasterView Easy (art. no. 77010300)	touch screen to control and monitor all MasterBus products			
MasterBus Multipurpose contact (art. no. 77030500)	potential-free contact that can be used to control items such as fans, buzzers and non-MasterBus generators. Both a normally open and a normally closed output are provided. All MasterBus products can be configured to operate this contact.			

1 MasterView Easy
2 ChargeMaster
3 MasterShunt

Via the MasterView Easy both the ChargeMaster and MasterShunt can be monitored and operated. For battery temperature and voltage sensing the ChargeMaster can use the information provided by the MasterShunt, without the need to install additional cables. Accurate Ah information of the battery comes with it shown on the MasterView Easy panel.