BATTERY ISOLATORS
BI & BATTERY MATE

Solid state and electronic battery isolators

Multiple battery charging

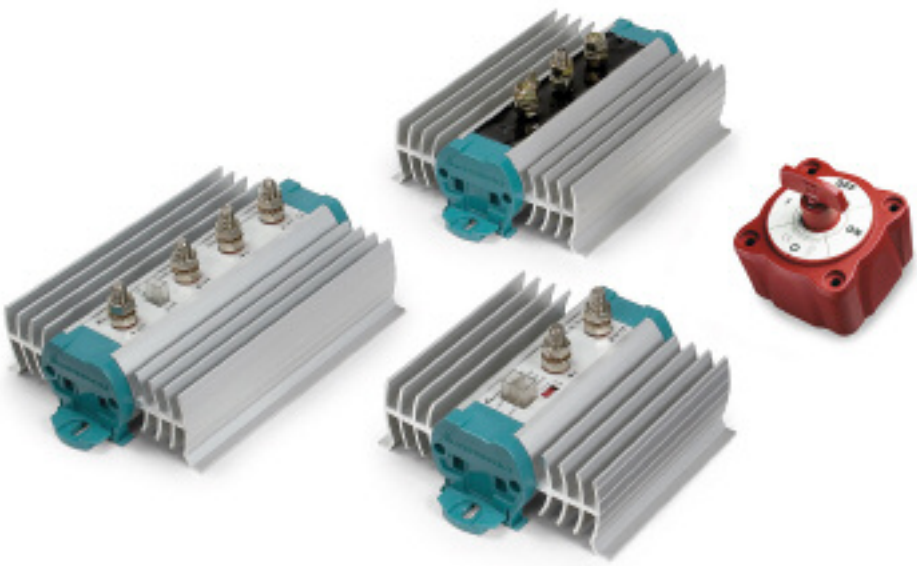
To prevent the starter battery and the batteries supplying the lighting and bowthruster from draining each other they should be kept separate. As a consequence the charge system is more complicated than in installations with only one battery: the alternator on the propulsion engine has to recharge all the battery sets individually and the same applies to the battery charger. Although it is possible to select the battery source manually, using a battery switch, much better results can be achieved by placing a battery isolator in the positive cable connection from the alternator and/or battery charger to the various batteries. Almost all Mastervolt battery chargers come standard with two or three outputs. Only when two or more banks have to be charged with high current, a battery isolator has to be fitted (75 A + 100 A optional).

Manual switch versus battery isolator

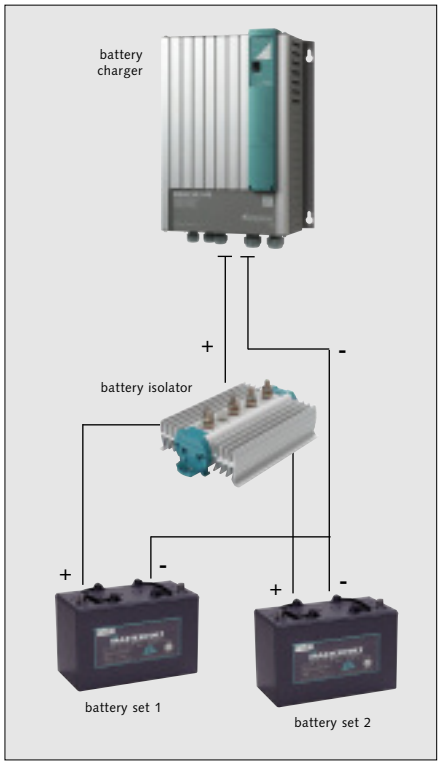
The advantage of a manual switch is that, if needed, the battery supplying the system can be parallel connected to the starter battery. Before doing so, however, ensure the switch is fitted with a 'dual' mode.
A downside to this method is that both batteries can become discharged at the same time. A more reliable option is to use a battery isolator. This aluminium profile has three or more diodes mounted inside it that isolate the charge current and prevent it recirculating. The battery isolator is 'solid state' and will therefore not wear. The Mastervolt battery chargers and alternator regulators are prepared to operate with traditional battery isolators, as this equipment offers easy accessible voltage adjustment to compensate the voltage drop.

Solid state - maintenance free

Charging is done fully automatically once you have fitted the BI battery isolator. As there are no moveable parts there is no wear. The (average) voltage drop for 0.7 V can be compensated for in different ways:



1. In Mastervolt appliances with sense wires (pos. and neg.), the voltage drop is automatically compensated for.



A battery isolator as part of a charging system.

2. If the charger is not fitted with the sense wires, a jumper or dip switch setting will have to be made to increase the voltage.

3. Mastervolt alternators equipped with the Alpha Pro charge regulator can be adjusted to the correct charge voltage so that the voltage drop is compensated for.

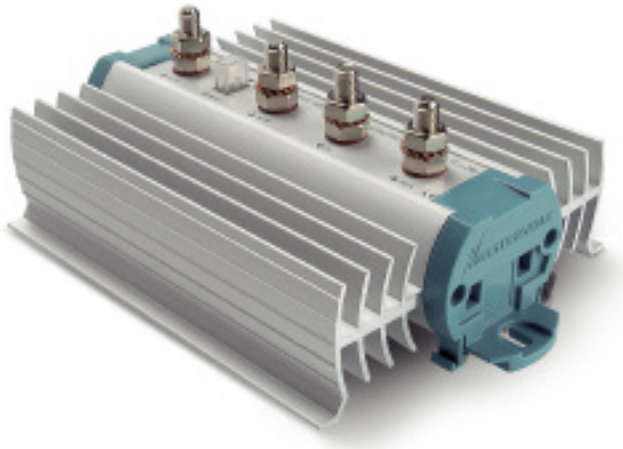
Mastervolt offers the Battery Mate series for use in installations where charge equipment cannot be adjusted.

- HEAVY DUTY USE
- EASY TO INSTALL
- CAN OPERATE IN ANY ENVIRONMENT
- FOR AUTOMOTIVE AND MARINE USE
- BATTERY MATE VERSION VOLTAGE DROP FREE

Version no. 230609EN
Article no. 500004204

TECHNICAL SPECIFICATIONS

article no.	model	max. output charger	max. output alternator	dimensions lxwxh in mm	weight	no. of batteries
83007021	BI 702-S + compensation diode	25/50 A	70 A	157x140x80	580 g	2
83007030	BI 703	25/50 A	70 A	207x140x80	1100 g	3
83012021	BI 1202-S + compensation diode	80 A	120 A	207x140x80	1200 g	2
83012031	BI 1203-S + compensation diode	80 A	120 A	207x140x80	1300 g	3
83116025	Battery Mate 1602	120 A	160 A	207x140x80	1000 g	2
83116035	Battery Mate 1603	120 A	160 A	207x140x80	1000 g	3
83125035	Battery Mate 2503	200 A	250 A	207x140x80	1100 g	3
83200150	Battery Watch	150 A	150 A	157x140x80	600 g	n.a.



The re-styled Battery Mate, article no. 83125035.
One output for alternator/battery charger or both and three outputs for three separate batteries. We also offer a version with 2 outputs.

The Battery Mate: electronic voltage drop free battery isolator

A Battery Mate can be installed in existing or new systems to improve the charging process. This appliance was designed to charge up to three separate battery sets at the same time. The Battery Mate is compatible with any type of alternator. Conventional diode splitters will create a voltage drop of 0.7 to 1.5 V DC, depending on the charge current, resulting in a very incomplete charge process. The Battery Mate ensures that the batteries are quickly and fully charged without requiring adjustment of the alternator. With this system you can keep the standard alternator while improving the charge process dramatically.
A battery charger and/or alternator is connected to the input side on the Battery Mate, while two or three batteries are connected to the output side. Each of these batteries can then be charged to a maximum of 200 A at 12 V or 24 V.

Another important system component: The Battery Watch

The Mastervolt Battery Watch is designed to prevent a service and/or starter battery being discharged below a user adjustable preset voltage. The unit consists of a high current electronic switch capable of switching loads of up to 150 amps. The load is disconnected when the battery voltage drops below a previously set value. The switch off and switch on values are user adjustable by a set of easy to use DIP switches. When any of these set points are reached a warning LED will light up in addition to an audible alarm. The unit has an in built hysterisis to allow for a short term voltage drop caused by switching on a heavy load. The Battery Watch has an extremely low current drain of only 4mA in "off mode" and 5 mA in "on mode". A remote switch can also be wired enabling the unit to function as a battery isolator.
See Battery Watch product description datasheet.

The extremely rugged multi adjustable Battery Watch, for 12 or 24 V DC, maximum current 150 amps.
See separate spec sheet for more detailed information.