SAMLEX AMERICA

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Version # 022001

SAMLEX AMERICA

BATTERY BACKUP MODULE

MODEL: BBM-12100

OWNER'S MANUAL

Please read this manual before operating your charger.

NOTE

Suitability, adequacy and safety of intended application are to be determined by the user. Since applications are subject to variations, Samlex America, Inc., makes no representation or warranty as to the suitability or the fitness of this unit for any specific application.

INFORMATION ON CAUTION & WARNING SIGNS

Warning!

THE BATTERY SHOULD BE LOCATED IN A WELL VENTILATED AREA TO SAFELY DISSIPATE HYDROGEN GAS PRODUCED DURING THE CHARGING PROCESS.

DESCRIPTION

This unit is a solid-state device which allows un-interrupted DC power in association with a power supply and a battery. The transfer of load between the power supply and the battery is instantaneous.

SPECIFICATIONS

INPUT VOLTAGE RANGE	UP TO 28 VDC
OUTPUT VOLTAGE	13.4 VDC FOR 13.8 VDC INPUT 27.2 VDC FOR 27.6 VDC INPUT
OUTPUT CURRENT	UP TO 100A
CHARGING CURRENT TO BATTERY*	1A T0 5A

***NOTE:**

The unit is pre-set for charging 12V battery backup system. When using 24V system, disconnect either of resistors R1 or R2. See explanation under "ADJUSTMENT TO BATTERY CHARGING CIRCUIT - 24V BATTERY BACKUP SYSTEM".

No other express warranty is hereby given and there are no warranties which extend beyond those described herein. This warranty is expressly in lieu of any other expressed or implied warranties, including any implied warranty of merchantability, fitness for the ordinary purposes for which such goods are used, or fitness for a particular purpose, or any other obligations on the part of the Warrantor or its employees and representatives.

There shall be no responsibility or liability whatsoever on the part of theWarrantor or its employees and representatives for injury to any persons, or damage to person or persons, or damage to property, or loss of income, or loss of profit, or any other consequential or resulting damage which may be claimed to have been incurred through the use or sale of the equipment, including any possible failure of malfunction of the equipment, or part thereof.

The Warrantor assumess no liability for incidental or consequential damages of any kind.

LIMITED WARRANTY

The equipment manufactured by Samlex America, Inc. (the "Warrantor") is warranted to be free from defects in workmanship and material under nomal use and service. This warranty is in effect for 1 year from the date of purchase by the user (the "Purchaser")

In any case part of the equipment proves to be defective, the purchaser should do the following:

1. Prepare a written statement of the nature of the defect to the best of the Purchaser's knowledge, and include the date of purchase, the place of purchase, and the Purchasers name, address and telephone number.

2. Call Samlex America, Inc. 1-800-561-5885 or 1 (604) 525-3836 and request a returning merchandise authorization number (RMA).

3. Return the defective part or unit along with the statement at the Purchaser's expense to the Warrantor: Samlex America Inc, # 110-17 Fawcett Road, Coquitlam BC V3K 6V2 Canada. The RMA number must be marked clearly on the outside of the packaging.

If upon the Warrantor's examination the defect proves to be the result of defective material or workmanship the equipment will be repaired or replaced at the Warrantor's option without charge, and returned to the Purchaser at the Warrantor's expense.

No refund of the purchase price will be granted to the Purchaser, unless the Warrantor is unable to remedy the decfect after having a reasonable number of opportunities to do so.

Warranty service shall be performed only by the Warrantor. Any attempt to remedy the defect by anyone other than the Warrantor shall render this warranty void.

There shall be no warranty for defects or damages caused by faulty installation or hook-up, abuse or misuse of the equipment including exposure to excessive heat, salt or fresh water spray, or water immersion.

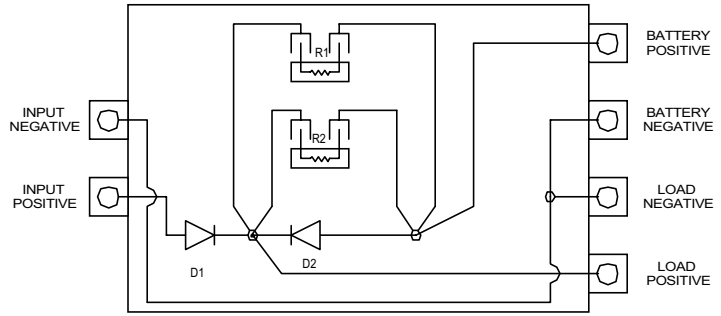
INSTALLATION

CABLE SIZING AND TERMINATION

The following cable sizes are recommended for various current capacities. Use multi-stranded flexible cable. (Preferably welding cable for higher capacities)

CURRENT DRAWN BY LOAD	WIRE SIZE (AWG.), UPTO 10 FT.
100 A	4
80 A	6
60 A	8
30A TO 40 A	10
20 A	12
10 A	14

The terminals have a set screw for a firm connection and have been designed to accept 4 AWG bare cable for 100A capacity. The set screw may not pinch lower diameter bare wires properly. In these cases, the ends of these wires should be terminated using a spade terminal.



D1,D2 SCHOTTKY DIODE, 175BGQ030 BY INTERNATIONAL RECTIFER

R1,R2 POWER RESISTOR 1R3 (1.3OHM), 25 TO 35 WATTS

FIGURE 1 SCHEMATIC DIAGRAM

CONNECTIONS

Ensure that the power supply is switched off. Connect the power supply to the terminals marked "INPUT POSITVE" and "INPUT NEGATIVE". Connect the load to the terminals marked "LOAD POSITVE" and "LOAD NEGATIVE". Connect the battery to the terminals marked 'BATTERY POSITIVE" and "BATTERY NEGATIVE".

CAUTION ! ENSURE CORRECT POLARITY OF ALL CONNECTIONS.

OPERATION - 12V BATTERY BACKUP SYSTEM

Refer to the schematic diagram at Fig. 1
When the input supply is available, it feeds the load as well as charges the battery through the isolating schottky diode D1. The voltage drop across D1 is approx. 0.4 V. hence, the voltage available to the load and for charging the battery is 0.4 V lower than the input supply voltage. In case the input supply fails, the battery will instantaneously feed the load through the isolating schottky diode D2. The voltage drop across D2 is approx. 0.4 V. Hence, the voltage available to the load will be 0.4 V lower than the battery voltage. When the input supply is resumed, the battery is isolated and the load is once again fed from the input supply.

BATTERY CHARGING CIRCUIT - 12V BATTERY SYSTEM

When the input supply is availabe, it will simultaneously charge the battery through resistors R1 and R2. These resistors limit the charging current to approx. 5 Amps maximum.

NOTE:
The value of resistors R1 and R2 is based on the charging current requirements of a typical 100 AH deep cycle marine battery. If a different type of battery is used, the value of these resistors should be adjusted to meet the associated charging requirement.

OPERATION - 24 V BATTERY BACKUP SYSTEM

Refer to the schematic Diagram at Fig. 1
The operation i s similar to the operation of the 12 V battery backup system explained previously. Only the battery charging circuit is required to be adjusted as given in the succeeding paragraphs.

ADJUSTMENT TO BATTERY CHARGING CIRCUIT - 24 V BATTERY BACKUP SYSTEM

This unit has been pre-set for a 12V battery system. When using this unit for a 24 V battery system, one of the resistors R1 or R2 has to be disconnected. For this, remove the cover. Resistors R1 and R2 are connected using quick disconnect terminals. Remove one end of the two connection of any one of the two resistors. Tape this end using electrical insulation tape. Now, only one resistor will be in circuit. Replace the cover.

NOTE:
The value of resistor R1 or R2 (for 24V system, only 1 resistor is in circuit as explained above) is based on the charging current requirements of a typical 100 AH deep cycle marine battery. If a different type of battery is used, the value of the resistor should be adjusted to meet the associated charging requirement.