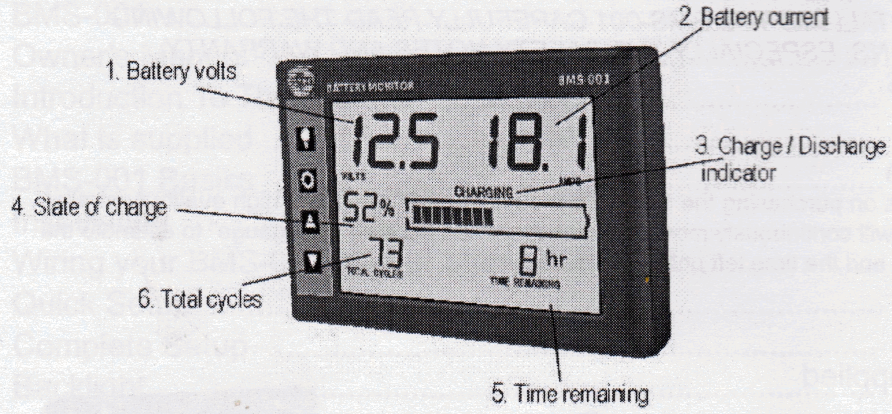
Typical display BMS-001 when installed in a battery system



1. Battery volts - Displays the terminal voltage of the battery.
2. Battery current - Displays the charge/discharge current into or out of your battery.
3. Charge / Discharge Indicator - Allows you to verify that your charger is charging the battery correctly.
   Viewing discharge current is very useful to determine if your combination of loads are drawing too much current from the battery.
4. State of charge - The estimated percentage charge state of the battery.
5. Time remaining - The time remaining until the battery is discharged.
6. Total cycles - The number of charge/discharge cycles.

Installation

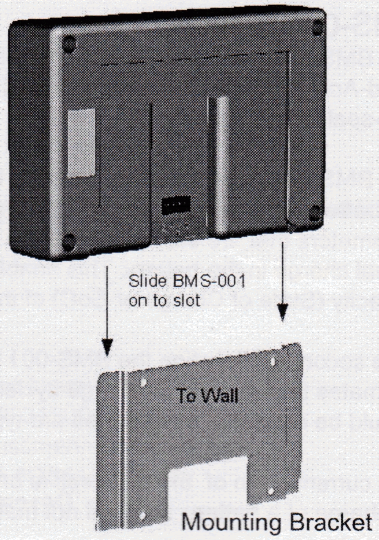
WARNING! The BMS-001 should be installed in an easily visible location, away from moisture or excessive temperature variations. The unit is not intended for outdoor use! There should also be a route for the cable to the battery box that is no greater that 5 mtrs in length. Keep the cable away from mains leads!

MOUNTING THE BRACKET

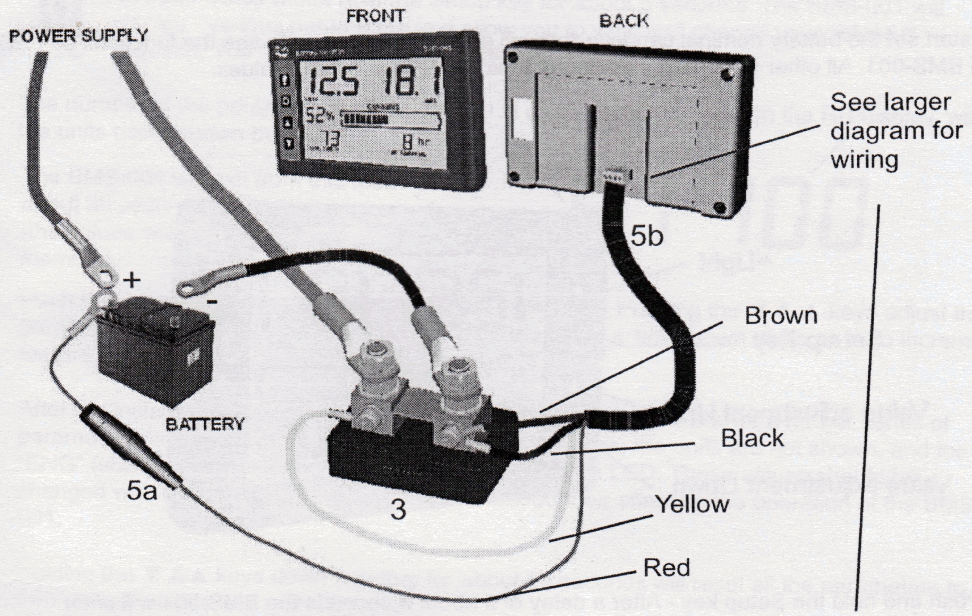
1. Screw the mounting bracket in the chosen location. Note: It must be mounted the correct way up.
2. Slide the BMS-001 on to the mounting bracket.
3. Route the main wiring loom. Note: Avoid putting any stress on the 4 way connector, leave a short loop of cable to allow the BMS-001 to be easily removed from the bracket without straining the cable.

If the main loom is too long, it is suggested to coil up the spare cable neatly close to the battery rather than shortening it.

Where cables pass through any part of a metal panel or cover, ensure that a cable gland or bush is fitted to the hole.



Wiring your BMS-001 to your battery



1. Disconnect all loads from the battery by opening all the circuit breakers on your distribution panel and turn off your charger. Remove the fuse (5a) from the BMS-001 loom fuseholder.

2. Wire up the BMS-001 to the battery using the diagram for reference.

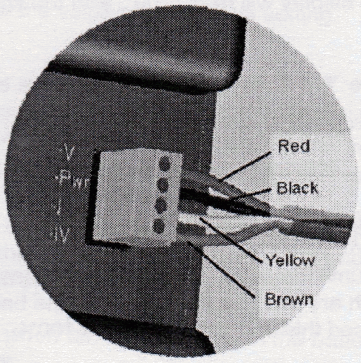
3. Install the shunt (3) in a position where its terminals cannot be shorted to ground and as close to the battery as possible.

4. Wire the shunt exactly as shown, all connections must go to the terminals shown on the diagram.

5. Double check the connections, then install the BMS-001 fuse and if possible check the voltages with a voltmeter on the BMS-001 connector. There should be +12V (note the polarity) between the V+ terminal and the 3 other terminals. The BMS-001 is protected from misconnection.

6. Plug in the BMS-001. The LCD should display battery volts, and the current should read zero. Now proceed to setup the BMS-001 to your battery.

5b connector wiring



Caution
Note that the shunt is rated at 100 A maximum. Never install the shunt in a circuit that can draw in excess of 100 A. In particular, very high current loads such as winches should be wired directly to the battery, and not through the shunt.

BMS-001 - FAQ

Q. Can I use the BMS-001 for a dual battery system?

A. For a dual battery system (independent batteries), two BMS-001 + shunts is required, one for each battery.

Q. Will the BMS-001 work for AGM batteries as well as lead acid?

A. Yes! Variation in battery characteristics will be adjustable.

Q. Can it provide a read out on 2 batteries that are linked to the one charger?

A. In this case two BMS-001 units are required, with a current shunt for each battery. Each unit only monitors a single battery. Alternative approach is to consider the two batteries as a single battery (they must be exactly the same) and during set-up enter the capacity of the two batteries (i.e.. if 100Ah each, enter battery capacity as 200Ah).

Q. How do you use the BMS-001 when you have a bank of batteries?

A. If batteries are banked, then they be considered as a single battery and capacities added for parallel batteries. If batteries are separate, then one BMS-001 with shunt for each battery.

Q. I have a battery bank of 4 house batteries and 1 cranking battery for my yacht. (All batteries are deep cycle wet cell) Both systems are separate discharge but are all commonly charged from a solar bank and the engine alternator (when running). Will the BMS-001 work for either or both systems?

A. This system requires a BMS-001 + shunt for the 4 house batteries, and a BMS-001 + shunt for the cranking battery. Charging the batteries from the solar panels is no problem as the charge into the battery bank and single battery are monitored separately.

Q. Can I run 4 x 6v 225Ah house batteries?

A. If the configuration of the batteries is 2S2P (to result in a 12V system of 550Ah) then this is no problem, a single BMS-001 + shunt is required. If the configuration of the batteries is 4S (to result in a 24V system of 225Ah) then this would have to be done at this time using 2 BMS-001 + 2 shunts to provide monitoring of the bottom 12V and the top 12V systems. If the configuration of the batteries is 4P (to result in a 6V system of 1100Ah) then this system is not supported at this time.

Q. Is the BMS-001 suitable for multiple battery banks? I have two, one for the house system and another for the refrigeration and inverter.

A. Each BMS-001 + shunt will monitor only one battery bank currently. For this system a BMS-001 + shun t is required for the house system, and a BMS-001 + shunt is required for refrigeration / inverter system.