

SELECTING THE CORRECT LVM VOLTAGE REGULATOR

The outputs of the Aerogen, Aquagen and Solargen can be simply connected directly to the terminals of the battery that requires charging, however, if the terminal voltage of the battery is not continually monitored for over voltage (14.2v for 12v batteries) and (28.4v for 24v batteries) the battery can be seriously damaged.

Fitting an LVM voltage regulator will protect the battery from becoming over charged.

TEMPERATURE COMPENSATION - This additional feature is available on all LVM regulators. If the battery is located in a building where the ambient temperature is always around 20 deg.C then standard regulators can be used. However if you intend to locate a battery where temperatures may go down to freezing and perhaps rise to tropical temperatures then you should install a regulator that is fitted with a temperature compensation circuit. This automatically allows the battery to be charged at a higher voltage as the temperature drops, and a lower voltage if the temperature increases. Simply add (-T) after the LVM Product No. ie. 4SB12 -T.

LOW BATTERY ALARM DRIVE - This additional feature is only available on the 6TB12 and 6TB24 regulators. The built in circuitry continually monitors the terminal voltage of both batteries and if either of them fall to 11v (12v models) or 22v (24v models) a voltage output is applied to the alarm output cable. It is then a simple matter of connecting either a piezo or buzzer to this alarm output cable via a small single pole switch, and then a negative connection to the piezo or buzzer. Simply add (-A) after the LVM Product No. ie. 6TB12 -A or 6TB12-TA for temperature compensation and alarm.

There are three types of regulator –

- 1. Dedicated single battery Solargen regulators** - LVM Product No. SR50 (12v and 24v models available)
These regulators are connected between the output of the Solargen module and the battery. They incorporate a blocking diode to stop back feed from the module at night, or in poor weather conditions. They operate by shorting the solar modules output. They are designed specifically for controlling solar panels, they must not be used for Aerogens or Aquagens! The maximum power they control is 50W (4 Amps 12v model) - (2 Amps 24v model).
Note: These regulators draw a continuous small standby current of around 10mA – 15mA.
- 2. Single battery regulator** - LVM Product No. 2SB12, 2SB24, 4SB12, 4SB24 - These units are simply connected to the battery terminals, and if the battery voltage reaches 14.2v (12v systems) or 28.4 (24v systems) the regulator diverts power to a high wattage wire wound dump resistor. This regulator should NOT be used if you have any other form of charging system connected to the battery ie. Mains charger/ shore power, engine driven alternator.
THESE REGULATORS ARE NOT SUITABLE FOR YACHT INSTALLATIONS.
Note: These regulators draw a continuous small standby current of around 10mA – 15mA.
- 3. Twin battery regulators** – LVM product No. 4TB12, 4TB24, 6TB12, 6TB24 - These units are connected between the output of the Aerogen, Aquagen or Solargen module and the battery terminals. They control the actual output voltage of Aerogen, Aquagen or Solargen by diverting power to a high wattage wire wound dump resistor when their output voltage reaches 14.2v (12v systems) or 28.4 (24v systems). They have two schottky blocking diodes built into the regulator which enables them to monitor and control the charge to two batteries totally independent of each other, therefore making it ideal for separate charging of engine starting and domestic batteries. The battery with the lowest terminal voltage will be charged first, then gradually when both batteries become fully charged the Aerogen, Aquagen or Solargen modules output is automatically diverted to the dump resistor, this does two things it stops the batteries over charging and keeps the generator always on load.
Note: These regulators draw NO standby current from the battery.
THESE REGULATORS ARE SUITABLE FOR YACHT INSTALLATIONS

Also available from LVM Products are Diode Units – LVM product No. 4DU, 6DU

The 4DU when combined with a 2TB or 4TB regulator enables one additional battery to be charged.

The 6DU when combined with a 4TB or 6TB regulator enables two additional batteries to be charged.

As Aerogen, Aquagen or Solargen modules outputs may often be combined, the table on page 2, shows the recommended regulator for various systems. Note: Two batteries wired in parallel are classed as one independent battery. Having selected the recommended regulator model from the table simply add the voltage required ie. 4TB12 for a 12v system or 4TB24 for a 24v system. If you cannot find your particular system or application within the table please give LVM Products a call. For wiring diagrams on LVM voltage regulators check our web site www.lvm-ltd.com or call our sales office who will e-mail, fax or post you copies.

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VOLTAGE REGULATOR TABLE

N/R = Not recommended

SYSTEM	Number of independent batteries to be charged			
	1	2	3	4
1 x Aero2gen	2SB or 2TB	2TB	N/R	N/R
1 x Aero2gen + 5w Solargen panel	2SB or 2TB	2TB	N/R	N/R
1 x Aero2gen + 10w Solargen panel	2SB or 2TB	2TB	2TB + 4DU	N/R
1 x Aero2gen + 17w Solargen panel	4SB or 4TB	4TB	4TB + 4DU	N/R
1 x Aero2gen + 25w Solargen panel	4SB or 4TB	4TB	4TB + 4DU	N/R
1 x Aero2gen + 25w+10w Solargen panel	4SB or 4TB	4TB	4TB + 4DU	N/R
1 x Aero2gen + 25w+25w Solargen panel	4SB or 4TB	4TB	4TB + 4DU	N/R
1 x Aero4gen	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aero4gen + 5w Solargen panel	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aero4gen + 10w Solargen panel	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aero4gen + 17w Solargen panel	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aero4gen + 25w Solargen panel	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aero4gen + 25w+10w Solargen panel	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aero4gen + 25w+25w Solargen panel	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aero4gen + up to 60w Solargen panels	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aero6gen	6TB	6TB	6TB + 6DU	6TB + 6DU
1 x Aero6gen + 5w Solargen panel	6TB	6TB	6TB + 6DU	6TB + 6DU
1 x Aero6gen + 10w Solargen panel	6TB	6TB	6TB + 6DU	6TB + 6DU
1 x Aero6gen + 17w Solargen panel	6TB	6TB	6TB + 6DU	6TB + 6DU
1 x Aero6gen + 25w Solargen panel	6TB	6TB	6TB + 6DU	6TB + 6DU
1 x Aero6gen + 25w+10w Solargen panel	6TB	6TB	6TB + 6DU	6TB + 6DU
1 x Aero6gen + 25w+25w Solargen panel	6TB	6TB	6TB + 6DU	6TB + 6DU
1 x Aero6gen + up to 140w Solargen panels	6TB	6TB	6TB + 6DU	6TB + 6DU
1 x Aqua4gen	4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aqua4gen + 5w Solargen panel	4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aqua4gen + 10w Solargen panel	4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aqua4gen + 17w Solargen panel	4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aqua4gen + 25w Solargen panel	4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aqua4gen + 25w+10w Solargen panel	4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aqua4gen + 25w+25w Solargen panel	4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aqua4gen + up to 72w Solargen panels	4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aero4gen-F	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aero4gen-F + 5w Solargen panel	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aero4gen-F + 10w Solargen panel	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aero4gen-F + 17w Solargen panel	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aero4gen-F + 25w Solargen panel	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aero4gen-F + 25w+10w Solargen panel	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aero4gen-F + 25w+25w Solargen panel	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aero4gen-F + up to 120w Solargen panels	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU
1 x Aero6gen-F	4SB or 4TB	4TB	4TB + 4DU	6TB + 6DU
1 x Aero6gen-F + 5w Solargen panel	6TB	6TB	6TB + 6DU	6TB + 6DU
1 x Aero6gen-F + 10w Solargen panel	6TB	6TB	6TB + 6DU	6TB + 6DU
1 x Aero6gen-F + 17w Solargen panel	6TB	6TB	6TB + 6DU	6TB + 6DU
1 x Aero6gen-F + 25w Solargen panel	6TB	6TB	6TB + 6DU	6TB + 6DU
1 x Aero6gen-F + 25w+10w Solargen panel	6TB	6TB	6TB + 6DU	6TB + 6DU
1 x Aero6gen-F + 25w+25w Solargen panel	6TB	6TB	6TB + 6DU	6TB + 6DU
1 x Aero6gen-F + up to 140w Solargen panels	6TB	6TB	6TB + 6DU	6TB + 6DU
5w Solargen panel	SR50	2TB	N/R	N/R
10w Solargen panel	SR50	2TB	N/R	N/R
17w Solargen panel	SR50	2TB	2TB + 4DU	N/R
25w Solargen panel	SR50	2TB	2TB + 4DU	N/R
25w+10w Solargen panel	SR50	2TB	2TB + 4DU	N/R
25w+25w Solargen panel	SR50	2TB	2TB + 4DU	N/R
4 x 25w Solargen panels	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU
8 x 25w Solargen panels	4SB or 4TB	4TB	4TB + 4DU	4TB + 6DU