

# Service & Maintenance for the SLi-D600 & SLi-D1000

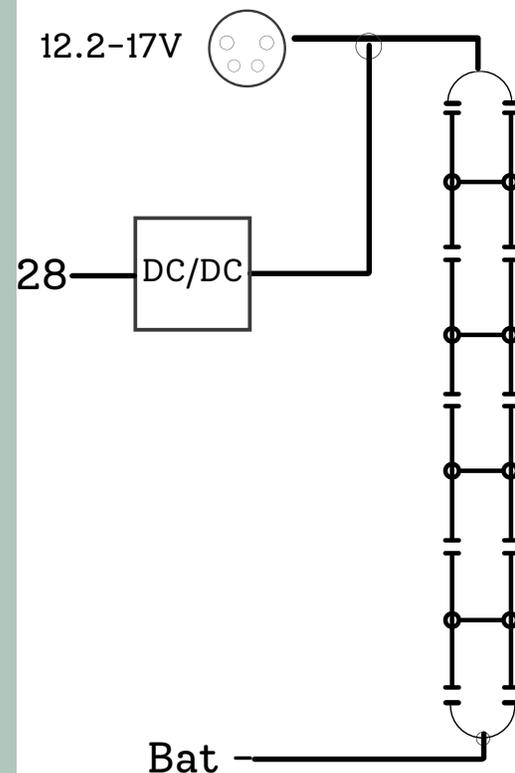
## Important Best Practices

- Make sure your battery is fully charged when it is not in use.
- Do not store the SLi Block battery “on the shelf” without recharging. Depending on the age of a block and the manner in which it was discharged, it is recommended to recharge the SLi Block within one week of last use. Safety shut-offs in the block could keep a battery from recharging if the block is allowed to self-discharge below the factory presets.
- A fully charged Block should be recharged every month if the cartridges are left inside the Block.
- If long term storage is desired, it is best to first fully charge the Block then remove the cartridges and store separately.

## Technically Understanding your Battery

### The System

- The SLi Series blocks are configured as a 5S2P configuration. This means the internal arrangement of cartridges are 5 in series and 2 in parallel.
- Each cartridge, in normal use, will range in voltage from 2.5 to 3.6vdc.
- The Blocks are native 12.5 to 17vdc.
- The Blocks have a built in up-converter to supply simultaneous 28vdc from the native voltage.
- The Blocks have an internal balancing circuit that attempts to keep minor cartridge imbalances from impacting the run times over the life of the block.
- Each cartridge is monitored continually for temperature and voltage abnormalities.
- All outputs are protected with in-rush current protection that might be seen when first applying a load to your battery (typically a brief dip in voltage when first applying a load). This circuitry prevents bad cables and excessive currents from damaging internal electronics in the block.



### LED Display

In order to conserve energy the LCD will turn off when any cartridge in the block is determined to be empty. The LCD screen will turn on when a charger is connected.

## Cartridges

- Inside of your SLi series battery, are 10 LiFePO<sub>4</sub> cartridges. It is possible for cartridges to become imbalanced when a block is stored improperly. Imbalanced cartridges can result in reduced run times or a Block not turning on or charging.
- If cartridges become imbalanced, it will result in two or more cartridges with a lower voltage than the rest. These cartridges can be “brought back up” using our Cartridge Balancer (sold separately).
- Unlike the charging circuits inside the Sli Block, the Cartridge Balancer will charge all 10 cartridges in parallel, bringing them all up to an even 3.6vdc.
- If you have a cartridge that reads zero volts, it has been over discharged and will need to be replaced and balanced with the other cartridges in the block.
- We recommend, if you own more than a couple Sli Blocks, the Balancer is an affordable and useful tool for your service department.



## Charging

- The primary indicator that an Sli Block is charging is the LED on the front of the charger. If it is RED, the Block is taking current, if it is GREEN, the block is either finished charging or waiting to cool down. A Block fully charged and left on a charger will run a charge maintenance routine every hour to continue balancing cartridges as long as the Block is connected to a charger.



## When your battery is not turning on

- First try charging. (Note: The Block is not charging unless the RED led on the charger is ON)
- If the Block does not turn on or charge, remove the cartridges and measure the voltage of each cartridge. If all cartridges are measuring around 3.2vdc then something in the circuitry inside the block has failed. In this case contact Block Battery for an RMA and send us the battery housing for service. This makes shipping less costly and simpler.
- If it is found that one or more cartridges are under 2.0vdc then contact Block Battery for an RMA and send in all 10 cartridges with the battery housing so the Block Battery service department can determine the fault of the electronics and rebalance the cartridges. Please keep in mind that it is always best to ship your system in for service with the cartridges removed. This will keep further possible damage from occurring to your cartridges.

**FOR SERVICE CALL 888-424-6322**