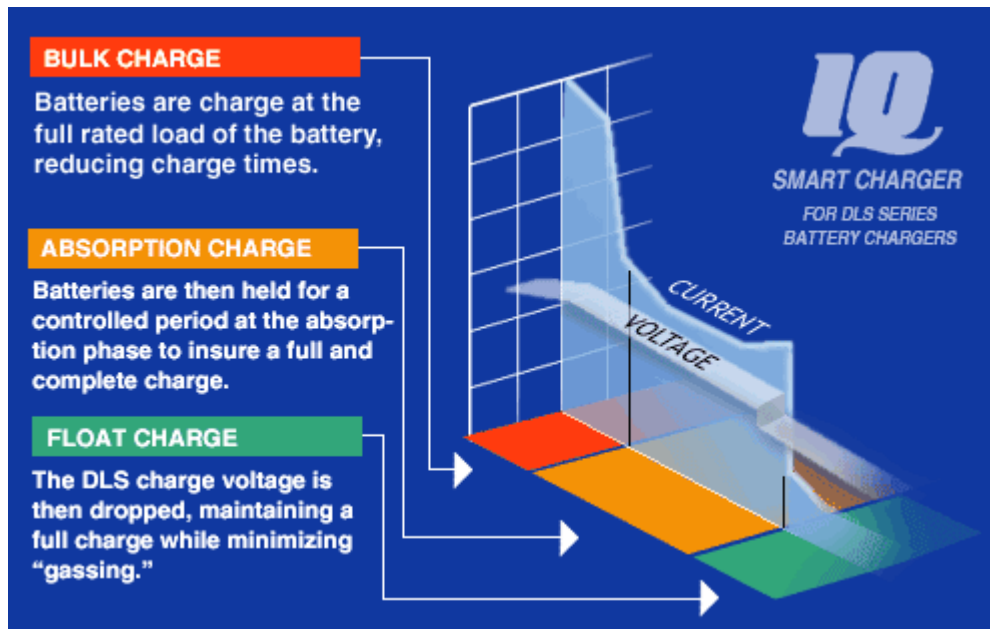




Take your DLS Battery Charger to the next level...

The IQ Smart Controller offers automatic charging control for DLS Battery Chargers, providing longer and safer use of your system's battery. The IQ Smart Controller is compatible with any DLS Battery Charger model and is covered under our standard Two-Year Warranty.

The IQ Controller allows the DLS Charger to operate as an automatic 3-stage "smart charger." This gives the customer the benefit of Bulk, Absorption, and Float stage charging, increasing the charging capacity of the DLS charger and decreasing charge times, insuring proper and safe battery charging and minimizing over-charging. This "smart" technology monitors the battery at all times. If the DLS voltage remains in the long term stage for more than seven days, the IQ will automatically deliver a boost charge for a predetermined time, then automatically return to the normal float stage.



BULK CHARGE

Batteries are charge at the full rated load of the battery, reducing charge times.

ABSORPTION CHARGE

Batteries are then held for a controlled period at the absorption phase to insure a full and complete charge.

FLOAT CHARGE

The DLS charge voltage is then dropped, maintaining a full charge while minimizing "gassing."

Reduced Charge Times

The Bulk Stage allows the batteries to be charged from the full rated load of the charger. During this stage the batteries are recharged quickly to reduce charge times

Increased Battery Capacity

After the Bulk Stage, the batteries are held in the Absorption Stage for a controlled period, insuring a full and complete charge.

Reduced Battery Stress

During the Float Stage, the DLS charge voltage is reduced. This minimizes gassing while maintaining a full charge at the nominal rate of the battery.

Weekly Equalization for Longer Battery Life

If the batteries have not received a "smart charge" during a seven-day period, the IQ Controller will switch the DLS charger into a pre-programmed equalization stage to top off the batteries, dissolving any sulfate layer on the battery's internal plates and avoiding stratification.

LED Indicator

The LED Indicator on the IQ4 informs the user as to the status of the battery and the charging stage. When first activated, the IQ4 will read the number of cells in the battery and indicate the voltage of the battery through a number of flashes.

6 flashes = 12 volt battery
12 flashes = 24 volt battery
18 flashes = 36 volt battery
24 flashes = 48 volt battery

After reading the battery, the IQ4 will initiate either a Bulk Charge phase or Float Charge phase depending on the battery's charge status. When the IQ4 is in the Bulk Charge mode, the green LED indicator will flash rapidly. When the Bulk Charge is complete, the IQ4 begins the Absorption Charge and the LED indicator will flash at a slower rate. When the battery charging is complete and the IQ4 begins the Float Charge, the LED will remain lit and no longer flash. If, when first activated, the battery is not in need of charging, the IQ4 will immediately begin the Float charge phase and the LED will be remain lit after it has counted the battery cells.

Charging Voltages

The charging voltages used to charge the battery during the three stages differ depending on the voltage of the battery being charged. If you are interested in knowing the various voltages, they are easy to calculate. Follow the simple steps below:

- 1) Determine the number of cells your battery has by counting the flashes on the IQ4 when it is first activated (1 flash = 1 cell)
- 2) Multiply the number of cells by the appropriate voltage for the individual charging stage. Use the table below for reference:

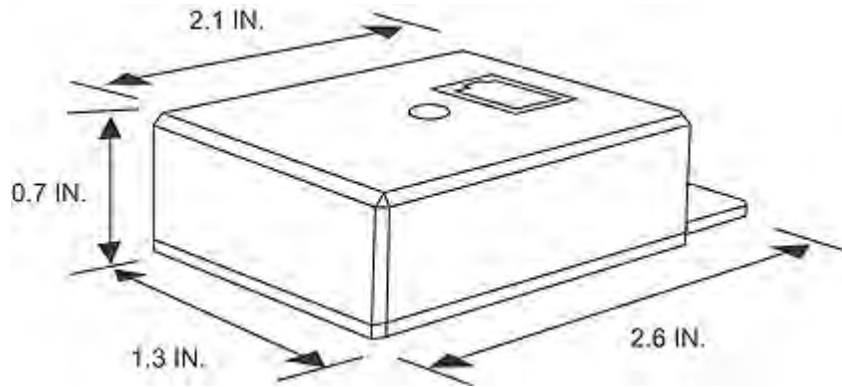
Charging Phase	Voltage Charge per Cell
Bulk Charge	2.46
Absorption Charge	2.36
Float Charge	2.26

Example: A 12V battery (6 cells) will Bulk Charge at 14.76V (6 x 2.46).

For more details on IQ performance for your individual application, consult our [Technical Support and Customer Service Team](#).

Technical Note: For smart-charge control of the DLS-54.4-15, use the IQ4-54V model.

EXTERNAL IQ DIMENSIONS



Most DLS Models are available with the IQ Smart Charger already internally integrated within the unit. External IQ models can be installed by simply plugging the IQ cord into the Dual Voltage jack located on the DLS*. The IQ circuitry is then automatically engaged. [Download the complete IQ4 Instruction Manual here.](#)

*(*location of the Dual Voltage Jack may vary depending on the DLS Model.)*

