



A Benny Lee Company

PRODUCT USER GUIDE

IQ4

Smart Battery Charger Controller for DPS Series of Power Supply Owners Guide

(These instructions are intended for use by a technician familiar with electronic products)

GENERAL OVERVIEW

The IQ4 Controller allows the DPS Power Supply to operate as an automatic 3-stage "smart charger." This gives the customer benefit of Bulk, Absorption, and Float stage charging, increasing the charging capacity of the DPS Power Supply and decreasing charge times, insuring proper and safe battery charging and minimizing over-charging. This "smart" technology monitors the battery at all times.



Reduced Charge Times

The Bulk Stage allow the batteries to be charged from the full rated output of the DPS Power Supply. 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 DPS charge voltage is reduced. This minimizes gassing while maintaining a full charge at the normal 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 DPS Power Supply into a pre-programmed equalization stage to top off the batteries, dissolving any sulfate layer on the battery's internal plates and avoiding stratification.

IQ4 BASIC OPERATION

Note: To ensure proper charging and prevent the battery from unintended load drain, the DPS power supply must be set to the proper output voltage before charging begins.

DPS VOLTAGE ADJUSTMENT

We recommend a digital multimeter and (non-metallic) #1 screwdriver to properly adjust the DPS output voltage.

1. Set the multimeter to the 200 DCV position (or auto range) and connect the red(+) to red(+) output on the DPS; connect black(-) to black(-) output on the DPS.
2. Cut away the yellow protective cover located next to the DPS cooling fan, exposing the voltage adjustment screw.
3. Turn the adjustment screw clockwise to decrease voltage; counter-clockwise to increase voltage.

Normal Battery Voltage	DPS Voltage Setting (No Load)
12 Volts	13.2 VDC
24 Volts	26.4 VDC
48 Volts	52.8 VDC

INSTALLATION

IQ4 models can be installed by simply plugging the IQ4 cord into the Dual Voltage (phone type, RJ11) Jack located on the top of the DPS. The IQ4 circuitry is then automatically engaged. Connect appropriate charger cables from the DPS outputs to the battery terminals. Apply AC power to the DPS and automatic "smart" charging will begin. The IQ4 can be left connected at all times.

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.

LED Flashes	Battery Voltage
6	12
12	24
18	36
24	48

Chart for Battery Voltage

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 remain lit after it has counted the battery cells.

WARNINGS

The individual user should take care to determine, prior to use or installation, whether this device is suitable, adequate or safe for the use intended. Since individual applications are subject to great variation, DuraComm makes no representation or warranty as to the merchantability, suitability or fitness of these units for any specific application.

Failures require investigation as to cause and/or repair of the unit.

THERE ARE NO USER SERVICEABLE PARTS INSIDE. HAZARDOUS VOLTAGES EXIST INSIDE THE UNIT. SERVICE AND REPAIR MUST BE REFERRED TO QUALIFIED FACTORY PERSONNEL.

LIMITED WARRANTY

DuraComm warrants to the initial end user, each power supply manufactured by DuraComm to be free from defects in material and workmanship, when in normal use and service for a period of three year from the date of purchase, from an authorized DuraComm dealer.

Should a product manufactured by DuraComm fail or malfunction due to manufacturing defect, or faulty component, DuraComm, at its option, will repair or replace the faulty product or parts thereof, which, after examination by DuraComm, prove to be defective or not operational according to specifications in effect at the time of sale to the initial end user. The product that is replaced or repaired under the provisions of this warranty will be warranted for the remainder of the original warranty period, only, and will not extend into a new three year warranty period.

The limited warranty does not extend to any DuraComm product which has been subject to misuse, accidental damage, neglect, incorrect wiring not associated with manufacture, improper charging voltages, or any product which has had the serial number removed, altered, defaced, or changed in any way.

DuraComm reserves the right to change, alter, or improve the specifications of its products at any time, and by so doing, incurs no obligation to install or retrofit any such changes or improvements in or on products manufactured prior to inclusion of such changes.

DuraComm requires any product needing in or out of warranty service to be returned to DuraComm. All requests for warranty service must be accompanied by proof of purchase, such as bill of sale with purchase date identified. DuraComm is not responsible for any expenses or payments incurred for the removal of the product from its place of use, transportation or shipping expenses to the place of repair, or return expenses of a repaired or replacement product to its place of use.

The implied warranties that the law imposes on the sale of this product are expressly LIMITED, in duration, to the three (3) year time period specified herein. DuraComm will not be liable for damages, consequential or otherwise, resulting from the use and operation of this product, or from the breach of this LIMITED WARRANTY.

Some states do not allow limitations on the duration of the implied warranty or exclusions or limitations of incidental or consequential damages, so said limitations or exclusions may not apply to you. This warranty gives you specific legal rights, which vary from state to state.

This warranty is given in lieu of all other warranties, whether expressed, implied, or by law. All other warranties, including WITHOUT LIMITATION, warranties of merchantability and fitness or suitability for a particular purpose, are specifically excluded. DuraComm reserves the right to change or modify its warranty and service programs without prior notice.

DuraComm® Corporation

6655 Troost Avenue
Kansas City, MO 64131
Phone (816) 472-5544 Fax (816) 472-0959
www.duracomm.com