

## Electric Vehicle use with the 120 volt AC input DLS battery chargers.

Many EV (electric vehicle) owners have been looking for a way to charge 12 volt DC batteries from their high voltage vehicle battery bank as well as to power 12 volt DC loads.

The following is from IOTA Engineering regarding using the DLS battery chargers from a high voltage direct current source.

**From:** Jeff Young [mailto:jyoung@iotaengineering.com]

**Sent:** Wednesday, January 17, 2007 2:26 PM

**Subject:** Re: question [DC operation of DLS units]

The DLS-45 and DLS-55 will not produce full output power with less than 130Vdc on the input and will be limited to an output voltage of 13.6VDC; an increase of the input voltage (to 136VDC) would be required to attain full output power with the DV (dual voltage) jack installed.

The DLS-45 and DLS-55 will operate at less than 130VDC, but at a limited capability. At 96VDC, the output will remain in regulation up to  $\sim\frac{1}{2}$  ADC. Above  $\sim\frac{1}{2}$  ADC load, the output voltage will decrease linearly until the load current reaches  $\sim 1$ ADC (Vout =  $\sim 10$ VDC). Above 1ADC, the output should maintain an output voltage of 9 - 10VDC. The DLS-30 (Series M) also has limited operation at lower input voltages. At 96VDC, the Series M can sustain normal float voltages out to  $\sim 20$ ADC. Above 20ADC, the output voltage decreases linearly to  $\sim 10$ VDC at 30A output.

Jeff Young - Power Products Engineer

[jyoung@iotaengineering.com](mailto:jyoung@iotaengineering.com)

IOTA Engineering, L.L.C.

Tel - 520-294-3292

Fax - 520-573-2934

In a later correspondence, 1/24/07, John Kehm specified that the highest DC input voltage for the DLS-30M, DLS-45 and DLS-55 is 190VDC.

**IOTA DOES NOT RECOMMEND SERIES CONNECTION OF EITHER INPUTS OR OUTPUTS OF THE DLS SERIES POWER SUPPLIES.**

Paralleling inputs and outputs is acceptable.