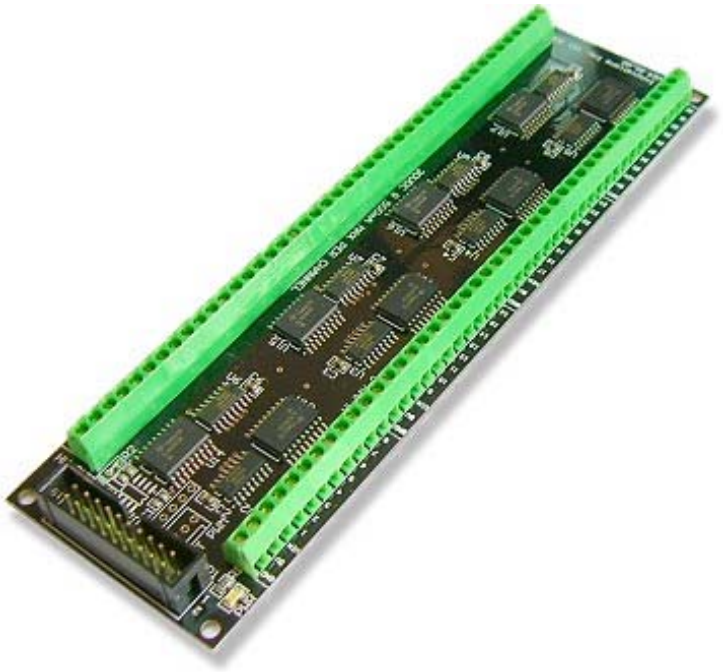
LO-HV64
Latched Power Output Card



Product ID. : LO-HV64
Rev. : 1.00
Date : Nov 30, 2007
Firmware Rev. : N/A

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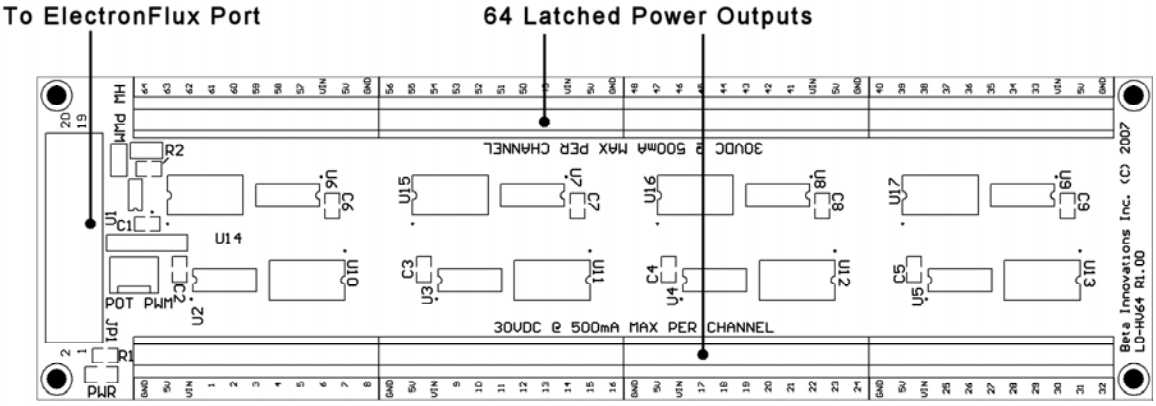
Connecting the LO-HV64 Card

IMPORTANT: DO NOT PLUG the LO-HV64 module into any port while the USB module is powered. Turn off power to the module before installing the LO-HV64 card.

With the module's power turned off, connect the LO-HV64 card to any of the ports using a keyed ribbon cable if supplied with your card. If using your own cable, care must be taken to ensure that the orientations of pin 1 on the cable connectors are matched to pin 1 of the IO port and the LO-HV64 port.

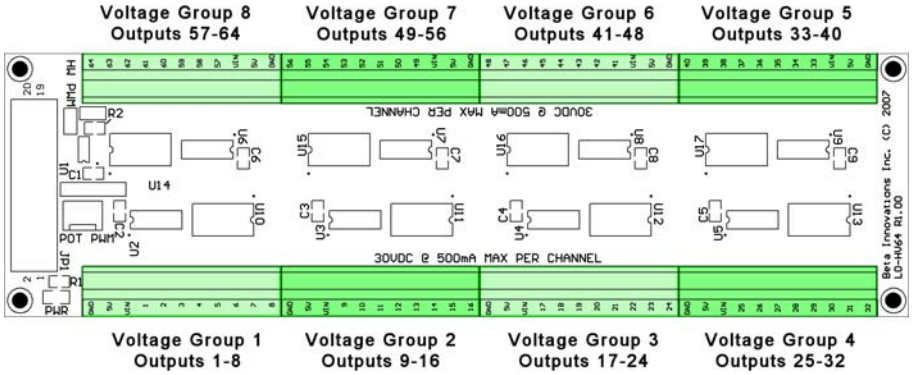


The LO-HV64 card is a passive device and will not be automatically detected by your USB module. You will need to activate the port of your module and set it to Latched Output mode in the Device Manager utility in order to use the LO-HV64 outputs.

Refer to the Device Manager utility help file for details on activating port features on your USB module.

Output Channels

The LO-HV64 power output card can control up to 500mA @ 30VDC max on all channels. Up to 8 different voltages can be used with up to 8 outputs each. The following voltage groups can be individually setup as needed.



In additional to isolating high voltage, high current loads from the ElectronFlux IO port, clamping input on VIN provides additional protection when used with inductive loads.

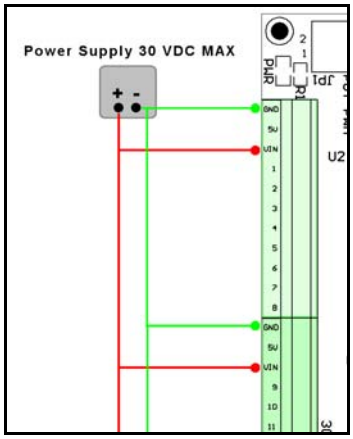
IMPORTAT: Do not connect any AC Power Supplies to the LO-HV64. Only DC PS must be used.

Suppression Diodes Input

The LO-HV64 card has been designed for driving loads with moderate inductive "kick-back". Through the use of suppression diodes, the VIN terminal on the LO-HV64 card can be used to clamp any voltage spikes and provide a low impedance path for the current in the inductor to decay gradually once power is turned off.

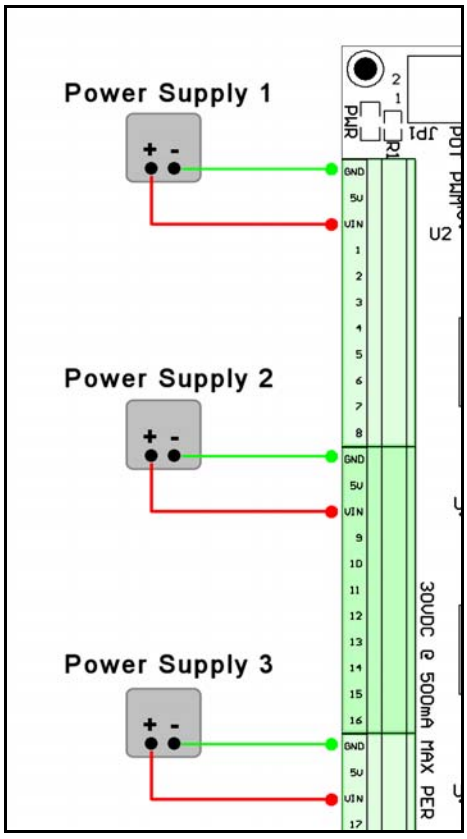
Connecting a Single PS to VIN

If using the LO-HV64 card with only a single external PS, connect all VIN terminals to the PS's positive terminal and all GNDs to the GND terminal of the PS.



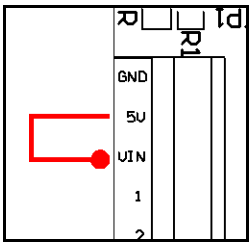
Connecting Multiple PS to VIN

If using the LO-HV64 card with electronic devices requiring different voltages, multiple external PS can be connected as follows each with a different voltage.



Connecting Onboard 5V to VIN

If using the LO-HV64 card with 5V rated electronic devices requiring less than 3A total, connect the onboard 5VDC output to the VIN terminal as illustrated below. Note that GND is internally connected.



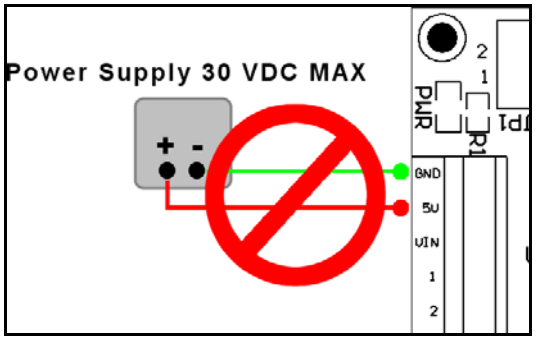
IMPORTANT: Any external power supply used with the LO-HV64 card must be tied to VIN and GND terminals as illustrated above. Failure to do so may cause irreparable damage to the card and will void the product warranty if used with inductive loads.

Connecting Output Channels

The LO-HV64 power output card provides 64 channels individually controlled by the IO port on the ElectronFlux module. Each group of 8 output channels must share a common power supply not exceeding the max rating of 30 VDC or use the onboard 5V output.

Multiple electronic devices such as lamps can be connected to the same channel provided the total current does not exceed max rating for each channel of 500mA.

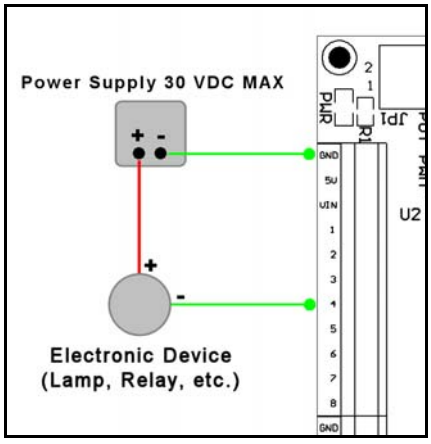
CAUTION: Startup conditions of the ElectronFlux module may cause the channel outputs to toggle momentarily until power is stabilized and the IO port pins are properly initialized.



IMPORTANT: DO NOT CONNECT ANY EXTERNAL POWER SUPPLY to the 5V terminals. Doing so may cause irreparable damage to the card and/or ElectronFlux module and will void the product warranty.

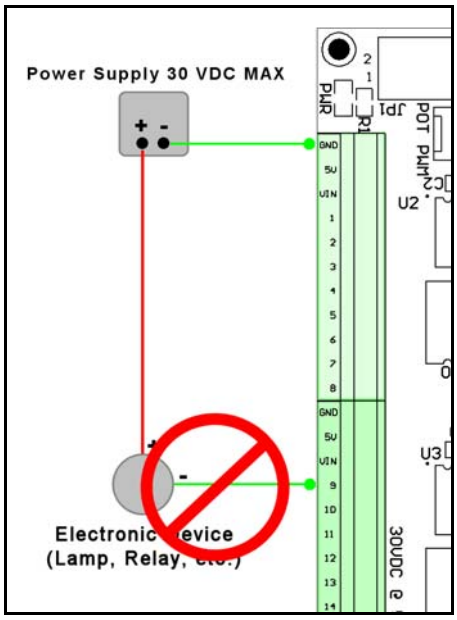
Connecting Devices to External PS

The following diagram illustrates the method for connecting electronic devices to the output terminals using an external PS. (NOTE: VIN suppression diodes connection removed for clarity)



Careful observation of polarity requirements of devices must be considered when connected to any of the output terminals. All outputs terminals provide a path to a common GND when activated.

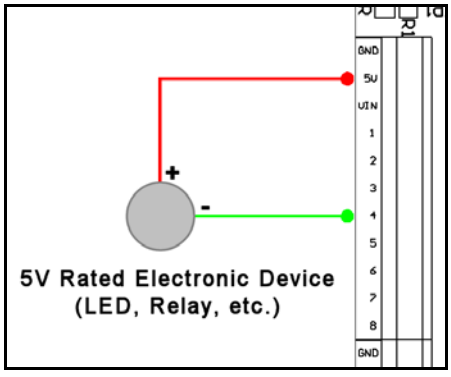
Unless sharing a single PS between voltage groups, do not connect any device to output terminals of a different voltage group as illustrated below.



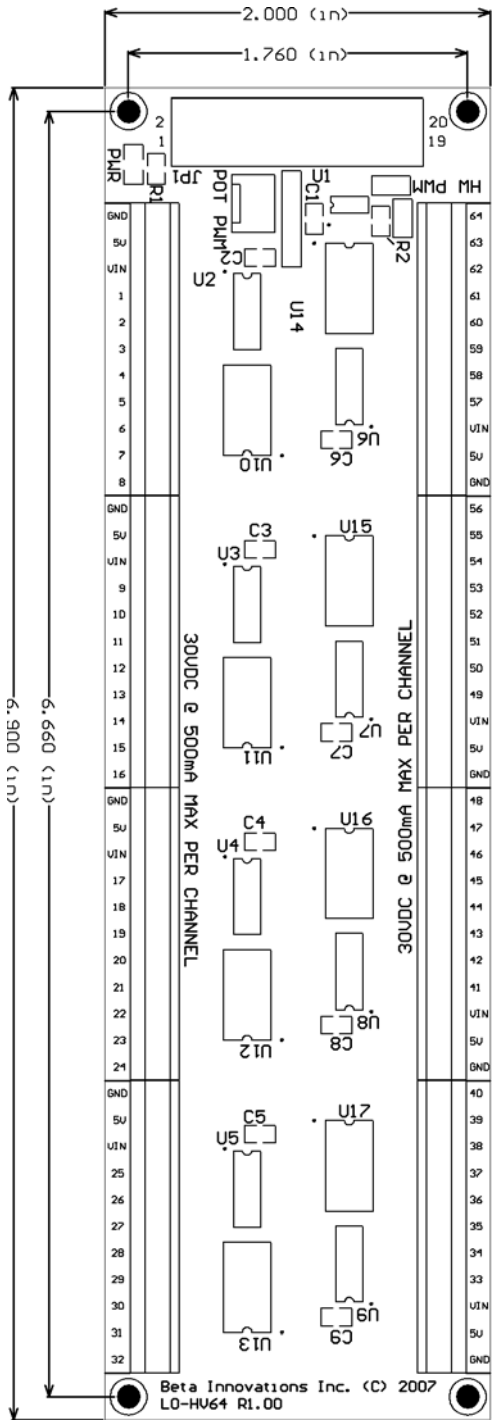
Connecting Devices to Onboard 5V

The LO-HV63 provides a 5V DC output terminal for each voltage group, eliminating the need for an external 5V PS. Total current limit is 3A as provided by the ElectronFlux module. Exceeding this limit will trip the short circuit protection on the ElectronFlux shutting down all output power until the total current falls below 3A. Care must be taken not to exceed this limit. If current greater than 3A is required, use an external 5VDC power supply capable of supplying the required current.

The following diagram illustrates the method for connecting electronic devices to the output terminals using the 5V DC output provided by the LO-HV64 card. (NOTE: VIN suppression diodes connection removed for clarity)



Mechanical Specifications



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