



High Voltage Module, HVPS1

Introduction

The High Voltage Module, HVPS1 is an integrated high voltage power supply featuring a high voltage isolated output capable of producing up to 10kV no load. When loaded, these units will typically produce a maximum output voltage of approximately 7kV at up to 1.5 Watts. They accept input voltages in the range of 0-3VDC making them perfect for battery powered applications. These units are unregulated.

Typical Applications:

- Capacitor charging
- Marx generators
- Jacob's ladders
- General high voltage applications

Electrical Specifications

The following table summarizes the electrical specifications of the power supply:

Specifications	
Input Voltage Range	0.0V to 3.0VDC Do not exceed 3.0VDC!
Input Current	<500mA typically
Output Voltage Range	>10kV (unloaded) 7kV (loaded)
Max. Output Power	1.5W

Output Voltages

The following table summarizes the approximate output voltage vs. input voltage. These were measured using a high voltage divider which represented a 70 meg load on the HVPS1 unit.

Output Voltage vs. Input Voltage	
1.0VDC input	1.4kV
2.0VDC input	4.0kV
2.5VDC input	5.0kV
3.0VDC input	7.0kV

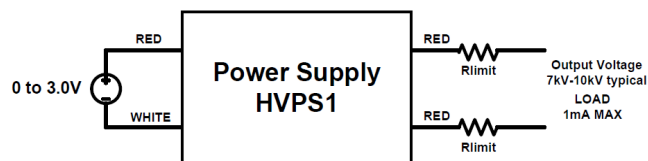
Thermal Considerations

These units have no external thermal provisions, therefore, runtimes should be kept to a minimum to prevent units from overheating. These units are considered light duty and we recommend a 50% duty cycle during operation – generally 1 minute operating, 1 minute cool down.

Short Circuit Operation

We do not recommend operating these units into a short circuit. We recommend using current limiting resistors to limit the charge current to less than 1mA.

Typical Application



Typical Hook-up Diagram

SAFETY WARNING

High voltage power supplies present a serious risk of personal injury if not used in accordance with design and / or use specifications, if used in applications on products which they are not intended or designed, or if they are used by untrained or unqualified personnel. These high voltage power supplies should only be operated by trained and experience professionals and never by anyone under the age of 18. We reserve the right to refuse sale of these high voltage modules to anyone.

ENERGY STORAGE WARNING

These devices have internal energy storage capacitors at the output. Be sure to properly discharge the output of these devices by shorting them together prior to handling as they will continue to hold a charge after power is removed from the input.

OUTPUT VOLTAGE VARIATION

Please note that these devices are not intended as precision high voltage sources. The output voltages of these units may vary considerable from unit to unit and will also vary depending on the output load conditions.