RS-232 and USB Intelligent Power Supply Serial Interface Option GE9

GE9 RS-232 and USB Intelligent Power Supply Serial Interface.

This microcontroller interface is offered as an option for Glassman High Voltage power supplies. Its purpose is to provide remote control capability of analog program signals, analog monitor signals, and digital control signals and monitors using standard RS-232 or USB interface computer control.

Features

Control Functions. Provides full computer control of all remote control functions normally provided on the user interface connector of the power supply (varies per model). Additional functions may also be available on a special order basis (consult factory).

Isolation. 2500 VRMS galvanic Isolation is provided between the host computer and the HVPS.

Communications. All communications between the host computer and the interface is by means of ASCII encoded character strings with error checking.

Since the data link between the computer and the Glassman HV Power Supply is fully dedicated and hard-wired (there are no intermediate devices such as modems), none of the RS-232C handshaking signals are required.

Conversion Resolution. 10 BIT A/D (readback) and 12 BIT D/A (program).

Commands. A complete list of controller commands and syntax is provided for user application development. No programming is required for communication with the Glassman control software provided.

Installation: Can be located up to 3 ft from the HVPS.

Control Software: Basic control software is provided to program, monitor and enable the power supply. The software is shipped pre-configured for the scale factors required for each supply.
A Pentium® class or faster PC is recommended with mouse, Windows® operating system and I/O port as follows:

Serial Port: 98, 2000 or XP.
USB port: 2000 or XP only.

Size: Only 5” L x 3” W x 1.3”H.

Construction: Control hardware is fully enclosed and shielded.

***Note**: This option must be ordered with the power supply. It cannot be added to an existing supply by the user. Contact your Glassman representative for factory upgrade availability.*

Designing Solutions for High Voltage Power Supply Applications

GLASSMAN HIGH VOLTAGE INC.

124 West Main Street, PO Box 317, High Bridge, NJ 08829-0317
(908) 638-3800 • Fax (908) 638-3700 • www.glassmanhv.com

GLASSMAN EUROPE Limited (UK)
+44 1256 883007 FAX +44 1256 883017
E-mail: Glassman_europe@glassmanhv.com

GLASSMAN JAPAN High Voltage Limited
+81 45 902 9988 FAX +81 45 902 2268
E-mail: Glassman_japan@glassmanhv.com

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Specifications

Input: Power is provided by the HVPS via the Power Supply Interface Connector.

Resolution: 0.1%, 10 bit A/D and 12 bit D/A. The accuracy of the HV output and monitors are determined by the HVPS specifications.

Protocol: RS-232C is used with single-ended transmission over relatively short lines. This standard defines the electrical characteristics for the interfacing of Data Terminal Equipment (DTE) and Data Communications Equipment (DCE). USB (Universal Serial Bus) is a cable bus that supports data exchange between a host and peripheral. A USB system is described by three definitional areas: USB interconnects, USB devices and a USB host.

The power supply Interface acts strictly as a slave device. It will not transmit any messages over the data link unless it is first queried by the host computer.

The data are conveyed using ASCII encoded character strings. Scale factors are applied to the analog data by the host computer. The instruction manual provides signal information and configuration details.

The functions that can be controlled and monitored are dependent upon the functions provided for each HVPS series.

Computer Interface connectors: Female 9 Pin "D" connector (RS-232 port). Instructions for wiring the mating connector for "null modem" operation are detailed in the instruction manual provided. USB "mini B" connector.

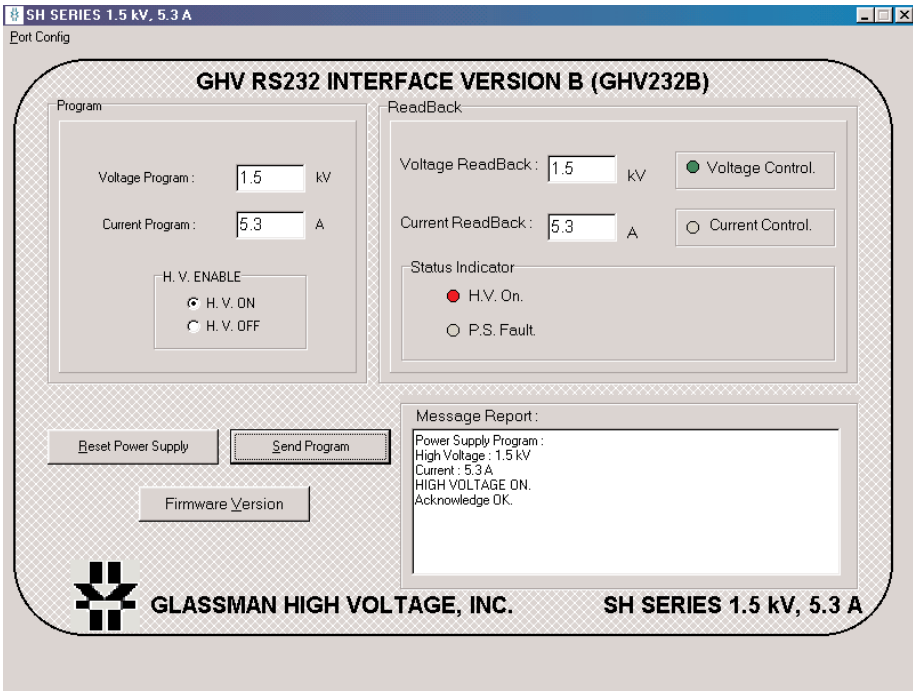
Power Supply Interface Connector: Female 25 Pin "D" connector. The signal connections vary as a function of the HVPS model.

Accessories: 3 foot shielded HVPS to controller interface cable including chassis return ground wire, 10 foot RS-232 "null modem" controller to host computer cable, 10 foot USB cable, Windows PC control software, USB serial port drivers, and Labview® drivers

Control Software: Software is provided on a CD ROM which allows the user to remotely operate the HVPS from a PC with MS Windows 98, 2000, or XP operating systems. The program consists of a main window and a pull down configuration menu. The main window allows programming and readback of the control signals, operation of the digital interface functions and reporting, and displays messages indicating the status of the HVPS and to report any errors.

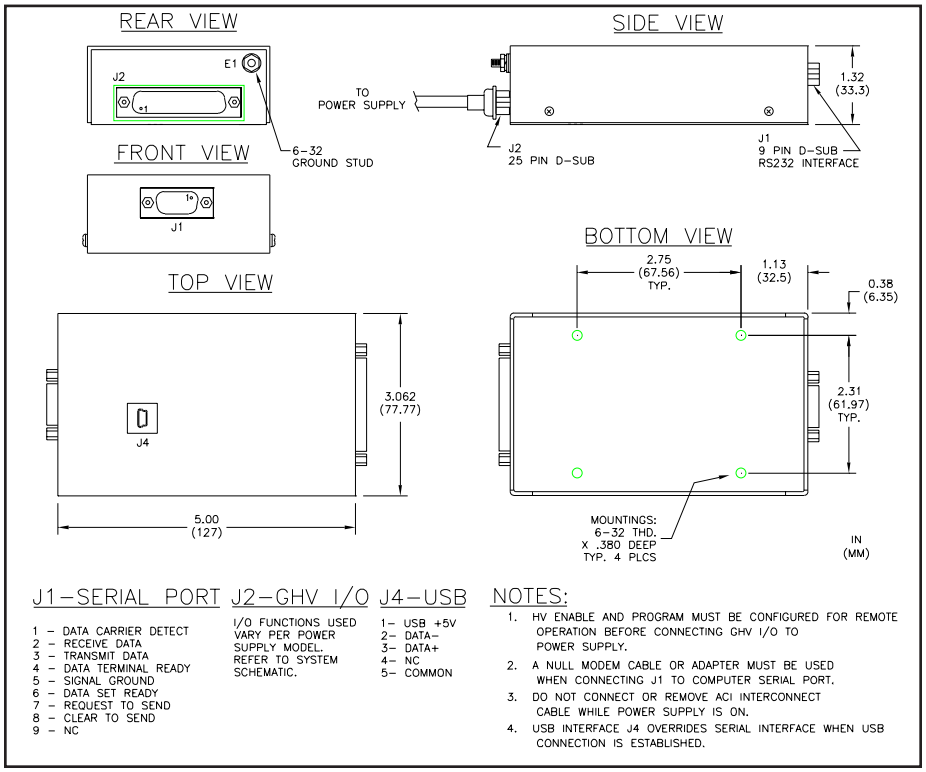
Please consult the factory for special requirements.

Program Screen



Typical program screen. (Indicators provided vary per model.)

Outline



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