



Genvolt

High Voltage Power Supplies



Sirius 1 – High Voltage Rack Mounted Laboratory Power Supply



Product Brochure

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Sirius 1



Summary

The Sirius range of high voltage power supplies are suitable for a wide range of laboratory applications.

The Sirius 1 has the output current and voltage displayed on two digital meters mounted on the front panel. Output control is achieved using two multi-turn potentiometers and an HV on / off switch, also mounted on the front panel.

The unit is available in a standard 19 inch housing.

Default control is via local controls on the front of the power supply, however, the power supply can also operate in remote mode via RS232 or RS485.

The monitoring system uses intelligent PC based software based on VB visual interface. The entire monitoring system can realise operational control of the Sirius Range of power supplies. Please contact us to discuss your requirements.



Technical Specification

| Input Specifications | |
|-------------------------|--|
| AC Input Voltage | 220VAC +/- 10% |
| Output Specifications | |
| Output Voltage | Near 0kV - 30kV, Near 0kV - 40kV, Near 0kV - 50kV, Near 0kV - 60kV |
| Output Polarity | Positive or Negative |
| Output Power | 30W, 60W, 100W |
| Stability | <0.1% |
| Line Regulation | <0.5% |
| Load Regulation | <0.5% |
| Environmental | |
| Ambient Temperature | -10°C to 40°C |
| Relative Humidity | Less than 80% non-condensing |
| Temperature Coefficient | <200ppm/°C |

Protection

Short circuit protection:

When short circuit occurs, inverter works at constant current mode, and the output voltage becomes 0.

Spark protection:

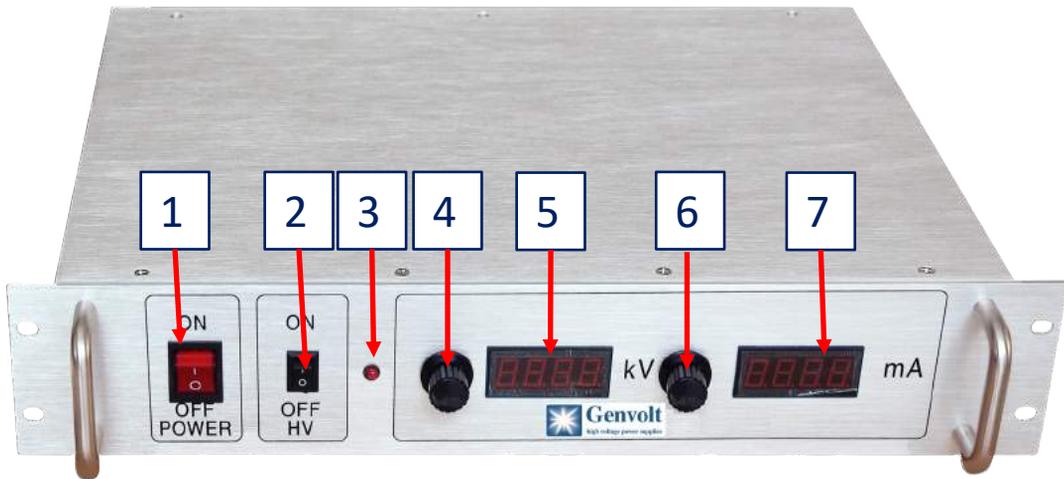
When the HV sparks over to the ground, protection circuit activates, and the output voltage becomes 0.

Overcurrent protection:

When the load current exceeds rated current, the power supply runs at protection mode, and the output voltage reduces.



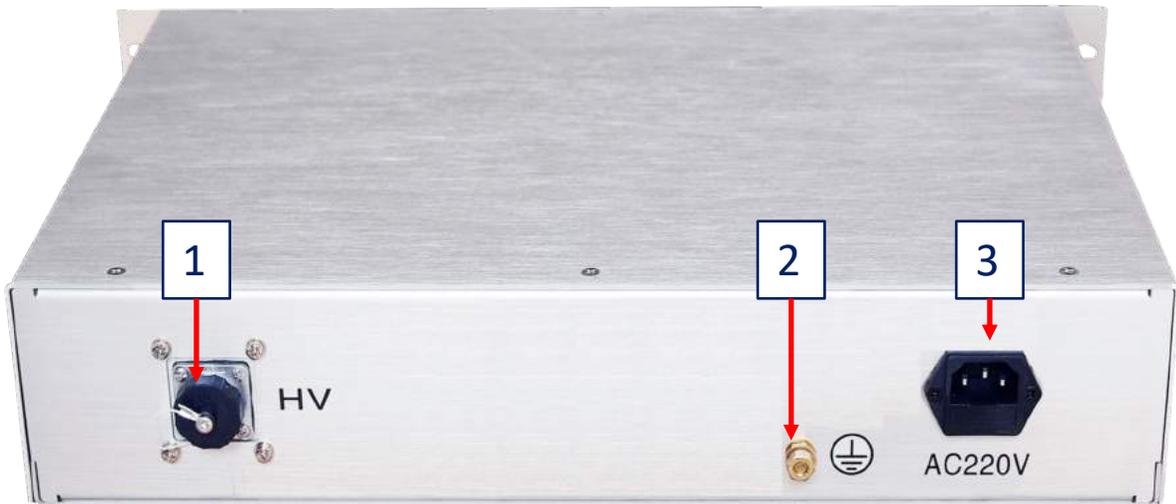
Controls



| Front | | |
|-------|------------------------------|--|
| No. | Description | Function |
| 1 | Power main switch | This switch controls the input of the entire power supply. Please ensure equipment is turned off during maintenance. |
| 2 | High Voltage switch | This switch controls the opening of high Voltage. |
| 3 | High voltage indicator | This indicator lights up when the high voltage is turned on, and goes out when high voltage is turned off. |
| 4 | High voltage setting control | Controls output voltage when in local control mode. Turn the potentiometer clockwise to increase. |
| 5 | High voltage output display | Shows the high voltage output value (kV) |
| 6 | Current Setting control | In local control mode enables user to control the output current, without adjusting the output voltage, this knob is best set the maximum output by turning the potentiometer fully clockwise. |
| 7 | Current output display | Current output value (mA) |



Controls



| Back | | |
|-------------------|----------------------|--|
| No. | Description | Function |
| 1 | HV Output | Install HV plug and rotate anticlockwise to lock (the HV output connector may vary depending on the actual product). |
| 2 | M6 for Earth bonding | In addition to the ground and the load, this terminal must also be connected to the earth. |
| 3 | Power Input | Standard 220V AC mains power. |
| Optional Controls | | Both RS232 and RS485 control attachments are available if required |



Optional Intelligent Monitoring System

The Sirius range can be installed with our BR-2H intelligent monitoring system, which includes PC software based on the VB visual interface.

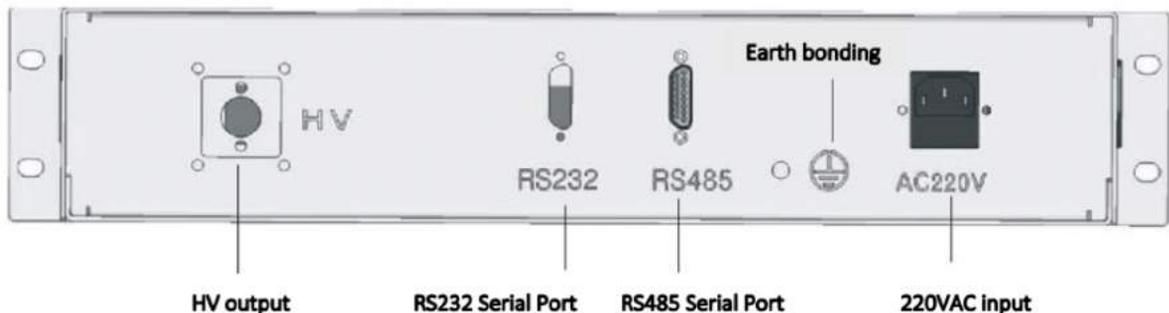
The monitoring system can realize operational control of the Sirius power supply, allowing voltage and current setting as well as recording and querying of output parameters.

The host computer program is based on visual interface of VB6.0 with COM port control to communication between the upper and lower computer, while using Microsoft Office Access 2003 database to record the power parameters, which allows for easy user query.

The host computer includes a total of 3 main interfaces –
The main interface, The record query interface and the parameter setting interface.

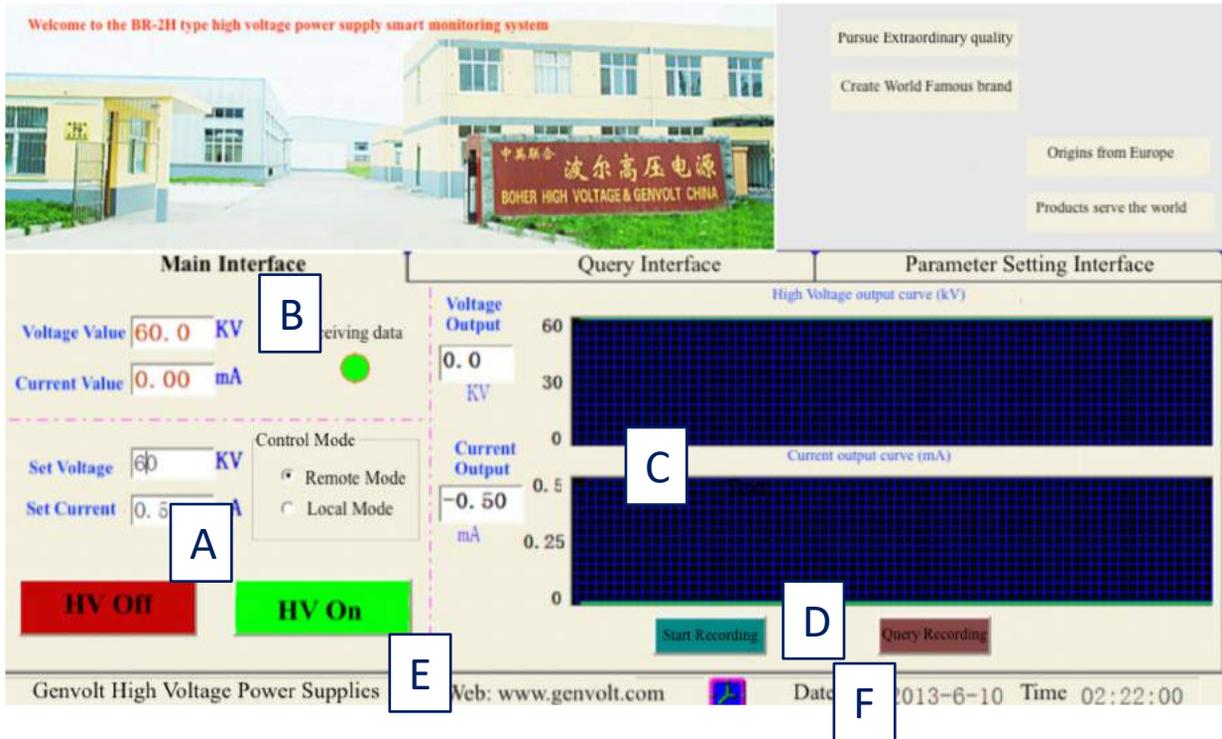
Please see the following pages for information on the different monitoring interface operations and functions.

Optional: RS232 Serial Port and RS485 Serial Port





Main Interface



A: Set the control zone, first select the remote control mode, set the output voltage and current of the power supply, and then click to turn on the high voltage, the power supply can output the corresponding high voltage, current (The load should be appropriate, the power supply is constant power output, Excessive load will lead to low output voltage, too light load will make current less

B: parameter feedback area, can see the current output high voltage and current value in real time. The communication status indicator is used to indicate the current communication status of the system, the green light is the normal receiving data, and the blue light is the system is in sending mode or communication failure.

C: High voltage and current output curves are used to visually reflect the output trend of the power supply and can reflect the output stability of the power supply.

D: power output parameter operating area, click the start record button, the database can be recorded according to the set recording cycle (output voltage, current, deviation value, record time) Click the query record button, you can switch to the record query interface, For details about the interface functions, see the record query interface. If the system is turned on, the recording stops temporarily.

E: Company name, website introduction.

F: System Time.



Record Query Interface

Welcome to the BR-2H type high voltage power supply smart monitoring system

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Origins from Europe
Products serve the world

Main Interface | Query Interface | Parameter Setting Interface

Enter Date and time Query [2013-6-1 Time 02:27:25] A Default [2013-6-10 Time 02:27:25]

| Run | time | Kv | IO | RateU | RateI |
|----------|------------------------------|------|-----|-------|-------|
| 00000001 | 2013-6-10 Time 10:33:40.25.7 | 0.18 | 0.7 | -0.32 | |
| 00000002 | 2013-6-10 Time 10:33:41.25.6 | 0.18 | 0.6 | -0.32 | |
| 00000003 | 2013-6-10 Time 02:27:21 | 0.00 | 0.0 | -0.50 | |
| 00000004 | 2013-6-10 Time 02:27:22 | 0.00 | 0.1 | -0.50 | |
| 00000005 | 2013-6-10 Time 02:27:23 | 0.00 | 0.0 | -0.50 | |
| 00000006 | 2013-6-10 Time 02:27:24 | 0.00 | 0.1 | -0.50 | |
| 00000007 | 2013-6-10 Time 02:27:25.00.1 | 0.00 | 0.1 | -0.50 | |

Start Query D Main Interface

Voltage KV
Current mA

C Query Abnormal Changes

For checking sparks during the testing period (the period can be set depending on the enquiry time shown above)

A: Enter the query time, and click Query Record on the main interface. The default time is the current moment, and change according to actual needs.

B: Used to display all records and change rate exception records within the query start time.

C: used to query abnormal changes in the rate of change in the initial time, for example: If a discharge occurs, the voltage change rate will vary greatly. According to this judgment, the number of discharges in the initial time can be easily found. number.

D: Click to start the query, then all records in the beginning moment will be displayed in zone B. Click to return to the main interface, the focus returns to the main interface, the main interface displays, at this time, if the system is turned on, it will be recorded when returning to the main interface.



Parameter Setting Interface

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Main Interface Query Interface Parameter Setting Interface

Please select Serial Port:

Maximum Output Voltage: KV

Maximum Output Current: mA

Recording Period: S/

Note: Please set the maximum voltage, current, recording cycle and serial port according to the actual situation. The default port is set to COM1. It can be set to other serial ports through the drop-down menu if COM1 is occupied.

Enter/Update Main interface

Interface expansion arrows: >>>

A: Used to set the communication serial port. The default is COM1.

B: Click Enter\Update to enter all the parameters (serial port, maximum output voltage, maximum output current, recording period) into the database, and click to return to the main interface. The main interface is displayed.

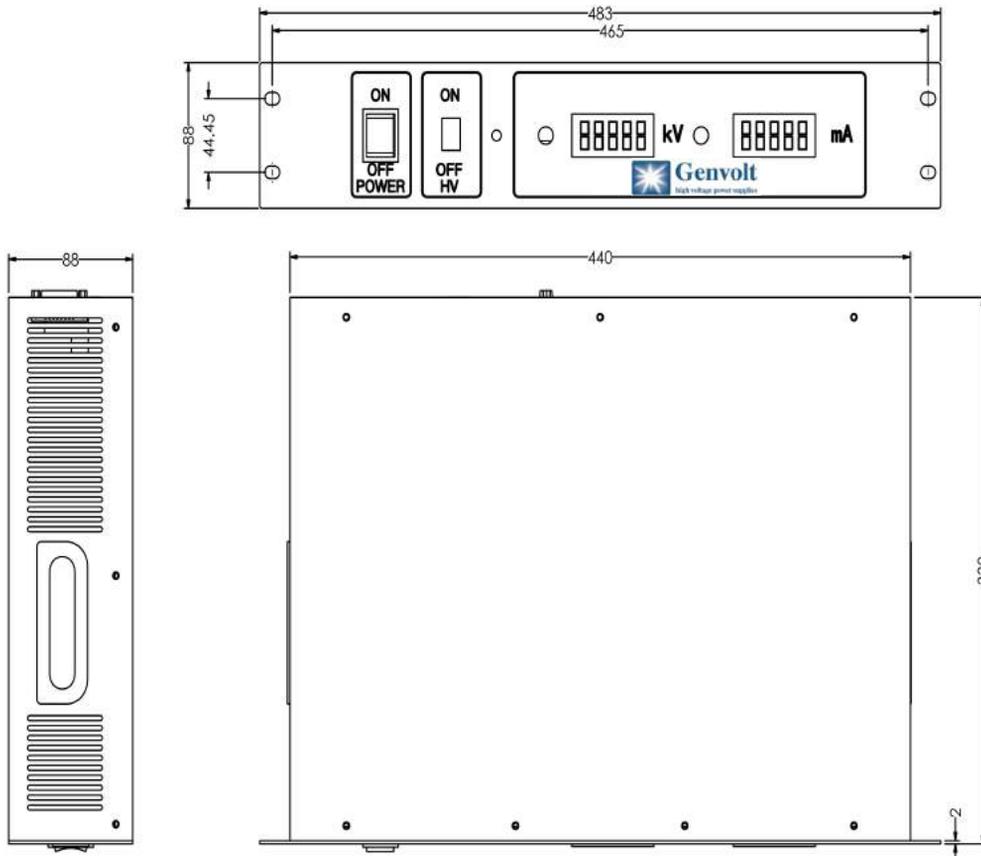
C: Set the power supply and system parameters. The maximum output voltage and current are set according to the specific conditions. The recording period is used to set the interval for the system to enter data into the database.

D: Interface expansion arrows: Used to expand and reduce the interface.



Dimensions

Height – 88mm
Width – 483mm
Length – 330mm



Safety

This power supply contains hazardous voltages and stored energy. Contact with the output may result in fatal injury. It should only be used and maintained by trained personnel. Please check the following before switching the power supply on –

- The area where the power supply is to be used should be kept clean and dry.
- Before switching the power supply on please confirm that the 10-turn potentiometer is turned fully in counter-clockwise.
- Keep a safe distance from the output connector and any items connected to it.
- Ensure that a secure connection is made between the Earth side of the load and the green and yellow Earth lead.
- Please do not hesitate to contact us at info@Genvolt.co.uk



Global Presence



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