

## R8034H

# 8-16 Channel 6 kV/20 $\mu$ A Rack 19' HV Power Supply (USB/Ethernet/Touchscreen)



## Features



- 8 or 16 independent channels in a 19" rack unit (110/220V AC Powered)
- 100 V / 10 mA output range
- Channels with either positive or negative polarity
- BNC coaxial output connectors
- Temperature probe input
- Low Ripple
- Under/over-voltage alert, overcurrent and max. voltage protection
- Interlock logic for board enable and Individual channel kill
- 50 nA current monitor resolution (with x10 Imon-Zoom: 5 nA)
- 2.8" color touch screen display
- Local and Remote control (USB2.0/Ethernet)
- Software Tools for easy channel management

## Description

The CAEN **Mod. R8034H** provides **8 or 16** independent 6 kV /1 mA channels in a 19" rack unit (110/220V AC Powered). Each channel can provide a **6 kV** max voltage and a **20  $\mu$ A** max current. The unit is available with positive, negative and "mixed" (4 positive and 4 negative) channels.

Channels outputs are delivered through SHV connectors. The HV output RAMP-UP and RAMP-DOWN rates may be selected independently for each channel in the range 1÷500 V/s in 1 V/s steps. The module features 100 pA Iset resolution.

Module control can take place either **locally** thanks to a **2.8" Touchscreen Graphic color LCD display** with a completely redesigned user interface or **remotely**, via **USB 2.0** or **Ethernet**.

### SHV connector

19" 2U, 8/16 channels for Mod. R8034H

Consult our **connectors reference page** for technical information.

A complete set of **Software Tools** is available to control these units; the user can freely download low level libraries, LabVIEW driver and Graphical application software.

Safety features allows the module to perform as a current generator and includes:

### Overvoltage and Undervoltage warning

When the output voltage differs from the programmed value by more than 2% of set value (minimum 10V).

### Overcurrent detection

When a channel attempts to exceed the programmed current limit, it signalled to be in "overcurrent" and enter in a TRIP status. The output voltage is varied to keep the current below the programmed limit for a programmable TRIP time, then the channel is switched off. If TRIP is set to "constant current mode", the channel behaves like a current generator.

### Hardware VMAX and IMAX

Maximum output voltage and maximum current value can be fixed, via front panel potentiometer, at the same common value for all the board channels. IMAX and VMAX values can be read out via software.

### Safety Board Interlock

Common Interlock logic for channels enable/disable and individual inputs signal for channel Kill function.

## Technical Specifications

### Packaging

19" rack (h: 2U; d: 360mm). 110/220V AC Powered

### Output Channels

8-16 channels, SHV connector Positive, Negative or Mixed (4-8 positive and 4-8 negative) Polarity; common ground

### Output Voltage

0÷6 kV

### Max. Output Current

20  $\mu$ A

### Max. Ch. Output Power

0.12 W

### Vset Resolution

20 mV

### Vmon Resolution

20 mV

### Iset Resolution

100 pA

### Imon Resolution

100 pA (high range) / 10 pA (low range)

### Vmax

0 ÷ 6 kV

### Vmax resolution

2 V

### IMAX hardware

20  $\mu$ A

### IMAX hardware resolution

20 nA

### Ramp Up/Down

1÷500 Volt/s, 1 Volt/s step

## Trip

Max. time an “overcurrent” can last (seconds). A channel in “overcurrent” works as a current generator; output voltage varies in order to keep the output current lower than the programmed value. “Overcurrent” lasting more than set value (1 to 9999) causes the channel to “trip”. Output voltage will drop to zero either at the Ramp-down rate or at the fastest available rate, depending on Power Down setting; in both cases the channel is put in the OFF state. Trip range: 0 ÷ 999.9 s; 1000 s = INFINITE. Step = 0.1 s (If trip= INFINITE, “overcurrent” lasts indefinitely)

## Voltage Ripple

10 - 1000 Hz: < 4mVpp typ; < 8 mVpp max 1kHz - 20 MHz: < 2mVpp typ; < 5 mVpp max

## Vmon vs. Vout Accuracy

± 0.02% ± 1V

## Vset vs. Vout Accuracy

± 0.02% ± 1V

## Imon vs. Iout Accuracy

± 0.2% ± 20 nA

## Iset vs. Iout Accuracy

± 0.2% ± 20 nA

## Humidity range

0 ÷ 80% non condensing

## Operating temperature

0 ÷ 45°C

## Storage Temperature

-10 ÷ 70°C

## Vout / Temperature coefficient

±50 ppm / °C

## Long Term stability (1 week after 1h warmup)

±0.02% / full scale

## Local Control

LCD touchscreen

## Remote Control

USB & Ethernet

## Ordering Options

Code	Description	
WR8034HDXMAA	R8034HDM - Rack-mount Programm. HV P.S. (8ch -6kV 20 $\mu$ A, 8ch +6kV 20 $\mu$ A) 50pA res - SHV conn. - C. Gnd	RoHS
WR8034HDXNAA	R8034HDN - 16CH Rack-mount Programmable HV Power Supply (-6kV 20 $\mu$ A) 50pA res - SHV conn. - C. Gnd	RoHS
WR8034HDXPAA	R8034HDP - 16CH Rack-mount Programmable HV Power Supply (+6kV 20 $\mu$ A) 50pA res - SHV conn. - C. Gnd	RoHS
WR8034HXMAAA	R8034HM - Rack-mount Programm. HV P.S. (4ch -6kV 20 $\mu$ A, 4ch +6kV 20 $\mu$ A) 50pA res - SHV conn. - C. Gnd	RoHS
WR8034HXNAAA	R8034HN - 8CH Rack-mount Programmable HV Power Supply (-6kV 20 $\mu$ A) 50pA res - SHV conn. - Common Gnd	RoHS
WR8034HXPAAA	R8034HP - 8CH Rack-mount Programmable HV Power Supply (+6kV 20 $\mu$ A) 50pA res - SHV conn. - Common Gnd	RoHS

## Accessories

### A1483

Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

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### A1484

Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

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### A148x



Inhibit - Kill Signal BNC Adapter for HV Power Supply Modules

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## HV CABLES

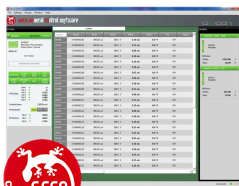


High Voltage Cable Assemblies

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## Related Software

### GECO2020



General Control Software for CAEN HV Power Supplies

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## Related Products

### LabVIEW Driver (PSM - Power Supply Modules)



LabVIEW Instrument Driver for Power Supply Modules

#### R8031



8-16 Channel 100 V / 10 mA 19" Power Supply Module (USB/Ethernet/Touchscreen)

#### R8033



8-16 Channel 4 kV/ 3 mA (6W) 19" Power Supply Module (USB/Ethernet/Touchscreen)

#### R8032



8-16 Channel 500 V/10 mA 19" Power Supply Module (USB/Ethernet/Touchscreen)

#### R8034



8-16 Channel 6 kV/1 mA Rack 19' HV Power Supply (USB/Ethernet/Touchscreen)

# Gallery



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