

# HV RACK CONFIGURABLE SERIES

## RACK MOUNT HIGH VOLTAGE POWER SYSTEM



The HV Rack Configurable power system is a fully featured, configurable chassis, enabling end users to select and to specify the Advanced Energy high voltage power supply (HVPS) operating in each channel from Advanced Energy's catalog of more than 600 models. This combination provides accurate control and measurement of high voltage power supply and HV system performance.

### PRODUCT HIGHLIGHTS

- 1 to 4 configurable high voltage output channels
- Voltage ranges from 0 to 62 VDC through 40 kV
- 4 to 1000 watts per channel, up to 1000 watts total
- Independent control and monitoring of each channel
- Voltage and current meters for each channel
- Constant current/constant voltage auto-crossover
- Pre-set before and during bias capability
- PLC Analog remote operation capability

## HV RACK CONFIGURABLE SERIES

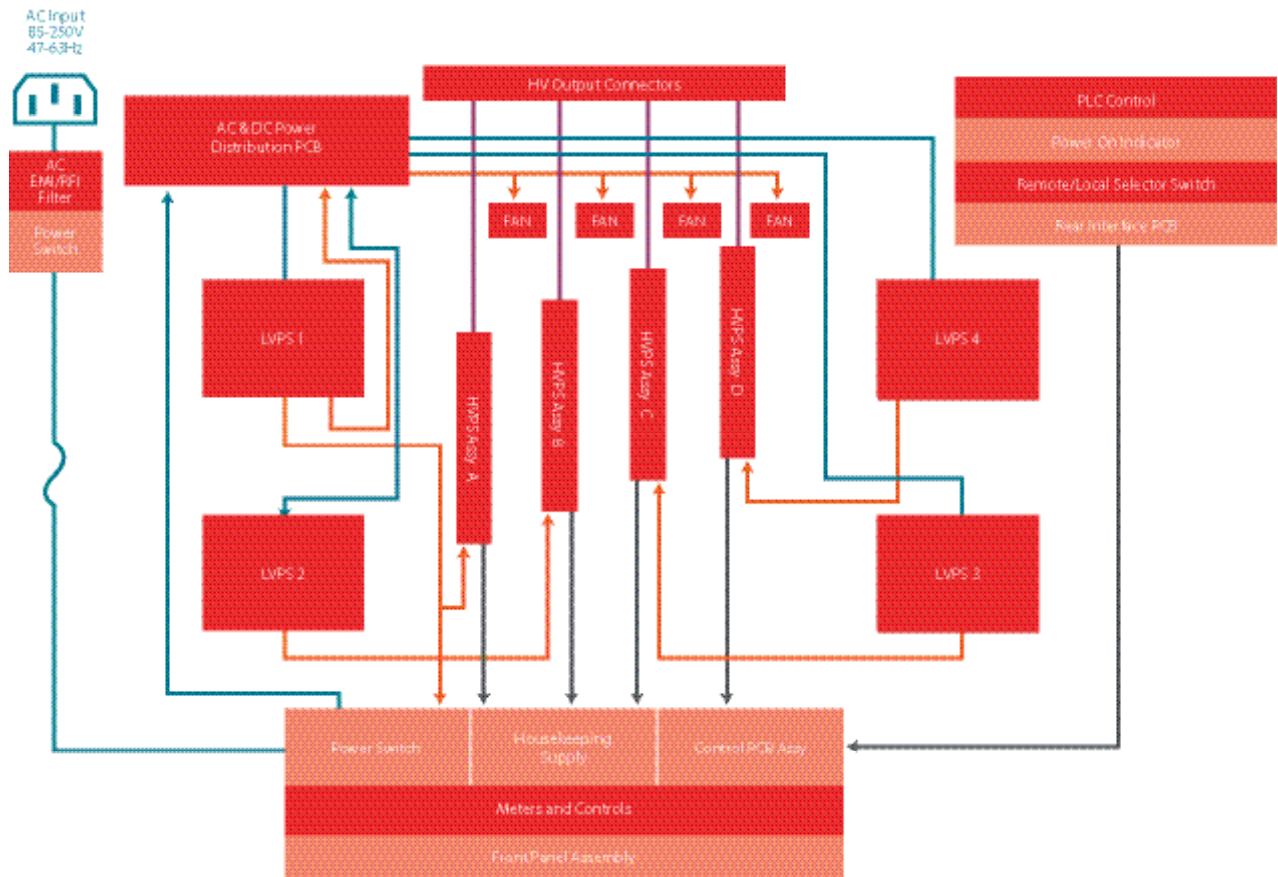
### ELECTRICAL SPECIFICATIONS

Parameter	Conditions	Models			
AC Input		HV Rack X-250	HV Rack X-500	HV Rack X-750	HV Rack X-1000
Voltage	Full Power	115/230 VAC, 50/60 Hz	115/230 VAC, 50/60 Hz	230 VAC, 50/60 Hz	230 VAC, 50/60 Hz
Power	120 VAC, Max Eout , Full Load	375 W	750 W	N/A	N/A
Power	240 VAC, Max Eout , Full Load	375 W	750 W	1125 W	1500 W
Remote Control		All Models			
Enable	All Channels	TTL high to enable, low to disable (DEFAULT IS DISABLE)			
V Control	All Channels	0 V to 4.64 V = 0 V to 100% HV out (5 V = 108% HV out)			
HV Monitor	All Channels	0 V to 4.64 V = 0 V to 100% V out (5 V = 108% V out)			
I Control	All Channels	0 V to 4.64 V = 0 A to 100% Io (5 V = 108% Io)			
I Monitor	All Channels	0 V to 4.64 V = 0 A to 100% Io (5 V = 108% Io)			
Reference Out	All Channels	5 V precision voltage reference returned to signal ground			
LVPS Out	One Signal, PTC Fused	+15 V ±10%, 0 to 100 mA			
Power Ground	One Signal	Return of LVPS Out			
Global Disable	One Signal	TTL signal disables all Channels, low to enable, high to disable (DEFAULT IS ENABLE)			
Output Meters	Type of Channel	Type of Channel	Tolerance		
Voltage	4½ Digit Red LED	All	1% Full Scale		
Current	3½ Digit Blue LED	All	1% Full Scale		

Environmental		
Operating	Full Load, Max Eout, Case Temp.	+10°C to +45°C
Storage	Non-Operating, Case Temp.	-40°C to +85°C
Humidity	All Conditions, Standard Package	0 to 95% non-condensing
Altitude	Operating	0 to 10,000 ft
Altitude	Storage	0 to 50,000 ft

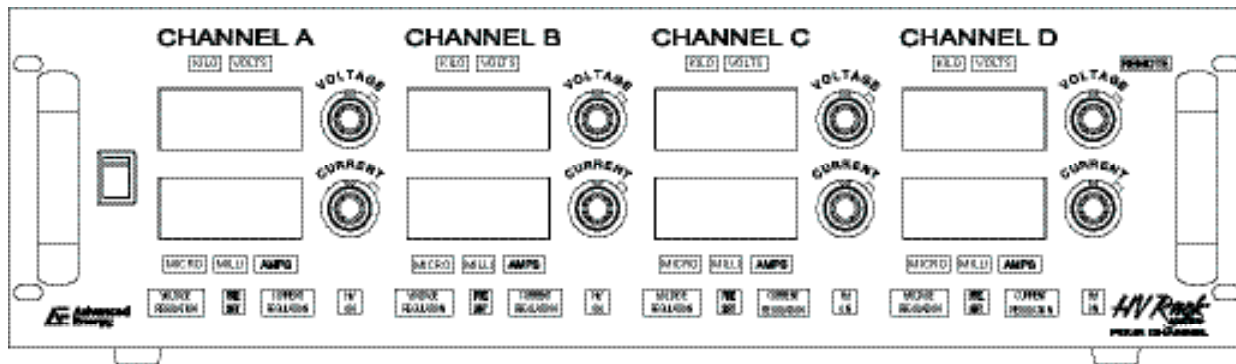
Packaging		
Chassis Length	Not including mounting feet	18.5 in (469.9 mm)
Chassis Width	Not including mounting feet	17.0 in (431.8 mm)
Chassis Height	Not including mounting feet	5.0 in (127.0 mm)
Front Panel Length	Not including handles or controls	19.0 in (482.6 mm)
Front Panel Width	Not including handles or controls	0.125 in (3.18 mm)
Front Panel Height	Not including handles or controls	5.25 in (3U or 133.35 mm)
Weight	Overall (configuration dependent)	~30 lbs (11.2 kg)
Weight	Shipping (configuration dependent)	~40 lbs (14.93 kg)

HV RACK CONFIGURABLE SYSTEM DIAGRAM

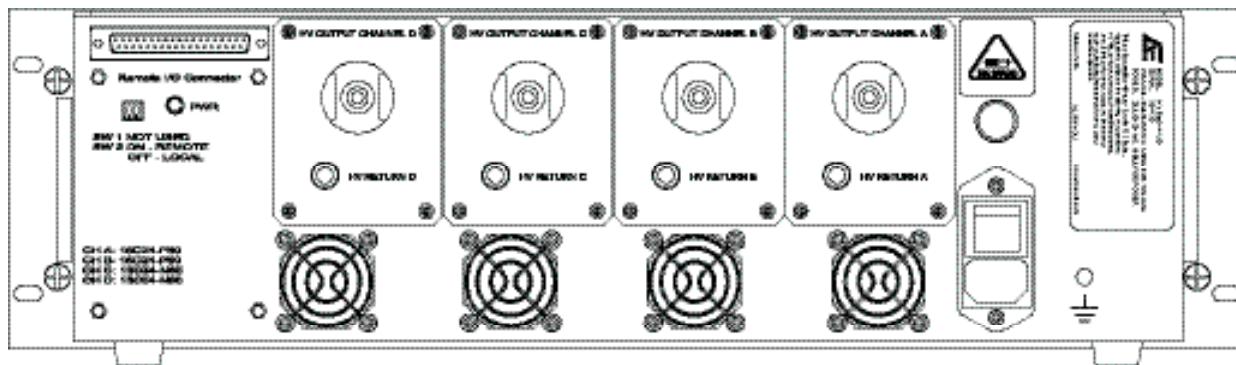


HV RACK CONFIGURABLE SYSTEM DIAGRAM (CONTINUED)

Front Panel



Rear Panel (Example)



ORDERING INFORMATION

Type	Description
HV-RACK-1-250	19" HV Rack with (1) set of meters and controls with 300 watts of LV power configured for: One channel 250 W max total output.
HV-RACK-1-500	19" HV Rack with (1) set of meters and controls with 600 watts of LV power configured for: One channel 500 W max total output.
HV-RACK-1-750	19" HV Rack with (1) set of meters and controls with 900 watts of LV power configured for: One channel 750 W max total output.
HV-RACK-1-1000	19" HV Rack with (1) set of meters and controls with 1200 watts of LV power configured for: One channel 1000 W max total output.
HV-RACK-2-250	19" HV Rack with (2) sets of meters and controls with 300 watts of LV power configured for: Two channels 250 W max combined output.
HV-RACK-2-500	19" HV Rack with (2) sets of meters and controls with 600 watts of LV power configured for: Two channels 500 W max combined output.
HV-RACK-2-750	19" HV Rack with (2) sets of meters and controls with 900 watts of LV power configured for: Two channels 750 W max combined output.
HV-RACK-2-1000	19" HV Rack with (2) sets of meters and controls with 1200 watts of LV power configured for: Two channels 1000 W max combined output.
HV-RACK-3-250	19" HV Rack with (3) sets of meters and controls with 300 watts of LV power configured for: Three channels 250 W max combined output.
HV-RACK-3-500	19" HV Rack with (3) sets of meters and controls with 600 watts of LV power configured for: Three channels 500 W max combined output.
HV-RACK-3-750	19" HV Rack with (3) sets of meters and controls with 900 watts of LV power configured for: Three channels 750 W max combined output.
HV-RACK-3-1000	19" HV Rack with (3) sets of meters and controls with 1200 watts of LV power configured for: Three channels 1000 W max combined output.
HV-RACK-4-250	19" HV Rack with (4) sets of meters and controls with 300 watts of LV power configured for: Four channels 250 W max combined output.
HV-RACK-4-500	0 19" HV Rack with (4) sets of meters and controls with 600 watts of LV power configured for: Four channels 500 W max combined output.
HV-RACK-4-750	19" HV Rack with (4) sets of meters and controls with 900 watts of LV power configured for: Four channels 750 W max combined output.
HV-RACK-4-1000	19" HV Rack with (4) sets of meters and controls with 1200 watts of LV power configured for: Four channels 1000 W max combined output.

Note: The sum of the output power capability of the modules cannot exceed the total rack power capability. Please contact the factory to configure your HV Rack part number. Exceeding 250W in a single channel is possible by paralleling Advanced Energy's High-Power C Series of 250 W models.

Connectors and Options	
Standard HV Connector	Alden B-Series 40kV connector (one per channel)
Available Options	Floating/Isolated Channels <sup>1</sup>
	SHV Connectors <sup>2</sup>
	Alden Connectors
	Removable Mounting Feet

1. 15k Vdc maximum isolation, power 4W and 20W for output voltage up to 6kV, power 4W and 15W for output voltage up to 15kV.

2. SHV-5kV output voltages up to 4kV, BNC -10kV output voltages up to 10kV.



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## ABOUT ADVANCED ENERGY

Since 1981, Advanced Energy (AE) — and its UltraVolt® family of products — has perfected how power performs for its customers. For both end users and OEMs, AE's comprehensive portfolio of standard and custom high voltage components precisely match system specifications to deliver unparalleled energy, quality, and performance. Through close customer collaboration, design expertise, application insight, and world-class support, AE creates successful partnerships and enables customers to push the boundaries of innovation and stay ahead of evolving market needs.

PRECISION | POWER | PERFORMANCE



**CAUTION:**  
High Voltage

Read and understand all documentation before you install, operate, or maintain Advanced Energy high voltage power supplies. Follow all safety instructions and precautions to protect against property damage and serious or possibly fatal bodily injury. Never defeat safety interlocks or grounds.

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