E SERIES

Precision High Voltage Power Supply

The E Series of precision high-voltage power supplies has very low ripple, excellent linearity, and very stable temperature characteristics. Models in this series are offered with a 10ppm temperature coefficient and reference. The control and monitoring functions are available on a standard DB15 female connector.

Typical applications for the E Series include the following: mass spectrometry, electron beams, ion beams, and contraband detection.

- Precision output voltage from 0 to 1kV thru 0 to 15kV
- 4, 15/20, or 30 watts of output power
- Maximum Iout capability down to 0 Volts
- Current regulation standard
- Wide input voltage range
- Output current monitor
- As low as 10ppm temperature coefficient and reference
- PPM level ripple
- PPM level regulation and stability

PARAMETER	CONDITIONS	MODELS																		UNITS
INPUT		ALL TYPES																		
Voltage Range	Full Power	+ 23 to 30																		VDC
Current	Standby / Disable	< 50																		mA
Current	No Load, Max Eout	< 325																		mA
Current	Full Load, Max Eout	2.5																		A
AC Ripple Current	Nominal Input, Full Load	< 10																		mA p-p
OUTPUT		1E			2E			4E			6E			10E			15E			
Voltage Range	Nominal Input	0 to 1,000			0 to 2,000			0 to 4,000			0 to 6,000			0 to 10,000			0 to 15,000			VDC
Nominal Input Voltage / Model		24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	VDC
Power	Nominal Input, Max Eout	4	20	30	4	20	30	4	20	30	4	20	30	4	15	30	4	15	30	Watts
Current	Iout Entire Output Voltage Range	4	20	30	2	10	15	1	5	7.5	0.67	3.3	5	0.4	1.5	3	0.26	1	2	mA
Voltage Monitor	Normal Operating Conditions	0 to 10 ±0.5%																		VDC
Current Monitor	Normal Operating Conditions	0 to 10 ±0.1%																		VDC
Ripple	Full Load, Max Eout	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	PPM
Line Regulation	Nom. Input, Max Eout, Full Power	< 25ppm or < 10ppm																		VDC
Static Load Regulation	No Load to Full Load, Max Eout	<25ppm or < 10ppm																		VDC
Stability	30 Min. warmup, per 8 hr/ per day	< 25ppm or < 10ppm																		VDC
PROGRAMMING & CONTROLS		ALL TYPES																		
Input Impedance	Nominal Input	10																		MΩ
Adjust Accuracy & Adjust Linearity	10% to 100%	0.5%																		%
Adjust Voltage	Differential	0 to +10																		VDC
Output Voltage	T= +25°C, Initial Value	+10.00 ± 0.05%																		VDC
Max Source Current	T= +25°C	1																		mA
Output Impedance	Normal Operating Conditions	Buffered, low impedance, 2mA max for source/sink current																		-
Enable/Disable		0 to +0.8 Disable, +2.5 to 10 Enable (Default = Disable)																		VDC
ENVIRONMENTAL		ALL TYPES																		
Operating	Full Load, Max Eout, Case Temp.	+10 to +45																		°C
Temperature Coefficient	Over the Specified Temperature	± 25 or ± 10																		PPM/°C
Thermal Shock	Mil-Std 810, Method 504, Class 2	-40 to +65																		°C
Storage	Non-Operating, Case Temp.	-55 to +105																		°C
Humidity	All Conditions, Standard Package	0 to 95% non-condensing																		-
Altitude	Standard Package, All Conditions	Sea Level through 10,000																		ft
Shock	Mil-Std-810, Method 516, Proc. 4	20																		G's
Vibration	Mil-Std-810, Method 514, Fig. 514-3	10																		G's

Specifications subject to change without notice.

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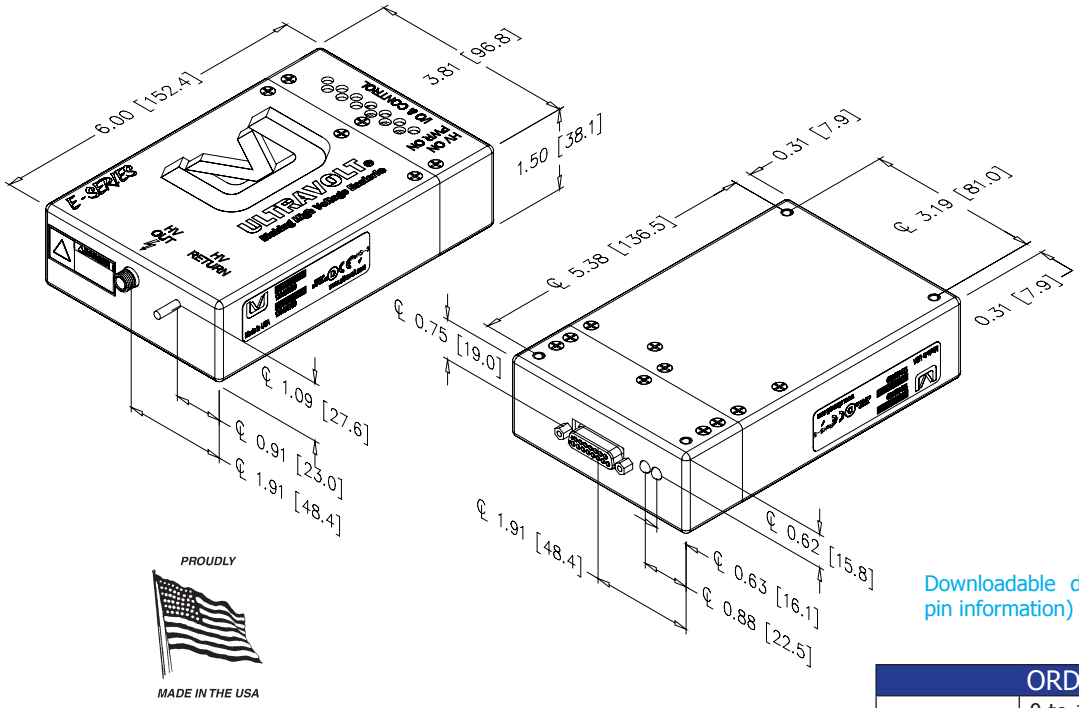

CONSTRUCTION

Material: Aluminum Alloy 5052-H32
Finish: Anodize MIL-A-8625E Blue

SIZE

Volume 34.29 in³ (561.9cc)
Weight 2.4lbs (1.1kg)

TOLERANCE

Overall ± 0.030" (1.27)
Pin to Pin ± 0.015" (0.38)
Mounting Hole Location ± 0.025" (0.64)

CONNECTIONS

D-Sub 15 Pin Female
HV Connector, LGH1/2L
HV Return, #6-32 x 0.437 Long Threaded Post

Downloadable drawings (complete with mounting & pin information) and 3D models are available online.

RoHS COMPLIANT Non-RoHS compliant units are available. Please contact the factory for more information.

CE c UL us IEC-60950-1

E SERIES INPUT CONNECTOR PINOUT AND FUNCTIONS		
PIN	DESCRIPTION	FUNCTION
1	Reference Voltage	(+)10.00V precision reference
2	Voltage Programming -	0 to 10 volts to program full output voltage Programming input is differential between pins 2 and 3
3	Voltage Programming +	
4	Voltage Monitor	0 to +10 volts represents 0 to full output voltage
5	Voltage Mode Indicator	Open drain active low when in voltage control
6	Signal Ground	Reference all control signals here
7	Input Power	+23 to +30V
8	Input Power	
9	Power Ground	Input Power Return
10	Power Ground	
11	Enable	TTL high to enable, low to disable, default is OFF
12	Current Monitor	0 to +10 volts represents 0 to full output current
13	Current Programming	0 to +10 volts sets current from 0 to full rated output current
14	Current Mode Indicator	Open drain active low when in current control
15	Signal Ground	Reference all control signals here

NOTE: Use stud next to High Voltage output connector as HV Return, a secure ground connection here is critical to safety and proper operation.

ORDERING INFORMATION		
Type	0 to 1,000 VDC Output	1E
	0 to 2,000 VDC Output	2E
	0 to 4,000 VDC Output	4E
	0 to 6,000 VDC Output	6E
	0 to 10,000 VDC Output	10E
	0 to 15,000 VDC Output	15E
Input	24V Input	24
Polarity	Positive Output	-P
	Negative Output	-N
Power	4 Watts Output	4
	15 Watts Output (10kV & 15kV only)	15
	20 Watts Output (1kV to 6kV only)	20
	30 Watts Output	30
Performance Level	10ppm Line/Load Regulation, Stability, and Temp. Co.	-10PPM
	25ppm Line/Load Regulation, Stability, and Temp. Co.	-25PPM
Connectors	LGH	(Standard)
	5kV, SHV Type	-SHV-5KV
	10kV, BNC Type	-BNC-10KV

Example: 2E24-P20-10PPM

Type — Voltage — Model — Input — Polarity — Power — Performance Level

Popular accessories ordered with this product include our full range of high voltage output connectors (see Accessories & Connectors data sheet).

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