



HVPSI

UMR-AA Series

125 – 6,000 Volts, 4 – 30 Watt
DC / DC High Voltage Power Supply

FEATURES

- 4, 20, or 30 Watts of Output Power
- Regulated Output Voltage from V_{OUT} Max to True 0
- Wide Input Voltage Range
- Low Ripple
- Indefinite Output Short Circuit Protection
- Output Current and Voltage Monitors
- Fixed-Frequency, Low-Stored-Energy Design
- UL / cUL Recognized Component; CE Mark (LVD and RoHS)



The UMR-AA Series are standard DC / DC high voltage power supplies designed to give industry leading performance and value. They offer all of the standard features expected from this type of supply including external current and voltage monitoring with regulated output, in a form factor designed to be a drop-in replacement for existing designs.

SPECIFICATIONS

		Conditions			Value	Units		
Input					4 W	20 W	30 W	
Voltage	Nominal				+12	+24	+24	VDC
Voltage Range	Full Power				+11 to 16	+23 to 30	+23 to 30	VDC
Voltage Range	Derated Power Range				+10 to 32	+10 to 32	+10 to 32	VDC
Current	Standby / Disable				< 80	< 80	< 80	mA
Current	No Load, Max Vout				< 150	< 150	< 150	mA
Current	Max Load, Max Vout				< 500	< 1000	< 1500	mA
AC Ripple Current	Nominal Input, Full Load				< 100	< 100	< 100	mA PP
Output								
Static Load Regulation	No Load to Full Load, Max Vout						< 0.01	% VDC
Line Regulation	Nom. Input, Max Vout, Full Power						< 0.08	% VDC
Stability	30 min. warmup, per 8 hr / per day						< 0.01 / < 0.02	% VDC
Programming & Controls								
Input Impedance	Nominal Input				Positive Output Models 1.5 M Ω to SIGGND		M Ω	
					Negative Output Models 1.1 M Ω to VREF		M Ω	
Adjust Reference	Typical Potentiometer Value				10K to 100K (Pot Across VREF & Signal Ground, Wiper to Adjust)		Ω	
Adjust Logic	Positive Models				+0 VDC to +4.64 VDC = 0 to 100% HVOUT			
	Negative Models				+5 VDC to +0.36 VDC = 0 to 100% HVOUT			
Reference Voltage	T = +25°C				+5.00 VDC \pm 0.5%			
Enable/Disable	Default HV Enable				0 to +0.5 Disable, +2.4 to 32 Enable		VDC	
Environmental								
Operating Temp.	Case Temp., Full Load, Max Vout				-40 to +65		°C	
Temp. Coefficient	Over the Specified Temperature				\pm 50 (\pm 25 Optional*)		PPM/°C	
Thermal Shock	Mil-Std 810, Method 503-4, Proc. II				-40 to +65		°C	
Storage Temperature	Non-Operating, Case Temp.				-55 to +105		°C	
Operational Humidity	All Conditions, Standard Package				0 to 95% non-condensing		-	
Altitude	All Conditions, Standard Package				Sea Level through Vacuum		-	
Shock	Mil-Std. 810, Method 516.5, Proc. IV				20		G	
Vibration	Mil-Std. 810, Method 514.5, Fig. 514.5C-3				10		G	

Note: Typically, convection cooled. Units operating at full power might require additional cooling to maintain case temperature below 65°C. Damage to the power supply may occur if not appropriately cooled during use.



MODELS*

Model Number	Output V	Output Current	High Freq. ¹ Ripple	Output Capacitance	I _{MON} Scaling ²	V _{MON} Scaling ³
4 W Models						
UMR-AA-125*-4	0 to 125V	32mA	0.029%	1µF	11.64 mA/V	10:1 ±2%
UMR-AA-250*-4	0 to 250V	16mA	0.010%	1µF	3.27 mA/V	10:1 ±2%
UMR-AA-500*-4	0 to 500V	8mA	0.007%	0.050µF	0.79 mA/V	10:1 ±2%
UMR-AA-1000*-4	0 to 1000V	4mA	0.028%	0.010µF	0.37 mA/V	100:1 ±2%
UMR-AA-2000*-4	0 to 2000V	2mA	0.015%	0.005µF	0.192 mA/V	100:1 ±2%
UMR-AA-4000*-4	0 to 4000V	1mA	0.015%	0.005µF	0.09 mA/V	100:1 ±2%
UMR-AA-6000*-4	0 to 6000V	.67mA	0.021%	0.0033µF	0.066 mA/V	100:1 ±2%
20 W Models						
UMR-AA-125*-20	0 to 125V	160mA	0.040%	8.9µF	258.0 mA/V	10:1 ±2%
UMR-AA-250*-20	0 to 250V	80mA	0.021%	1µF	72.7 mA/V	10:1 ±2%
UMR-AA-500*-20	0 to 500V	40mA	0.019%	1µF	17.65 mA/V	10:1 ±2%
UMR-AA-1000*-20	0 to 1000V	20mA	0.048%	0.050µF	4.62 mA/V	100:1 ±2%
UMR-AA-2000*-20	0 to 2000V	10mA	0.026%	0.010µF	1.52 mA/V	100:1 ±2%
UMR-AA-4000*-20	0 to 4000V	5mA	0.030%	0.005µF	0.76 mA/V	100:1 ±2%
UMR-AA-6000*-20	0 to 6000V	3.3mA	0.039%	0.0033µF	0.50 mA/V	100:1 ±2%
30 W Models						
UMR-AA-125*-30	0 to 125V	240mA	0.040%	8.9µF	258.0 mA/V	10:1 ±2%
UMR-AA-250*-30	0 to 250V	120mA	0.033%	1µF	72.7 mA/V	10:1 ±2%
UMR-AA-500*-30	0 to 500V	60mA	0.020%	1µF	17.65 mA/V	10:1 ±2%
UMR-AA-1000*-30	0 to 1000V	30mA	0.048%	0.050µF	4.62 mA/V	100:1 ±2%
UMR-AA-2000*-30	0 to 2000V	15mA	0.036%	0.010µF	1.52 mA/V	100:1 ±2%
UMR-AA-4000*-30	0 to 4000V	7.5mA	0.036%	0.005µF	0.76 mA/V	100:1 ±2%
UMR-AA-6000*-30	0 to 6000V	5mA	0.045%	0.0033µF	0.50 mA/V	100:1 ±2%

* Refer to below table for hardware option details.

• Substitute P or N for positive or negative output.

¹ % V_{p-p} 1 Hz to 1 MHz

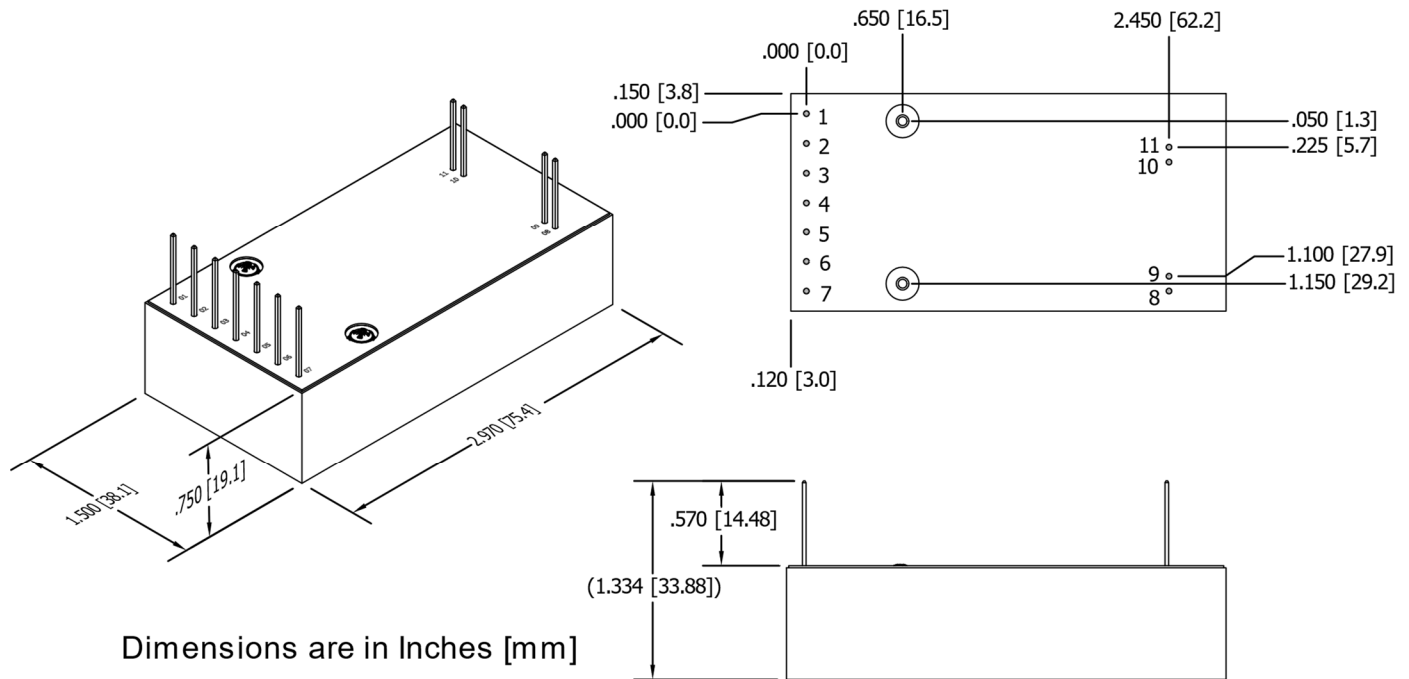
² Full Scale Signal

³ Into 10 Megaohm Meter

HARDWARE OPTIONS

Append to Part #	Option	Incompatible With
-T	±25 PPM / °C Temp. Coefficient (Operating Temp. +10 to +45 °C)	
-M	Mu-Metal Shielding Over Case	
-E	Eared Mounting Plate	-C, -H
-C	RF Tight Aluminum Case	-E, -H
-H	Heatsink	-E, -C

MECHANICAL, DIMENSIONS & PIN DEFINITIONS



Mechanical Specifications		
Volume	3.35 in ³	54.8 cm ³
Weight	4.0 oz	114 g
Case	DAP case certified to ASTM-D-5948	
Pins	(Pins 1 – 7) 0.200" Spacing (Pins 8 – 9, 10 – 11) 0.100" Spacing	

Tolerances		
Overall	0.050" [±1.27 mm]	
Pin to Pin	0.015" [±0.38 mm]	
Mounting	0.025" [±0.64 mm]	

Pin Assignments		
1	-VIN	Input Power Ground Return
2	+VIN	Positive Power Input
3	IOUT	Output Current Monitor
4	ENABLE	Enable / Disable
5	SIGGND	Signal Ground Return
6	RMTADJ	Remote Adjust Input
7	VREF	+5 VDC Reference Output
8	HVRTN	High Voltage Ground Return
9	VMON	Output Voltage Monitor
10, 11	HVOUT	High Voltage Output

CERTIFICATIONS

