



HVPSI

UMR-A 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-A 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 (Y05 option) with regulated output, in a form factor designed to be a drop-in replacement for existing designs.

SPECIFICATIONS

Conditions		Value			Units
		4 W	20 W	30 W	
Input					
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 & SIGGND, 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 Enabled	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-A-125*-4	0 to 125V	32mA	0.029%	1µF	438 mA/V	10:1 ±2%
UMR-A-250*-4	0 to 250V	16mA	0.010%	1µF	213 mA/V	10:1 ±2%
UMR-A-500*-4	0 to 500V	8mA	0.007%	0.050µF	123 mA/V	10:1 ±2%
UMR-A-1000*-4	0 to 1000V	4mA	0.028%	0.010µF	56 mA/V	100:1 ±2%
UMR-A-2000*-4	0 to 2000V	2mA	0.015%	0.005µF	32 mA/V	100:1 ±2%
UMR-A-4000*-4	0 to 4000V	1mA	0.015%	0.005µF	17 mA/V	100:1 ±2%
UMR-A-6000*-4	0 to 6000V	.67mA	0.021%	0.0033µF	13 mA/V	100:1 ±2%
20 W Models						
UMR-A-125*-20	0 to 125V	160mA	0.040%	8.9µF	1900 mA/V	10:1 ±2%
UMR-A-250*-20	0 to 250V	80mA	0.021%	1µF	1000 mA/V	10:1 ±2%
UMR-A-500*-20	0 to 500V	40mA	0.019%	1µF	506 mA/V	10:1 ±2%
UMR-A-1000*-20	0 to 1000V	20mA	0.048%	0.050µF	244 mA/V	100:1 ±2%
UMR-A-2000*-20	0 to 2000V	10mA	0.026%	0.010µF	130 mA/V	100:1 ±2%
UMR-A-4000*-20	0 to 4000V	5mA	0.030%	0.005µF	67 mA/V	100:1 ±2%
UMR-A-6000*-20	0 to 6000V	3.3mA	0.039%	0.0033µF	49 mA/V	100:1 ±2%
30 W Models						
UMR-A-125*-30	0 to 125V	240mA	0.040%	8.9µF	2900 mA/V	10:1 ±2%
UMR-A-250*-30	0 to 250V	120mA	0.033%	1µF	1400 mA/V	10:1 ±2%
UMR-A-500*-30	0 to 500V	60mA	0.020%	1µF	740 mA/V	10:1 ±2%
UMR-A-1000*-30	0 to 1000V	30mA	0.048%	0.050µF	400 mA/V	100:1 ±2%
UMR-A-2000*-30	0 to 2000V	15mA	0.036%	0.010µF	212 mA/V	100:1 ±2%
UMR-A-4000*-30	0 to 4000V	7.5mA	0.036%	0.005µF	86 mA/V	100:1 ±2%
UMR-A-6000*-30	0 to 6000V	5mA	0.045%	0.0033µF	57 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

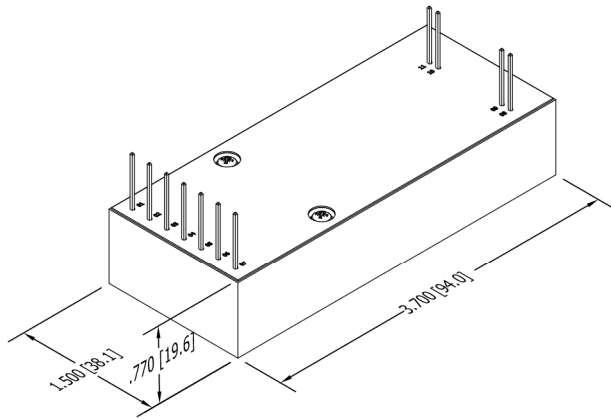
² Full Scale Signal

³ Into 10 Megaohm Meter, Only available on -Y05 option models

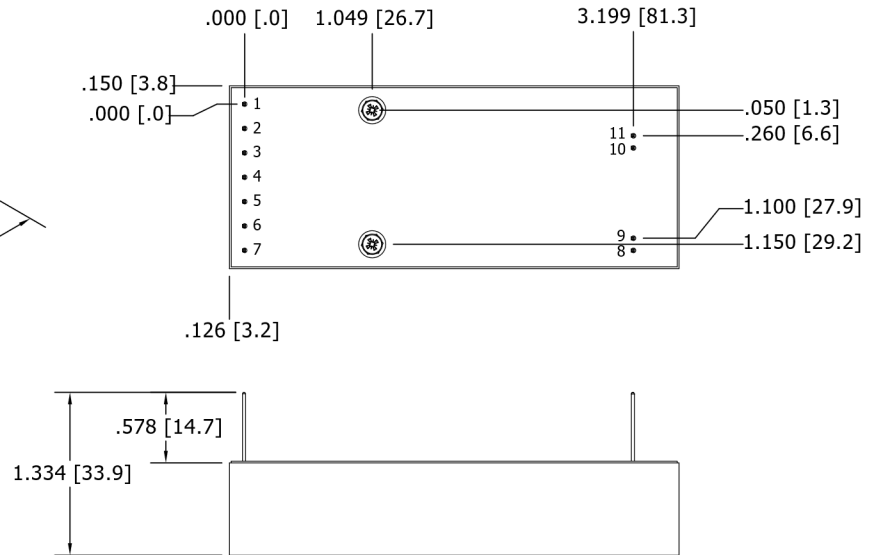
HARDWARE OPTIONS

Append to Part #	Option	Incompatible With
-Y05	HVOUT Voltage Monitor	
-T	±25 PPM/°C Temp. Coefficient (Operating Temp. +10 to +45 °C)	
-W	Flying Lead HVOUT	
-M	Mu-Metal Shielding Over Case	
-E	Eared Mounting Plate	-H
-C	RF Tight Aluminum Case	-E, -H
-H	Heatsink	-E, -C

MECHANICAL, DIMENSIONS & PIN DEFINITIONS



Dimensions are in Inches [mm]



Mechanical Specifications		
Volume	4.3 in ³	70.5 cm ³
Weight	5.0 oz	142 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	SIGND	Signal Ground Return
6	RMTADJ	Remote Adjust Input
7	VREF	+5 VDC Reference Output
8	HVRTN	High Voltage Ground Return
9	HVRTN	High Voltage Ground Return (Standard)
	VMON	Output Voltage Monitor (-Y05 option)
10, 11	HVOUT	High Voltage Output

CERTIFICATIONS

