



UMR-A-10000 SERIES

0 to 10kV, 4 to 30W
Standard DC/DC Modules



Features

- Biasing High Voltage Power Supplies
- Regulated Output Voltage from V_{OUT} Max to True 0
- Low Ripple
- Indefinite Output Short Circuit Protection
- Output Current and Voltage Monitors
- Fixed-Frequency, Low-Stored-Energy Design
- UL/cUL Pending Components; CE Mark (LVD and RoHS)

Specifications

		Conditions			Value	Units
Input		4W	15W	30W		
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 V_{OUT}	<150	<150	<150		mA
Current	Max Load, Max V_{OUT}	<500	<1000	<1500		mA
AC Ripple Current	Nominal Input, Full Load	<100	<100	<100		mAp-p
Output						
Static Load Regulation	No Load to Full Load, Max V_{OUT}	<0.01	<0.01	<0.01		%VDC
Line Regulation	Nominal Input, Max V_{OUT} , Full Power	<0.08	<0.08	<0.08		%VDC
Stability	30-minute warmup, per 8h/per day	<0.01 / <0.02	<0.01 / <0.02	<0.01 / <0.02		%VDC
Programming & Controls						
Input Impedance	Nominal Input, Positive Models	1.0 to Signal Ground			M Ω	
	Nominal Input, Negative Models	0.01 to V_{REF}				
Adjust Reference	Typical Potentiometer Values	10K to 100K (Pot Across V_{REF} and Signal Ground, Wiper to Adjust)			Ω	
Adjust Logic	Positive Models	0 to +4.64 = 0 to 100% Rated Output			VDC	
	Negative Models	+5 to +0.36 = 0 to 100% Rated Output				
Reference Logic	Temperature +25°C	+5 \pm 0.5%			VDC	
Enable/Disable HV _{OUT}	-	Unconnected = Enabled Ground to +0.5 = Disabled, +2.4 to 32 Enabled			VDC	
Environmental						
Operating	Full Load, Max E_{OUT} , Case Temperature	-40 to +65			°C	
Coefficient	Over the Specified Temperature	\pm 50			PPM/°C	
Thermal Shock	Mil-Std-810, Method 503-4, Proc. II	-40 to +65			°C	
Storage	Non-Operating, Case Temperature	-55 to +105			°C	
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	



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Part Number ³	Output Voltage VDC	Output Power W	Output Current mA	High Freq. Ripple ⁴ %Vp-p	Output Capacitance μ F	I _{MON} Scaling ⁵ mA/V	V _{MON} Scaling ⁶ V
All Models							
UMR-A-10000•-4	0 to 10000	4	0.4	<0.020	2	0.167	1000:1 \pm 2%
UMR-A-10000•-15	0 to 10000	15	1.5	<0.040	2	0.184	1000:1 \pm 2%
UMR-A-10000•-30	0 to 10000	30	3.0	<0.076	2	0.381	1000:1 \pm 2%

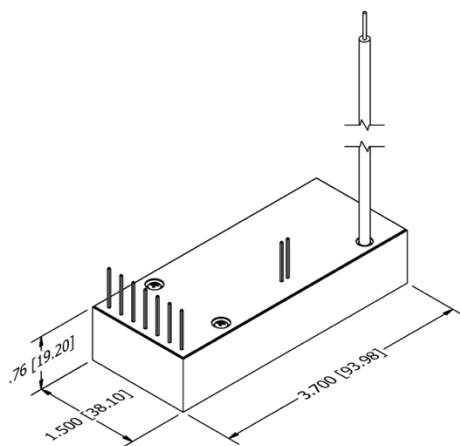
³For “•”, substitute “P” for positive output or “N” for negative output

⁴1Hz to 1MHz, Full Load

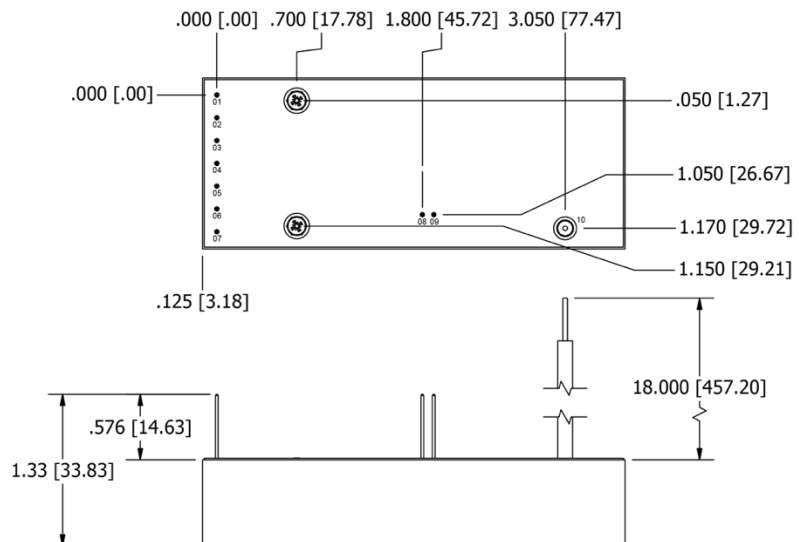
⁵Full Scale Signal

⁶Into 10M Ω Meter

Drawings, Mechanical and Pin Definitions



Dimensions in inches [mm]



Mechanical Specifications	
Volume	4.3in ³ [70.5cm ³]
Weight	5oz [142g]
Case	DAP case certified to ASTM-D-5948
Pins	Pins 1-7 0.200in Spacing Pins 8-9 0.100in Spacing

Tolerances	
Overall	0.050in [\pm 1.27mm]
Pin to Pin	0.015in [\pm 0.38mm]
Mounting	0.025in [\pm 0.64mm]

Pin Assignments & Connections		
Pin 1	-VIN	Input Power Ground Return
Pin 2	+VIN	Positive Power Input
Pin 3	IMON	Output Current Monitor
Pin 4	ENABLE	Enable/Disable
Pin 5	SIGGND	Signal Ground Return
Pin 6	VADJ	Voltage Adjust
Pin 7	VREF	Voltage Reference
Pin 8	HVRTN	High Voltage Ground Return
Pin 9	VMON	Output Voltage Monitor
Pin 10 (Flying Lead)	HVOUT	High Voltage Output

