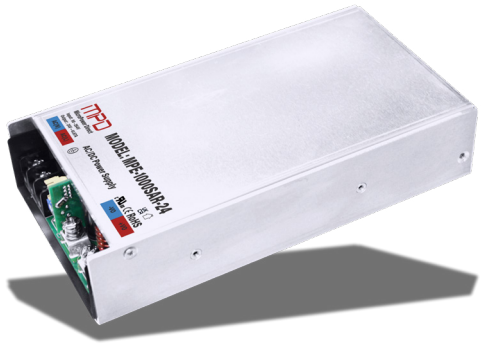
MPE-1000SAR

1000W Enclosed AC/DC Power Supplies



Key Features:

- 1000W Output Power
- 4,300 VAC Isolation
- Efficiency to 92%
- -20°C to +70°C Temp
- Remote On/Off
- Meets EN 55032 B
- >100 kHour MBTF
- UL62368 Approval
- OVC III

Electrical Specifications

Specifications typical @ +25°C, nominal input voltage & rated output current, unless otherwise noted. Specifications subject to change without notice.

Input

Parameter	Conditions		Min.	Typ.	Max.	Units
Input Voltage Range			90		264	VAC
Input Frequency			50		60	Hz
Input Current	Full Load	115 VAC			11	A
		230 VAC			5.5	
Inrush Current (<2ms)		115 VAC			70	A
		230 VAC			105	
Leakage Current		264 VAC			0.75	mA
Power Factor	Full Load	230 VAC		PF > 0.9		

Output

Parameter	Conditions		Min.	Typ.	Max.	Units
Output Voltage Accuracy				±2		%
Voltage Adjustable Range				±5		%VOUT
Line Regulation	115 - 264 VAC			±0.5		%
Load Regulation	10% to 100% Load			±1		%
Ripple & Noise, See Note 1	12V Output			160		mV P - P
	24V Output			240		
	48V Output			480		
Hold-Up Time, See Note 3		115 VAC	3			ms
Temperature Coefficient	-30°C to 0°C			±0.06		%/°C
	0°C to +50°C			±0.03		
Short Circuit Protection				Latch Off		
Over Voltage Protection				Autorecovery		
Over Temperature Protection				Continuous		

General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage, See Note 2	Input - Output	4,300			VAC
	Input - Ground	2,000			
	Output - Ground	1,500			
DC OK Signal	Turn On	3.7		5.7	VDC
	Turn Off	0		1	

EMI Characteristics

Parameter	Standard	Criteria	Level
Radiated Emissions	CISPR32/EN 55032		Class A
Conducted Emissions	CISPR32/EN 55032		Class B
EMS (Noise Immunity)	EN 55035		

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	With Derating	-20		+70	°C
Storage Temperature Range		-35		+85	°C
Cooling	Forced Air Cooling				
Operating Humidity	Non-condensing			95	%RH
Atmospheric Pressure		56		106	kPa
Operating Altitude	OVC II			5000	m
	OVC III			2000	
Vibration	IEC60068-2-6 (10-500Hz, 2G 10 min/1 cycle, 60 min each along X, Y, Z axis)				
Shock	IEC60068-2-27				

Physical

Case Size	7.6 x 4.02 x 1.62 in (See Mechanical Drawing on Page 3)
Weight	33.51 oz (950g) (See Mechanical Drawing on Page 3)

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	100			kHours
Safety Standards	UL/cUL 62368-1 Recognition (UL Certificate)				
Safety Class	Class I				

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MICROPOWER DIRECT

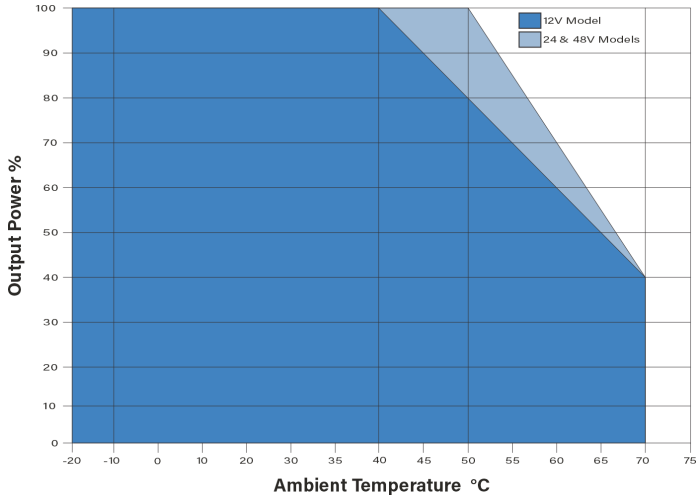
Model Selection Guide

Model Number	Input		Output			Output Capacitive Load (μF Max)	Efficiency (%, Typ)
	Current (A) (Max)		Voltage (VDC)	Current (A, Max)	Power (W)		
	115 VAC	230 VAC					
MPE-1000SAR-12	11	5.5	12	66.67	800	7000	89
MPE-1000SAR-24	11	5.5	24	41.67	1000	3500	92
MPE-1000SAR-48	11	5.5	48	20.84	1000	1750	93

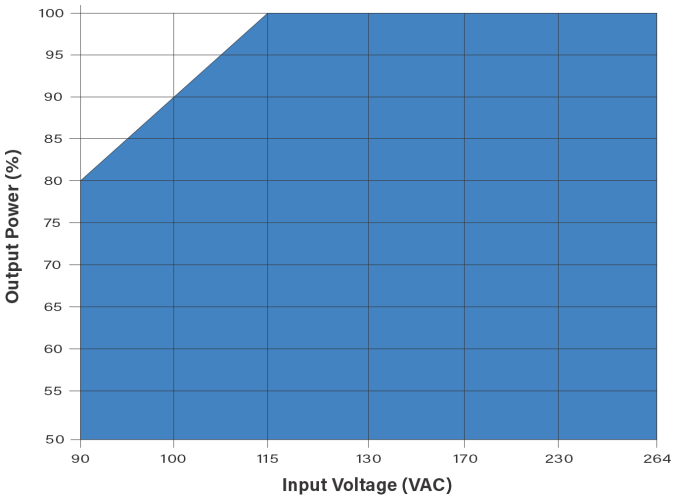
Notes:

1. Ripple and Noise are measured at 20MHz bandwidth by using a 6" twisted pair-wire terminated with 0.1uF and 47uF capacitors in parallel.
2. It is highly recommended that this test be conducted using a DC votlage. If an AC voltage is used, all Y capacitors must be disconnected from the power supply. For more information, please contact the factory.
3. Hold-up time is measured at 90% Vout.
4. Caution: Double pole, neutral fusing. Disconnect mains before servicing.

Temperature Derating



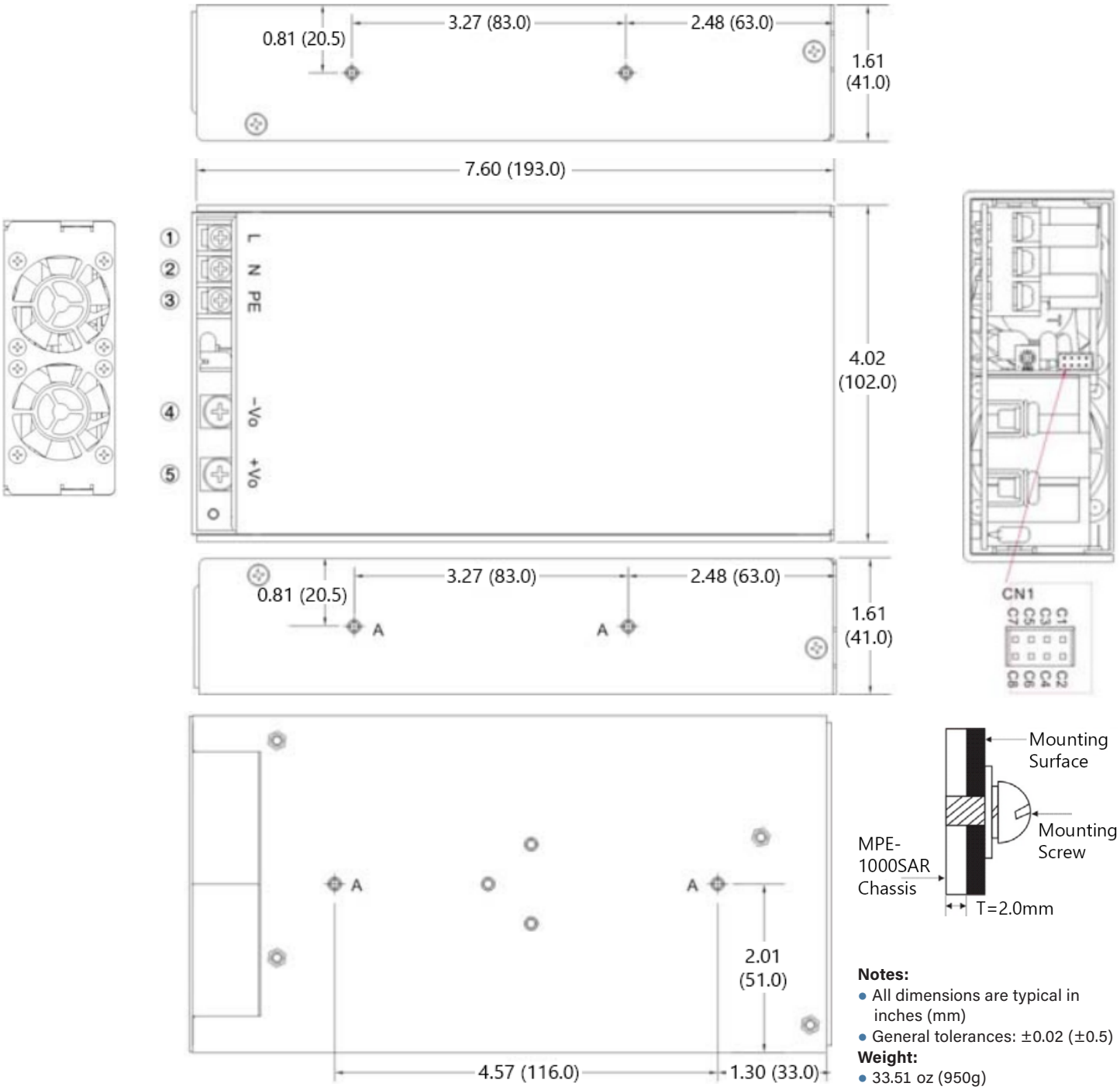
Input Voltage Derating



Function Description of CN1

Pin	Function	Description
C1	+S	Remote sensing (+)
C2	-S	Remote Sensing (-)
C3	NC	
C4	-5V SB	Connects to the negative terminal (-V).
C5	GND / -RC	Connects to the negative terminal (-V). Return for DC OK signal output.
C6	+RC	Turns the output on and off by electrical or dry contact between pin C5 (GND / -RC). Short: Power OFF, Open: Power ON.
C7	+PG	DC OK signal is a DC output (DC-OK).
C8	+5V SB	Standby voltage output ground 4.5 - 5.5V, referenced to pin C4 or C5 (GND). The maximum load current is 1A.

Mechanical Diagrams



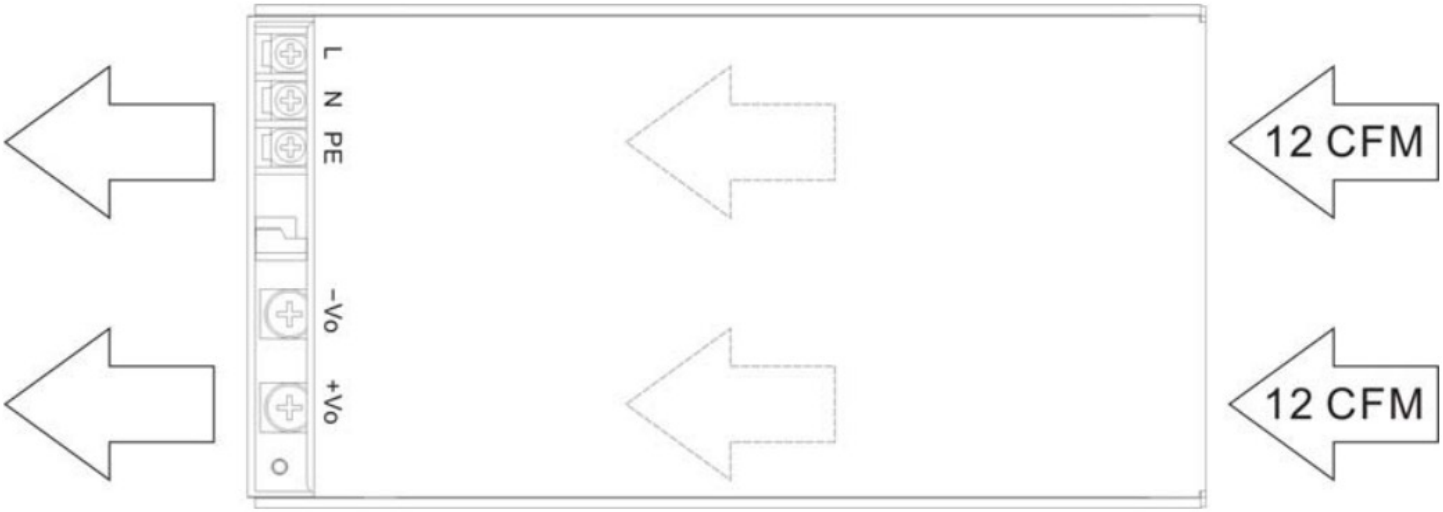
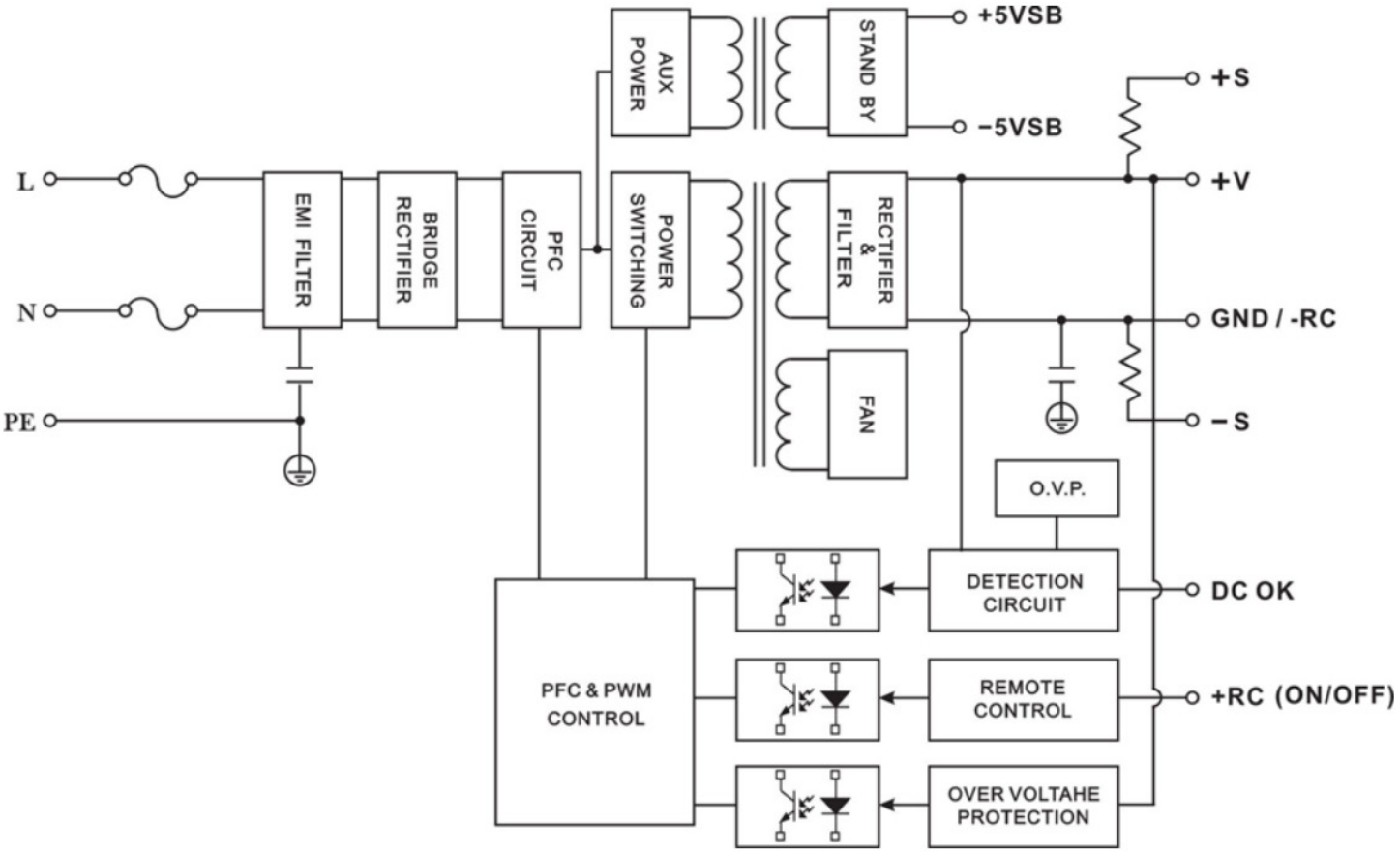
Notes:
- All dimensions are typical in inches (mm)
- General tolerances: ±0.02 (±0.5)

Weight:
- 33.51 oz (950g)

Pin	Single	Terminal
1	AC IN(L)	DINKLE DT-49-B01W-03
2	AC IN (N)	
3, A	PE	
4	-DC OUT	M5 Pan HD screw in 2 positions Torque to 8lbs-in (90 cNm) max.
5	+DC OUT	

Pin	Single	Mating Housing	Terminal
C1	+S	JST PHDR-08VS	JST SPHD-001T-P0.5
C2	-S		
C3	NC		
C4	-5V SB		
C5	GND / -RC		
C6	+RC		
C7	PG		
C8	+5V SB		

Air Flow Direction



Block Diagram