

MPE-200C

200W, High Isolation AC/DC Power Supplies



Key Features:

- 200W Output Power
- 180-264 VAC Input
- 3,000 VAC Isolation
- Efficiency to 89.5%
- -30°C to +70°C Temp
- Meets EN 55032 A
- >300 kHour MBTF
- UL62368 Approval



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	AC Input		Low Voltage (switch position 115)	90		132	VAC
			High Voltage (switch position 230)	180		264	VAC
	DC Input		Switch position 230	240		373	VDC
Input Frequency				47		63	Hz
Input Current			115 VAC			5.0	A
			230 VAC			3.0	A
Inrush Current (Cold Start)			115 VAC		60	80	A
			230 VAC		60	80	A

Output		Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Accuracy	Full Load Range		5V Output		±3		%
			12V Output		±1.5		
			15, 24, 36, 48V Outputs		±1.0		
Line Regulation		Rated Load			±0.5	%	
Load Regulation	0-100% Load		5V Output		±2		%
			12V Output		±1		
			15, 24, 36, 48V Outputs		±0.5		
Ripple & Noise (20 MHz)			5, 12, 15, 24V Outputs		150		mV P - P
			36, 48V Outputs		200		
Hold-Up Time	Room temperature, full load		115 VAC	12			ms
			230 VAC	16			
Standby Power Consumption		Room temperature, 230 VAC input				0.75	W
Temperature Derating	5V Output		+40°C to +70°C	1.66			%/°C
			Other Outputs	+50°C to +70°C	2.5		
Input Voltage Derating	90 - 100 VAC		50Hz	3.5			%/VAC
			60Hz	2.0			
Temperature Coefficient		0 to 50°C, 230 VAC			±0.03		%/°C
Short Circuit Protection			Recovery time <5s after short circuit removed		Hiccup, Continuous, Self-Recovery		
Over Current Protection	5V Output, self-recover			110	200		%Io
				12, 15, 24, 36, 48V Outputs, last for 5 sec	130	250	
Over Temperature Protection	5V Output						Output voltage turn off, re-power
	12, 15, 24, 36, 48V Outputs						Hiccup, Self-Recover

General		Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage			Input - Ground	2,000			VAC
			Input - Output	3,000			
			Output - Ground	500			
Isolation Resistance			See Note 6	100			MΩ

Parameter	Standard	Criteria	Level
Radiated Emissions, See Page 4	CISPR32/EN 55032		Class A
Conducted Emissions	CISPR32/EN 55032		Class A

Reliability Specifications		Parameter	Conditions	Min.	Typ.	Max.	Units
		MTBF	MIL HDBK 217F, 25°C, Gnd Benign	0.3			MHours
		Safety Standards	UL/cUL 62368-1 Recognition (UL Certificate)				
		Safety Class	Class I				

Environmental		Parameter	Conditions	Min.	Typ.	Max.	Units
		Operating Temperature Range	Ambient	-30		+70	°C
		Storage Temperature Range		-40		+85	°C
		Cooling	Free Air Convection				
		Operating Humidity	Non-condensing			90	%RH
		Storage Humidity				95	

Physical		Parameter	Conditions	Min.	Typ.	Max.	Units
		Case Size		7.05 x 3.90 x 1.18 in (See Mechanical Drawing on Page 4)			
		Case Material		Metal (AL1100, SGCC)			
Weight			5V Output	18.34 oz (520g)	(See Mechanical Drawing on Page 4)		
			Other Outputs	17.64 oz (500g)	(See Mechanical Drawing on Page 4)		

MicroPower Direct

46 Eastman Street
Unit 1
Easton, MA 02375
USA

T: (781) 344-8226
F: (781) 344-8481
E: sales@micropowerdirect.com
W: www.micropowerdirect.com



www.micropowerdirect.com

Singel 3 | B-2550 Kontich | Belgium | Tel. +32 (0)3 458 30 33 | info@alcom.be | www.alcom.be

Rivium 1e straat 52 | 2909 LE Capelle aan den IJssel | The Netherlands | Tel. +31 (0)10 288 25 00 | info@alcom.nl | www.alcom.nl

Model Selection Guide

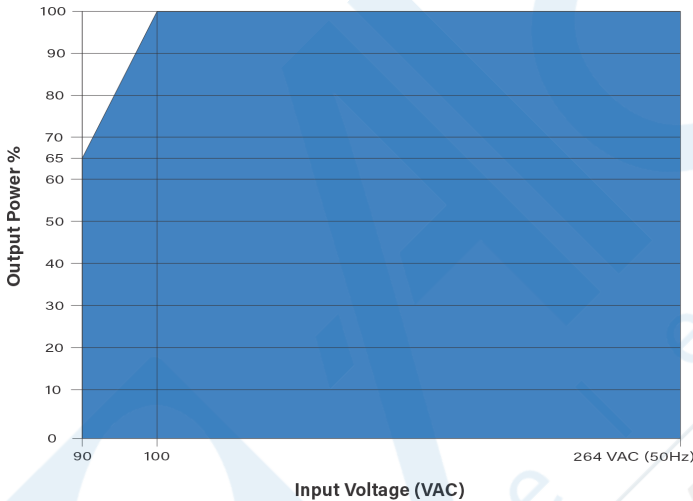
Model Number	Input		Output					Over Voltage Protection (Max) (VDC)	Efficiency (% Typ)	Output Capacitive Load (μ F Max)
	Current (mA)		Voltage (VDC)	Voltage Adjustable Range (VDC)	Current (A, Max)	Power (W)				
	115 VAC	230 VAC				Steady State	Transient			
MPE-200C-05	5000	3000	5	4.5 - 5.5	30	150	200	8	87	10000
MPE-200C-12	5000	3000	12	10.2 - 13.8	17	204	-	18	87.5	4000
MPE-200C-15	5000	3000	15	13.5 - 18	14	210	-	22	88	3300
MPE-200C-24	5000	3000	24	21.6 - 28.8	8.8	211.2	-	33.6	88.5	1500
MPE-200C-36	5000	3000	36	32.4 - 39.6	5.9	212.4	-	46.8	89	1500
MPE-200C-48	5000	3000	48	43.2 - 52.8	4.4	211.2	-	60	89.5	470

Notes:

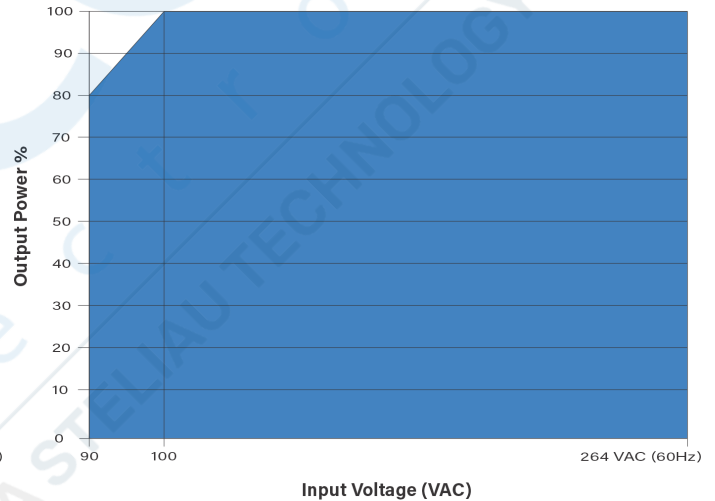
- The "tip and barrel method" is used for ripple and noise test, output parallel 47 μ F electrolytic capacitor and 0.1 μ F ceramic capacitor.
- Output short circuit protection is provided by a "hiccup mode" circuit. The unit recovers automatically when the fault condition is removed.
- Input-output isolation is tested for 60 seconds.
- A temperature derating of 5°C/1000m is required for operating altitude greater than 2000m.
- The output voltage can be adjusted by the ADJ knob. Turn clockwise to increase and counterclockwise to decrease.
- Isolation resistance is given for input - output, input - ground and output - ground. It is tested at 500VDC.
- One magnetic bead (nickel-zinc ferrite) should be coupled with the output load line during CE/RE testing.

For conformal coating option, add the suffix "-CC" to the model number (e.g. MPE-200C-05-CC).

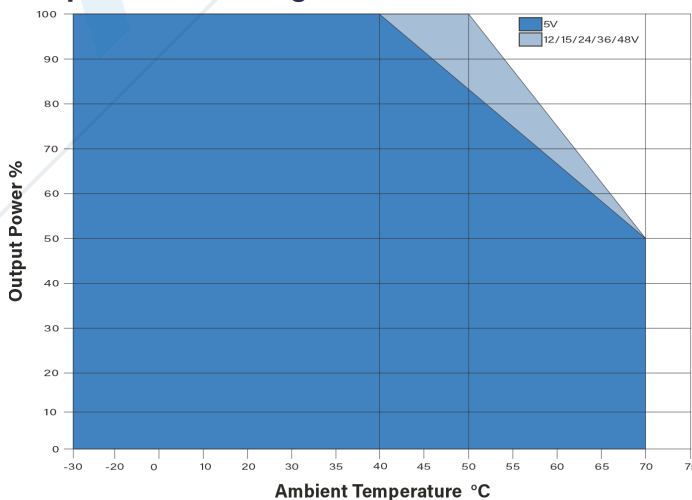
Input Voltage Derating (50Hz)



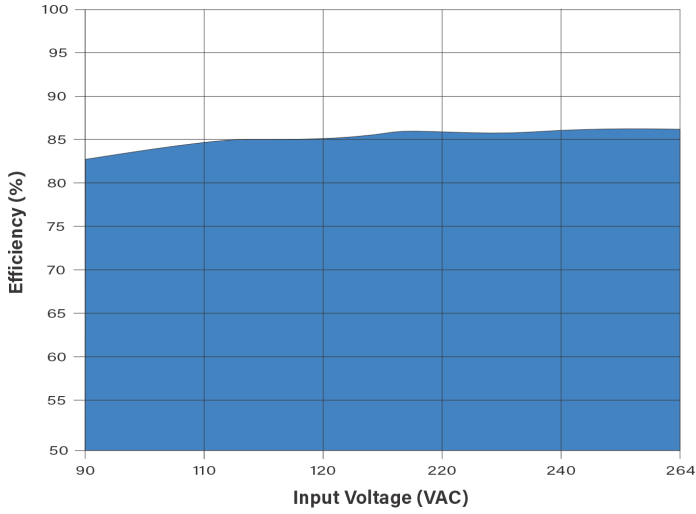
Input Voltage Derating (60Hz)



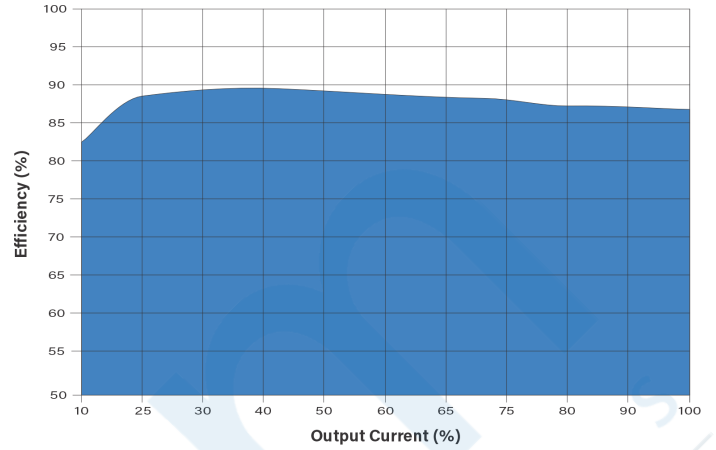
Temperature Derating



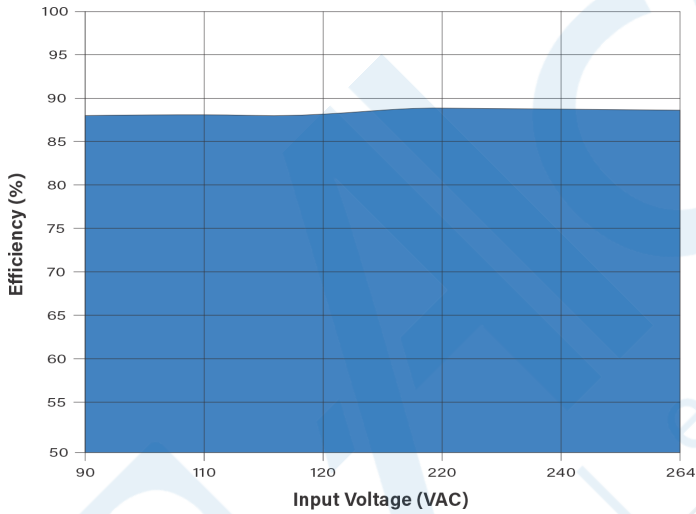
Efficiency vs Input Voltage: 5V (Full Load)



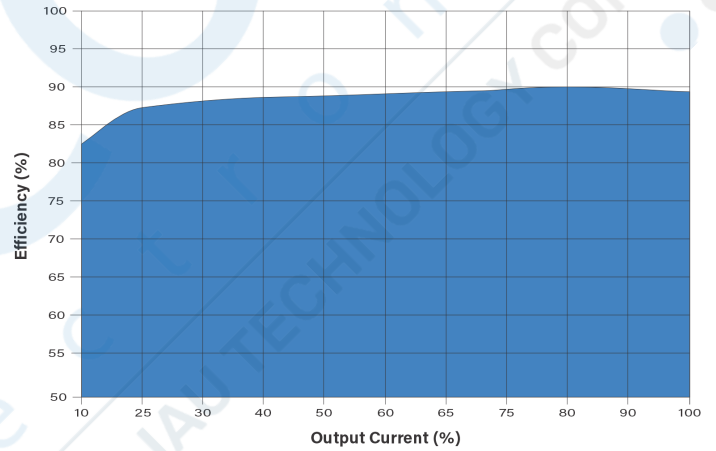
Efficiency vs Output Load: 5V



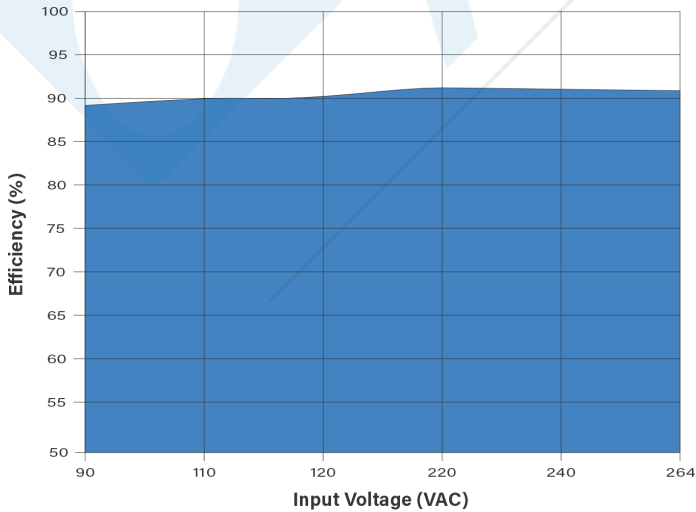
Efficiency vs Input Voltage: 24V (Full Load)



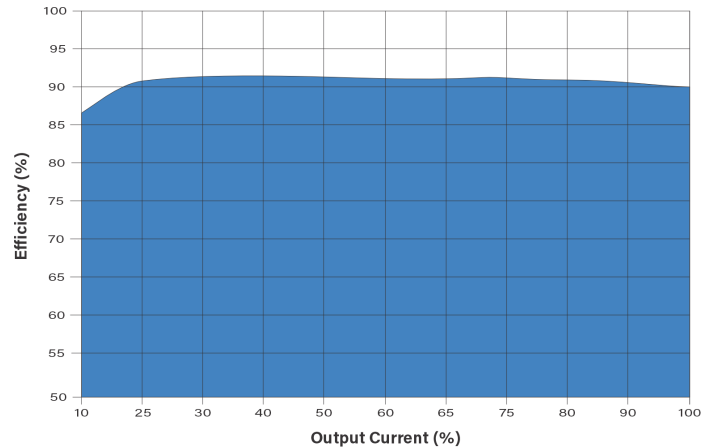
Efficiency vs Output Load: 24V



Efficiency vs Input Voltage: 48V (Full Load)



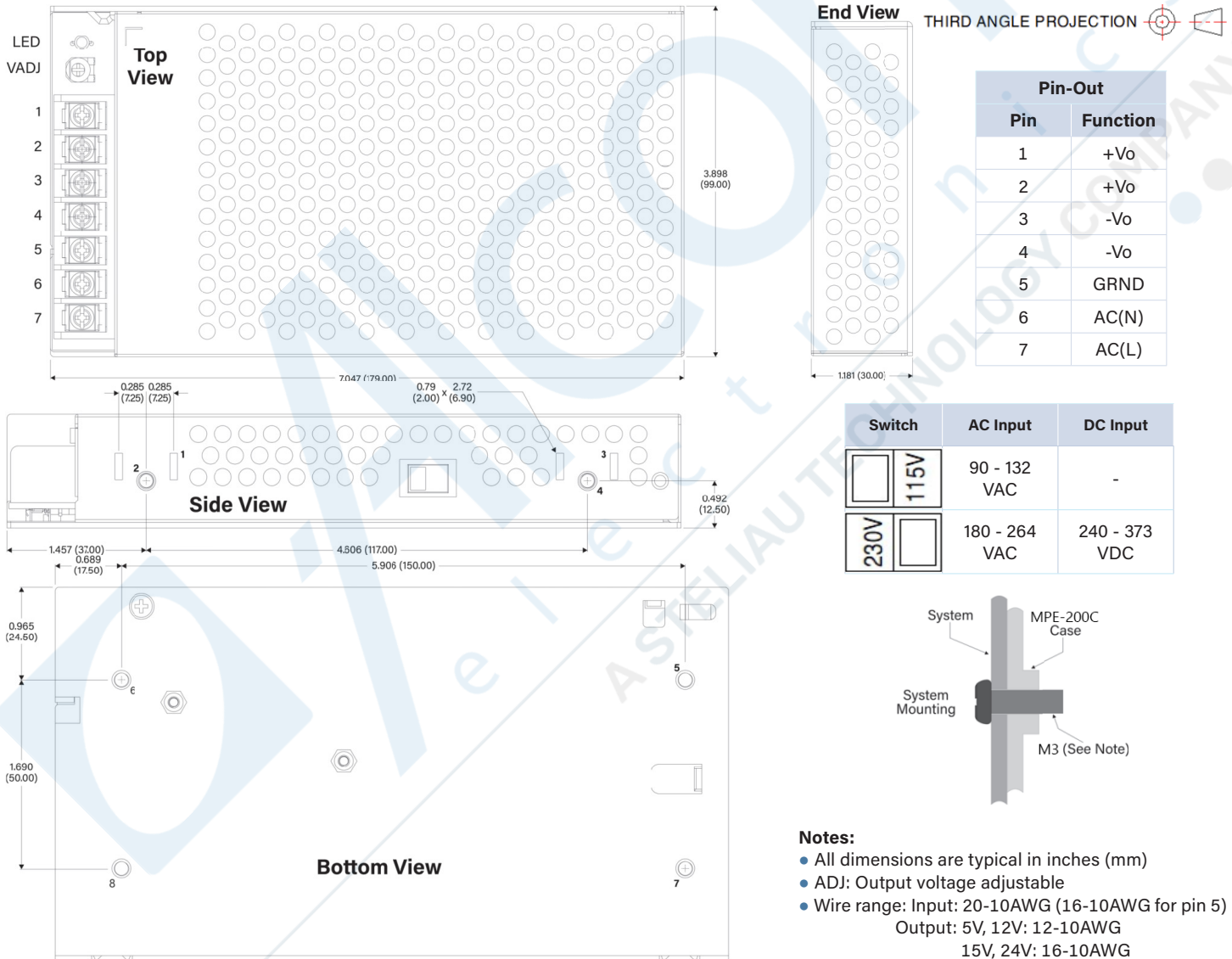
Efficiency vs Output Load: 48V



EMI Characteristics

Parameter	Standard	Criteria	Level
Radiated Emissions (RE)	CISPR32/EN55032		A
Conducted Emissions (CE)	CISPR32/EN55032		A
ESD	IEC/EN61000-4-2	A	Contact ±6kV/Air ±8KV
RS	IEC/EN61000-4-3	A	10V/m
EFT	IEC/EN61000-4-4	A	±2KV
Surge	IEC/EN61000-4-5	A	line to line ±2KV/line to ground ±4KV
CS	IEC/EN61000-4-6	A	10 Vr.m.s
Voltage Dips, Short, Interruption	IEC/EN61000-4-11	B	100% dip 1 period, 30% dip 25 periods, 100% interruption 250 periods

Mechanical Diagrams



Position	Screw Spec	Length of Locking Screw L (max)	Torque (max)
1 - 8	M4	4mm	0.9N · m

Notes:

- All dimensions are typical in inches (mm)
 - ADJ: Output voltage adjustable
 - Wire range: Input: 20-10AWG (16-10AWG for pin 5)
 Output: 5V, 12V: 12-10AWG
 15V, 24V: 16-10AWG
 36V, 48V: 20-10AWG
 - Connector tightening torque: M3.5, Max 0.8N · m Max
 - General tolerances: ±0.039 (±1.00)
 - 1 - 8 any position must be connected to PE
- Weight:**
- 5V Output: 18.34 oz (520g)
 - Other Outputs: 17.64 oz (500g)