

# MPE-35C

## 35W, High Isolation AC/DC Power Supplies



### Key Features:

- 35W Output Power
- 85-264 VAC Input
- 4,000 VAC Isolation
- Efficiency to 88%
- -30°C to +70°C Temp
- Meets EN 55032 B
- >300 kHour MBTF
- OVC Class III
- 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		85		264	VAC
	DC Input		120		370	VDC
Input Frequency			47		63	Hz
Input Current	115 VAC				0.8	A
	230 VAC				0.6	A
Inrush Current (Cold Start)	115 VAC			30		A
	230 VAC			50		A
Leakage Current	240 VAC				0.75	mA
Output						
Parameter	Conditions		Min.	Typ.	Max.	Units
Output Voltage Accuracy	Full Load	5V Output		±2		%
		Other Outputs		±1		%
Line Regulation	Full Load			±0.5		%
Load Regulation	0-100% Load	5V Output		±1		%
		Other Outputs		±0.5		%
Ripple & Noise (20 MHz)	5V Output				80	mV P - P
	12, 15V Outputs				120	
	24V Output				150	
Hold-Up Time	115 VAC		8			ms
	230 VAC		30			
Standby Power Consumption	230VAC				0.3	W
Operating Temp Derating	-30 to -25°C	85 - 100VAC	5			% / °C
	+50 to +70°C		2			
Input Voltage Derating	85 - 100VAC		1.33			% / VAC
Temperature Coefficient				±0.03		% / °C
Over Load Protection			120		200	%Io
Short Circuit Protection	Recovery time <5s after short circuit removed		Hiccup Mode, Continuous, Self-Recovery			
Switching Frequency				65		kHz
General						
Parameter	Conditions		Min.	Typ.	Max.	Units
Isolation Voltage	Input - Ground		2,000			VAC
	Input - Output		4,000			
	Output - Ground		1,250			
Isolation Resistance	See Note 6		100			MΩ
EMI Characteristics						
Parameter	Standard		Criteria		Level	
Radiated Emissions, See Page 3	CISPR32/EN 55032				Class B	
Conducted Emissions	CISPR32/EN 55032				Class B	
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		20		90	%RH
Storage Humidity					95	
Physical						
Case Size			3.90 x 3.23 x 1.18 in (See Mechanical Drawing on Page 6)			
Case Material			Metal (AL1100, SGCC)			
Weight			5.47 oz (155g) (See Mechanical Drawing on Page 6)			
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					



### 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](http://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

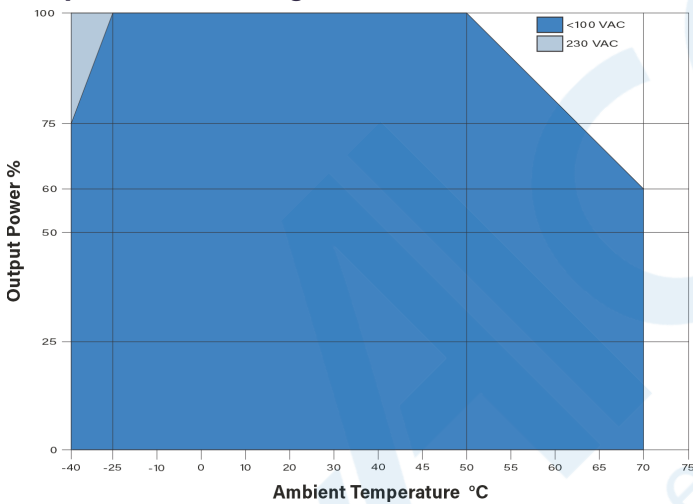
Model Number	Input		Output				Over Voltage Protection (VDC) See Note 5	Output Capacitive Load ( $\mu$ F Max)	Efficiency (% Typ)
	Current (mA)		Voltage (VDC)	Voltage Adjustable Range (VDC)	Current (A, Max)	Power (W)			
	115 VAC	230 VAC							
MPE-35C-05	800	600	5	4.5 - 5.5	7	35	6.75	8000	86
MPE-35C-12	800	600	12	10.2 - 13.8	3	36	16.2	1500	87
MPE-35C-15	800	600	15	13.5 - 18	2.4	36	21.75	1000	88
MPE-35C-24	800	600	24	21.6 - 28.8	1.5	36	33.6	750	88

**Notes:**

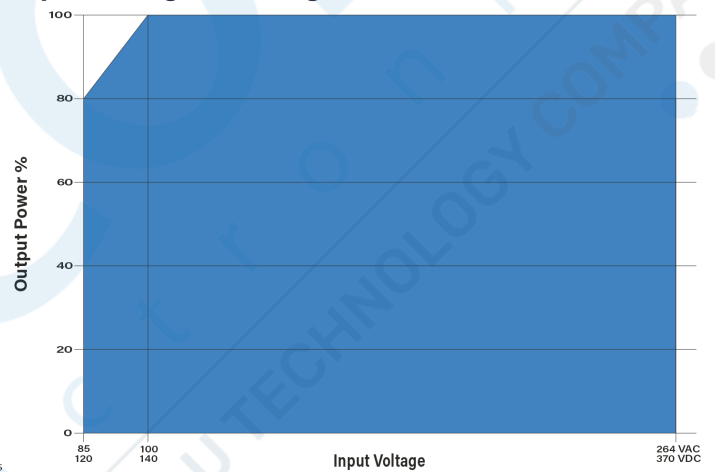
- The "tip and barrel method" is used for ripple and noise test, output parallel 47 $\mu$ F electrolytic capacitor and 0.1 $\mu$ F ceramic capacitor.
- Output short circuit protection is provided by a "hiccup mode" circuit. The unit recovers automatically when the fault condition is removed.
- Input-output isolation is tested for 60 seconds with a leakage current of <5 mA.
- 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.

For conformal coating option, add the suffix "-CC" to the model number (e.g. **MPE-35C-05-CC**).

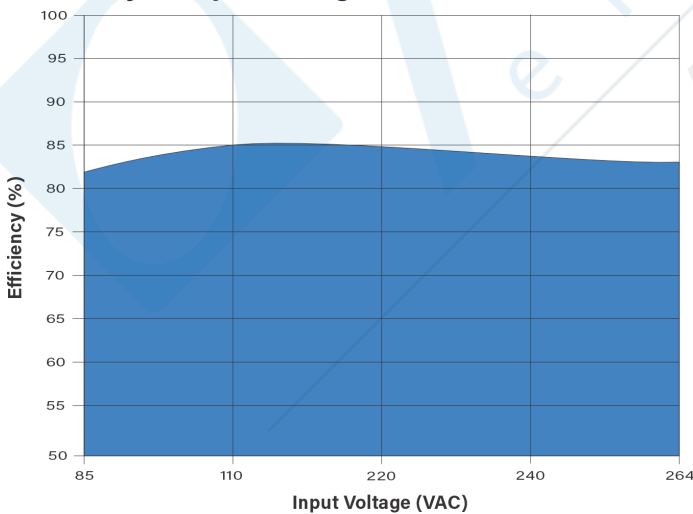
### Temperature Derating



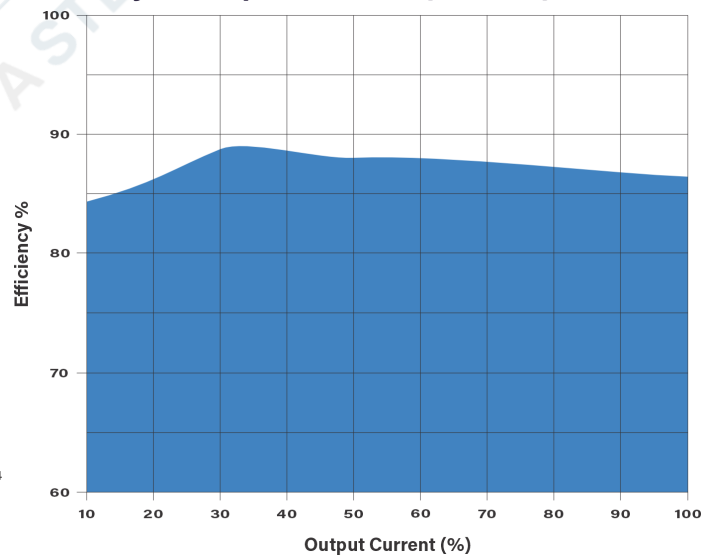
### Input Voltage Derating



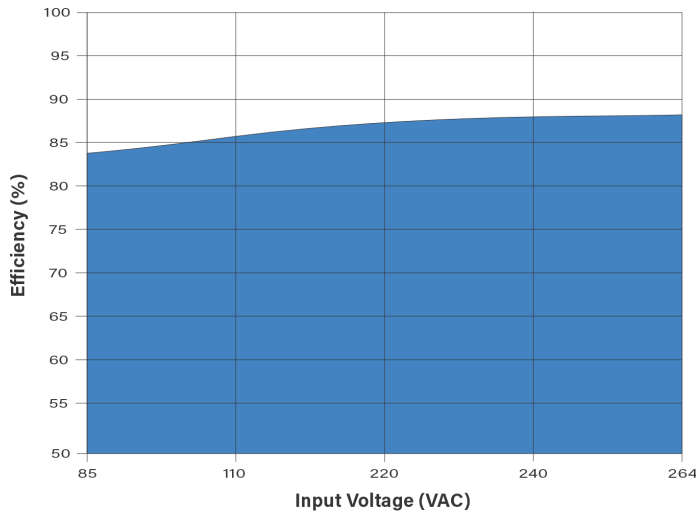
### Efficiency vs Input Voltage: 5V



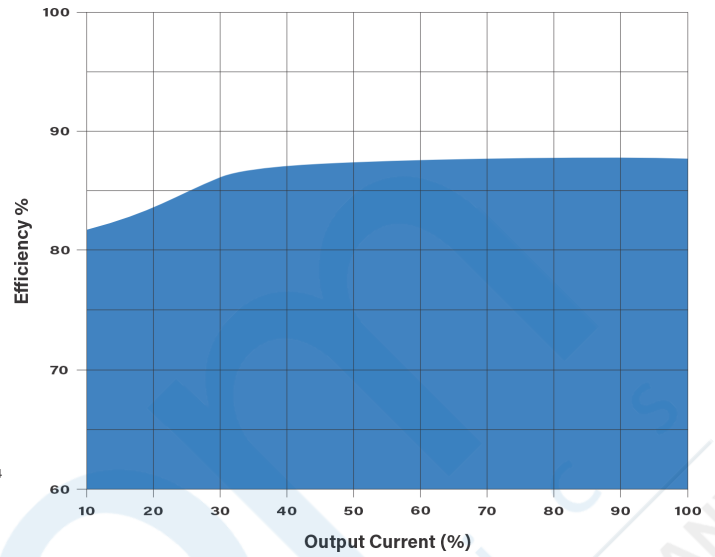
### Efficiency vs Output Load: 5V (230VAC)



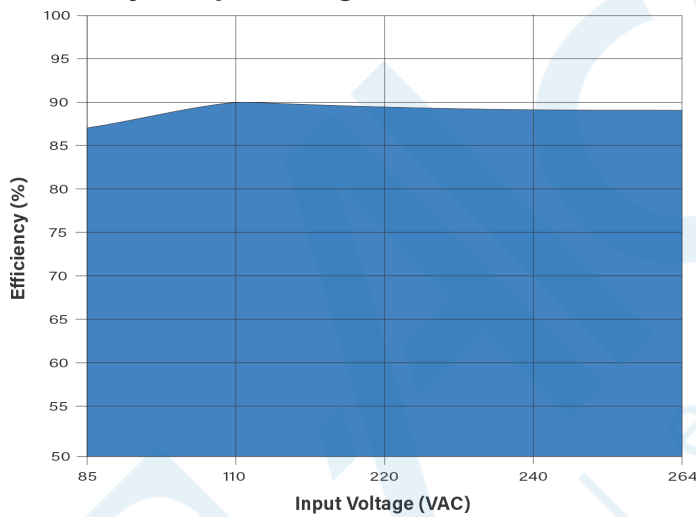
Efficiency vs Input Voltage: 12V



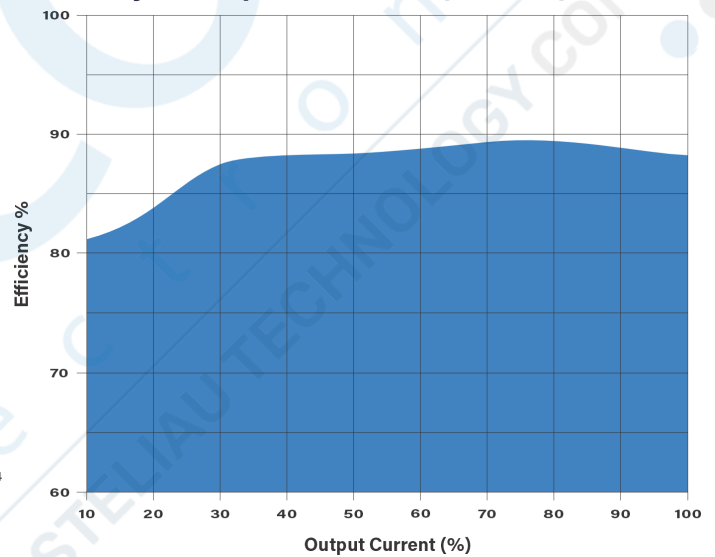
Efficiency vs Output Load: 12V (230VAC)



Efficiency vs Input Voltage: 24V



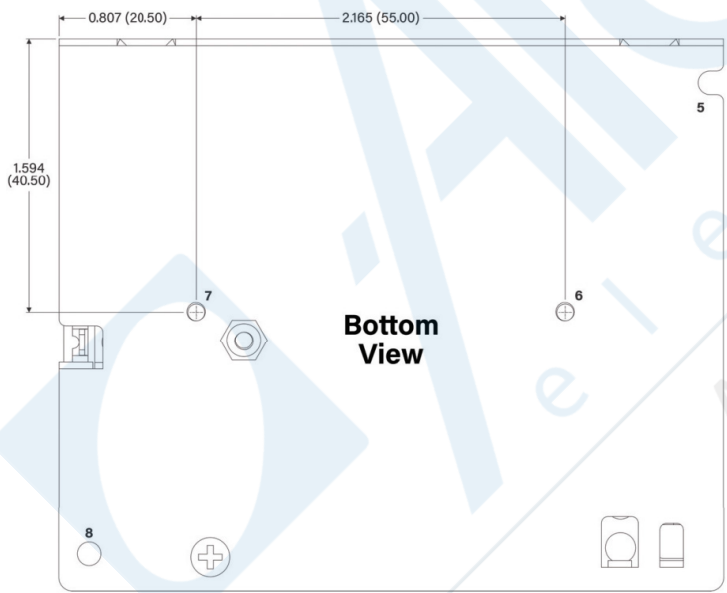
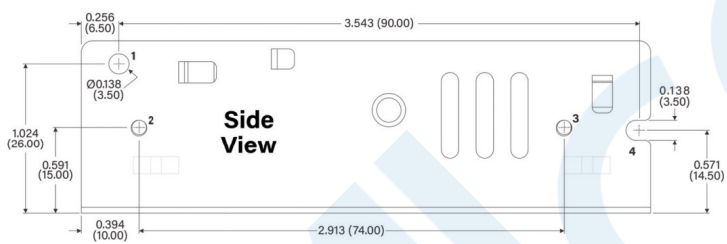
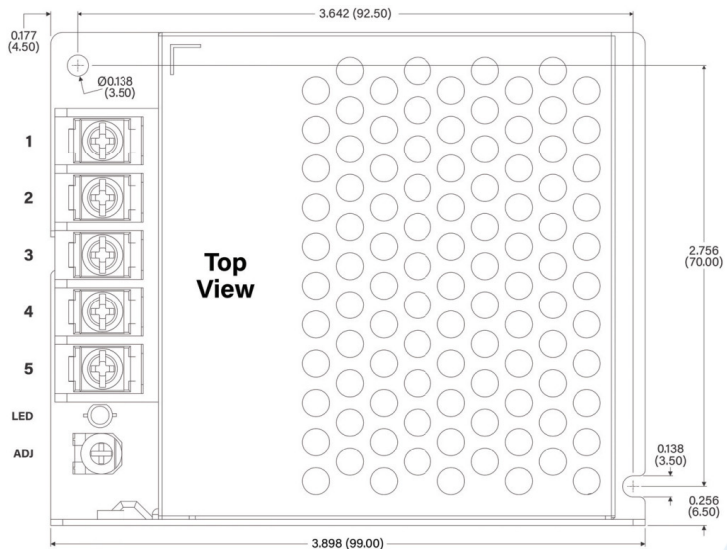
Efficiency vs Output Load: 24V (230VAC)



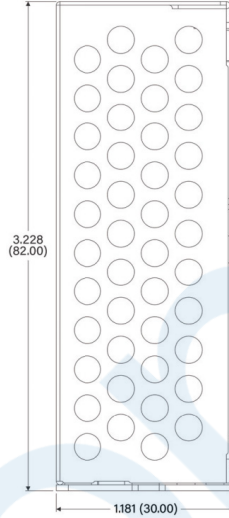
EMI Characteristics

Parameter	Standard	Criteria	Level
Radiated Emissions (RE)	CISPR32/EN55032		B
Conducted Emissions (CE)	CISPR32/EN55032		B
Harmonic Current	IEC/EN61000-3-2		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
MS	IEC/EN61000-4-8	A	30A/m
Voltage Dips, Short, Interruption	IEC/EN61000-4-11	B	0%, 70%

Mechanical Diagrams



End View

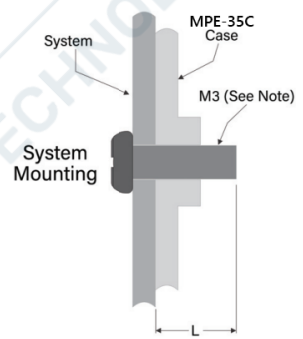


THIRD ANGLE PROJECTION

Pin-Out	
Pin	Function
1	AC(L)
2	AC(N)
3	GRND
4	-Vo
5	+Vo

Position	Screw Spec	Length of Locking Screw L (max)	Torque (max)
2 - 3	M3	5mm	0.4N · m
6 - 7	M3	3mm	0.4N · m

2 - 8 any position must be connected to ground



Notes:

- All dimensions are typical in inches (mm)
- ADJ: Output voltage adjustable
- Wire range: 22-12AWG
- Connector tightening torque: M3.5, Max 0.8N · m
- General tolerances: ±0.039 (±1.00)

Weight:

- 5.47 oz (155g)