

MPU-60S Series

Single Output, 60W Compact, U-Channel AC/DC Power Supplies



Key Features:

- 60W Output Power
- Universal 85-265 AC Input
- EN 60950 Approved
- Low Leakage Current
- Six Single Output Models
- Meets EN 55022 B
- >130 kHour MTBF
- Optional Cover



MicroPower Direct



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	Universal	85		265	VAC
				370	VDC
Input Frequency		47		63	Hz
Input Filter	Meets EN 55022 Class B; FCC Class B				
Input Current	See Model Selection Guide				
Inrush Current	Cold Start, 115 VAC			30.0	A Pk
	Cold Start, 230 VAC			50.0	
Safety Ground Leakage Current	264 VAC			0.5	mA

Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage/Current	See Model Selection Guide				
Output Voltage Tolerance			±2.0		%
Line Regulation	Vin = Min to Max		±1.0		%
Load Regulation	Iout = 5% to 100%		±1.0		%
Ripple & Noise (20 MHz)	See Note 1				
Hold-Up Time	115 VAC	10			mSec
Temperature Coefficient			±0.02		%/°C
Short Circuit Protection	Continuous (Autorecovery)				
Over Voltage Protection	See Model Selection Guide				
Overload Protection	See Note 2	130		150	%

General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	Input to Output	3,000			
	Input to Ground	1,500			VAC
	Output to Ground	500			
Isolation Resistance	500 VDC		100		MΩ
Isolation Capacitance			4,700		pF
EMC Compliance	Conducted	EN 55022; EN 61000-3-2, -3			
		IEC/EN 61000-4-2, -6, -8, -11			
	Electrostatic Discharge (ESD)				
	RF Field Susceptibility				IEC/EN 61000-4-3
Electrical Fast Transients/Bursts On Mains				IEC/EN 61000-4-4	
				IEC/EN 61000-4-5	
Switching Frequency	Surge				
	Fixed		100		kHz

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	Ambient	-40	+25	+70	°C
Storage Temperature Range		-50		+84	°C
Cooling	Free Air Convection (See Derating Curve)				
Humidity	RH, Non-condensing			95	%

Physical

Size	4.13 x 2.28 x 1.5 Inches (105.0 x 58.0 x 38.1 mm)				
Weight	U-Channel				8.34 Oz (0.240 kg)
	With Cover				9.03 Oz (0.260 kg)

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	130			kHours
Safety Standards	UL 1950, EN 60950, IEC 60950				
Vibration	10~500 Hz, 5G 10 min/1 Cycle. Period of 60 min each along X, Y & Z Axis				

Model Selection Guide

Model Number	Input		Voltage (VDC)	Output		Max Output Power (W)	Over Voltage Protection (VDC)	Efficiency (% Typ)
	Current (A)			Current (A)				
	115 VAC	230 VAC		Rated	% Min.			
MPU-60S-05T(C)	2.0	1.0	5.0	10.00	1.00	50	6.2	82
MPU-60S-09T(C)	2.0	1.0	9.0	6.66	1.00	60	10.0	84
MPU-60S-12T(C)	2.0	1.0	12.0	5.00	1.00	60	15.0	86
MPU-60S-15T(C)	2.0	1.0	15.0	4.00	1.00	60	18.0	86
MPU-60S-24T(C)	2.0	1.0	24.0	2.50	1.00	60	28.0	86
MPU-60S-48T(C)	2.0	1.0	48.0	1.25	1.00	60	57.0	86

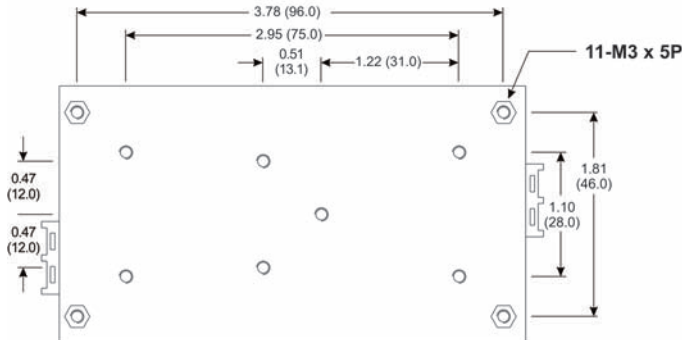
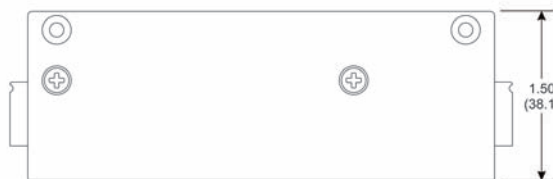
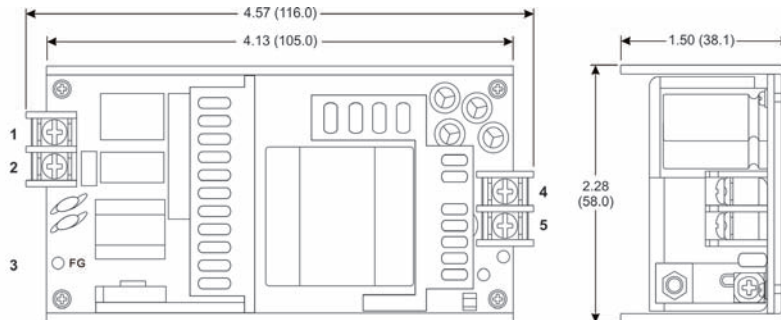
For Cover option, add suffix "C" to model number (i.e. MPU-60S-12TC)

For Open Frame models, see MPO-60S Datasheet

Notes:

- Output ripple is specified as a maximum of $<0.2\%V_{out} + 40\text{ mV (Vp-p)}$. Output noise is specified as a maximum of $<0.5\%V_{out} + 40\text{ mV (Vp-p)}$. Ripple and noise is measured at 20 MHz bandwidth using a $0.1\ \mu\text{F}$ and $47\ \mu\text{F}$ capacitor connected in parallel as close to the power supply terminals as possible.
- Overload protection is provided by a "hiccup mode" circuit. The unit recovers automatically when the fault condition is removed.
- Over voltage protection is provided by a zener diode clamp.
- These units will operate at no load without damage, however, MPD recommends that a minimum 1% load always be used.
- Each unit includes an input fuse. Since this fuse is not field replaceable, it is recommended that an external fuse be used on the input of the power supply for protection. For these units, a 15A/250V slow blow fuse is recommended.

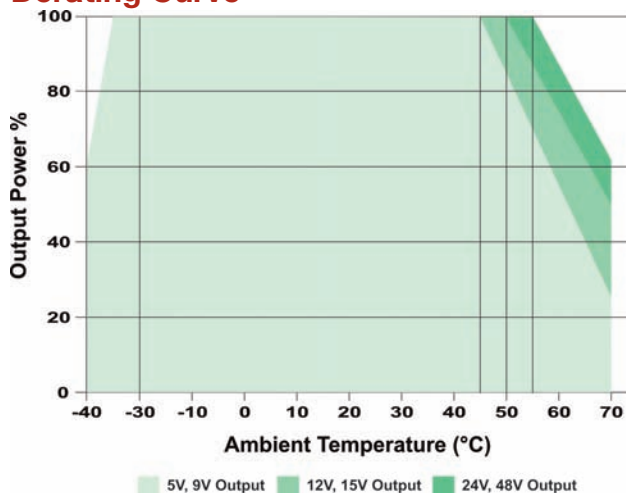
Mechanical Dimensions



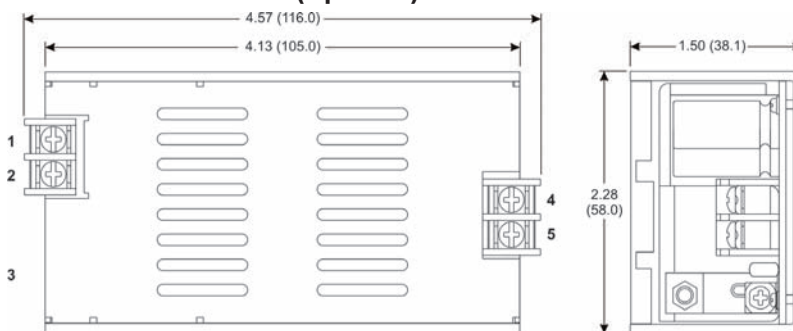
Pin Connections

Pin	Function	Pin	Function
1	AC-Neutral	4	+V _{OUT}
2	AC-Line	5	-V _{OUT}
3	AC-Ground		

Derating Curve



Cover Dimensions (Optional)



Notes:

- All dimensions are typical in inches (mm)
- Tolerance x.xx = ± 0.02 (± 0.50)



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