

# MPU-240S Series

## Compact U-Channel, 240W Power Factor Corrected, AC/DC Power Supplies



### Key Features:

- 250W Output Power
- Universal 90-264 AC Input
- Active PFC = >0.97
- EN 60950 Approved
- Low Leakage Current
- Six Single Output Models
- Meets EN 55022 B
- >50 kHour MTBF
- Only 7.0" x 4.2" x 1.6"



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### 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	90		264	VAC
		120		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			60.0	
Safety Ground Leakage Current	264 VAC			0.5	mA
Power Factor Correction, See Note 1	115 VAC	0.98			W/VA
	230 VAC	0.95			

#### Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage/Current	See Model Selection Guide				
Minimum Load		0.0			%
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 2	12 VDC Output			120	mV P - P
	24, 28, 32, 48 VDC Output			200	
Hold-Up Time	115 VAC	13			mSec
Temperature Coefficient			±0.03		%/°C
Short Circuit Protection, , See Note 3	Latch Off				
Over Voltage Protection, See Note 3	Latch Off (See Model Selection Guide)				
Overload Protection	See Note 4	130		150	%

#### General

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

#### Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	Ambient	-10	+25	+70	°C
Storage Temperature Range		-25		+85	°C
Cooling	Free Air Convection (See Derating Curve)				
Humidity	RH, Non-condensing			95	%

#### Physical

Size	6.0 x 4.18 x 1.38 Inches (150.0 x 106.0 x 35.0 mm)				
Weight	U-Channel	20.45 Oz (0.580 kg)			
	With Cover	21.51 Oz (0.610 kg)			

#### Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	50			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				

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Model Number	Input		Voltage (VDC)	Output			Minimum Load (%)	Maximum Output Power (W)			Over Voltage Protection (VDC)	Efficiency (% Typ)
	Current (A)			Current (A)				Free Air	W/Cover	18 CFM		
	115 VAC	230 VAC	Free Air	W/Cover	18 CFM							
MPU-240S-12T(C)	3.0	1.5	12.0	20.00	16.66	24.00	0.0	240	200	300	15.0	90
MPU-240S-24T(C)	3.0	1.5	24.0	10.00	10.00	12.50	0.0	240	240	300	28.0	92
MPU-240S-28T(C)	3.0	1.5	28.0	8.57	8.57	10.71	0.0	240	240	300	33.0	92
MPU-240S-32T(C)	3.0	1.5	32.0	7.50	7.50	9.37	0.0	240	240	300	38.0	92
MPU-250S-48T(C)	3.0	1.5	48.0	5.00	5.00	6.25	0.0	240	240	300	57.0	93

For Cover option, add suffix "C" to model number (i.e. MPU-240S-12TC)

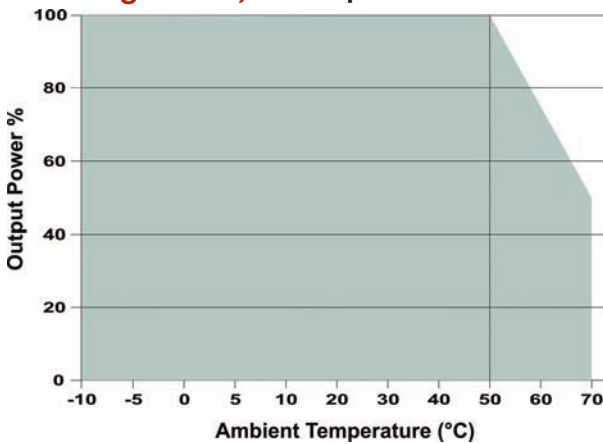
Notes:

1. PFC meets EN61000-3-2.
2. Ripple and noise is measured at 20 MHz bandwidth using a 0.1 μF and a 47 μF capacitor connected in parallel as close to the power supply terminals as possible.
3. Short circuit protection and over voltage protection are provided by latch-off circuits. The unit must be restarted once the fault condition is cleared.
4. Overload protection is provided by a "hiccup mode" circuit. The unit recovers automatically when the fault condition is removed.
5. These units will operate at no load without damage.
6. 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.

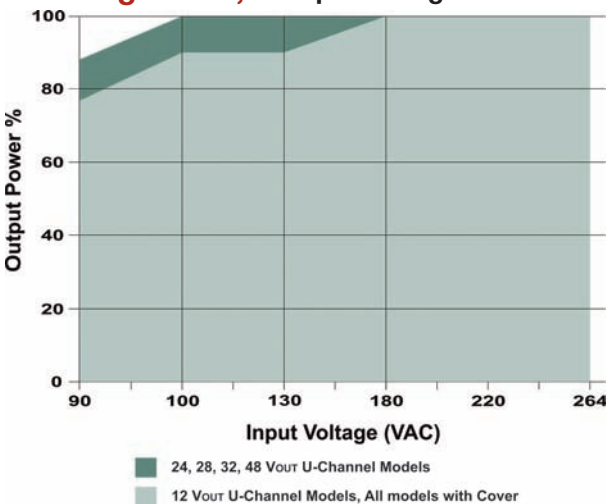
Pin Connections

Pin	Function	Pin	Function
1	AC-Line	4	+V <sub>OUT</sub>
2	AC-Neutral	5	+V <sub>OUT</sub>
3	AC-Ground	6	-V <sub>OUT</sub>
		7	-V <sub>OUT</sub>

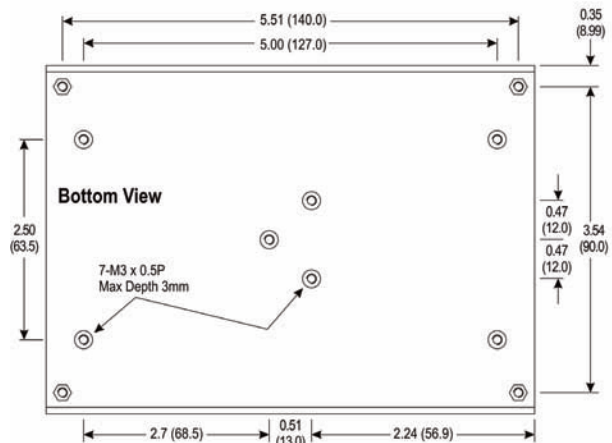
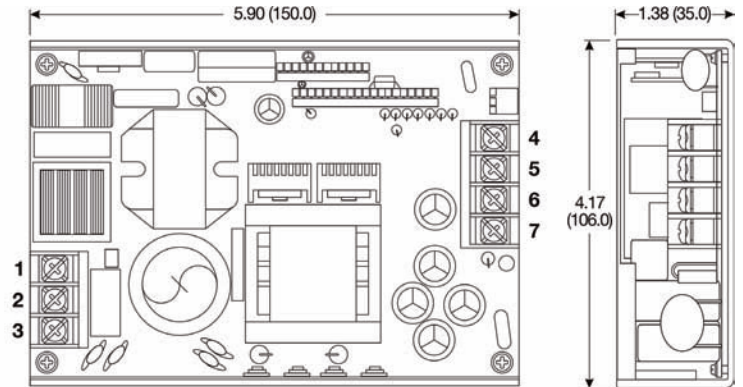
Derating Curve, Vs Temperature



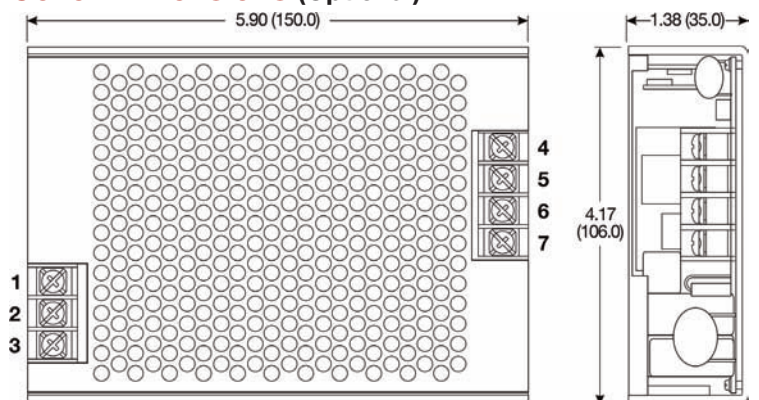
Derating Curve, Vs Input Voltage At 50°C



Mechanical Dimensions



Cover Dimensions (Optional)



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Notes:

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