

# MPU-120S Series

## 120W U-Channel, Power Factor Corrected, AC/DC Power Supplies



### Key Features:

- 120W Output Power
- 180W Power W/18 CFM
- Universal 90-264 AC Input
- Active PFC = >0.99
- EN 60950 Approved
- Low Leakage Current
- Five Single Output Models
- Meets EN 55022 B
- >120 kHour MTBF
- Only 5.0" x 3.2" x 1.5"



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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	115 VAC		0.47		mA
	230 VAC		0.94		
Power Factor Correction, See Note 1	115 VAC	0.99			W/WA
	230 VAC	0.95			

#### Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage/Current	See Model Selection Guide				
Output Voltage Tolerance			±2.0		%
Minimum Output Load	See Note 2	0.0			%
Line Regulation	Vin = Min to Max		±1.0		%
Load Regulation	Iout = 5% to 100%		±1.0		%
Ripple & Noise (20 MHz), See Note 3	5, 12, 15 VDC Output			50	mV P - P
	48 VDC Output			100	
Hold-Up Time	115 VAC	15			mSec
Temperature Coefficient			±0.02		%/°C
Short Circuit Protection	Continuous (Autorecovery)				
Over Voltage Protection	>125% Vout (Autorecovery)				
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) EN 61000-4-2, -6, -8, -11			
		RF Field Susceptibility EN 61000-4-3			
		Electrical Fast Transients/Bursts On Mains EN 61000-4-4			
		Surge EN 61000-4-5			
Switching Frequency	Fixed		100		kHz

#### Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	Ambient	-25	+25	+70	°C
Storage Temperature Range		-40		+85	°C
Cooling	Free Air Convection (See Derating Curve)				
Humidity	RH, Non-condensing			95	%

#### Physical

Parameter	Conditions	Min.	Typ.	Max.	Units
Size	5.0 x 3.24 x 1.5 Inches (127.0 x 82.2 x 38.1 mm)				
Weight	U-Channel			13.47 Oz (0.382 kg)	
	With Cover			14.10 Oz (0.400 kg)	

#### Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	120			kHours
Safety Standards	UL 60950, EN 60950				
Safety Approvals	UL, cUL; File No. E245422				
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		Output Voltage (VDC)	Output Current (A)		Output Power (W Max)		Capacitive Load ( $\mu$ F Max)	Efficiency (% Typ)
	Current (A)			Free Air	18 CFM	Free Air	18 CFM		
	115 VAC	230 VAC							
MPU-120S-05YZ	2.0	1.0	5.0	20.00	24.00	100	120.0	80,000	89
MPU-120S-12YZ	2.0	1.0	12.0	10.00	15.00	120	180.0	40,000	90
MPU-120S-15YZ	2.0	1.0	15.0	8.00	12.00	120	180.0	35,000	90
MPU-120S-24YZ	2.0	1.0	24.0	5.00	7.5	120	180.0	20,000	93
MPU-120S-48YZ	2.0	1.0	48.0	2.50	3.75	120	180.0	1,200	93

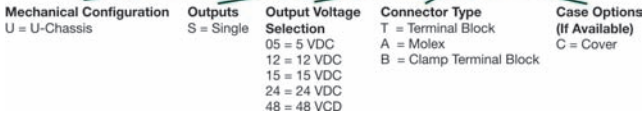
Notes:

- PFC meets EN61000-3-2.
- These units will operate at no load without damage.
- Ripple & noise is measured at 20 MHz bandwidth using a 0.1  $\mu$ F and a 47  $\mu$ 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.
- 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. A 15A/250V slow blow fuse is recommended.

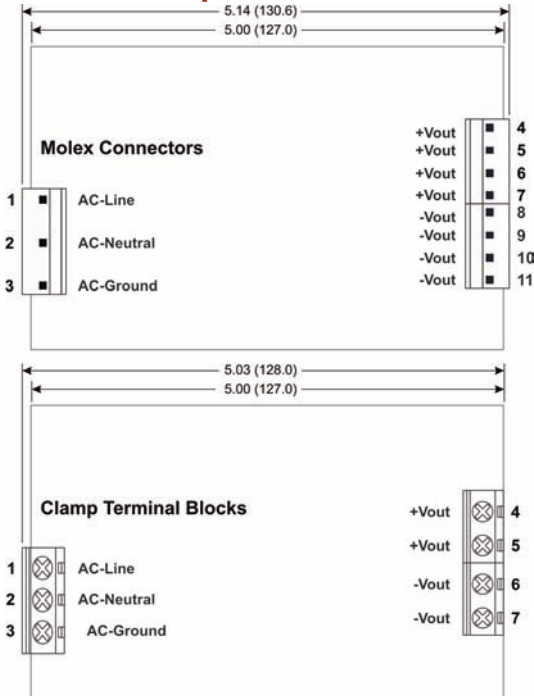
For Open Frame models, see MPO-120S Datasheet

Model Number

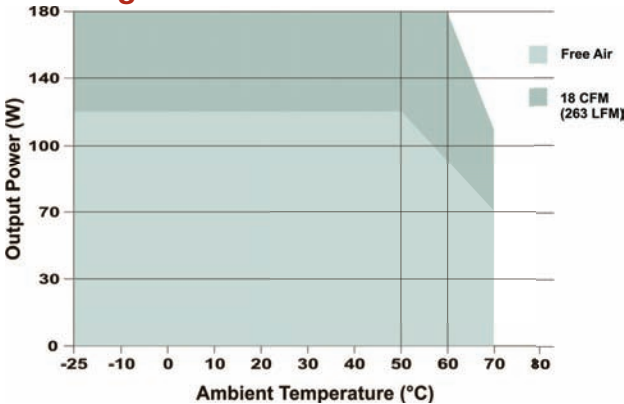
MPU-120S-XXYZ



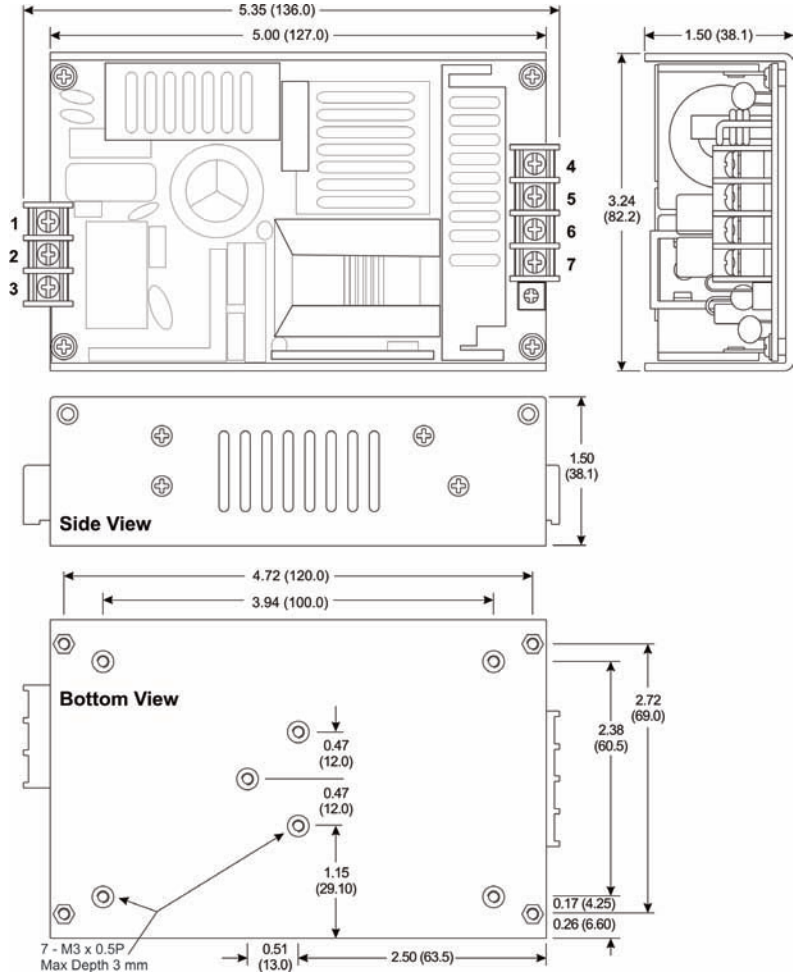
Connector Options



Derating Curve



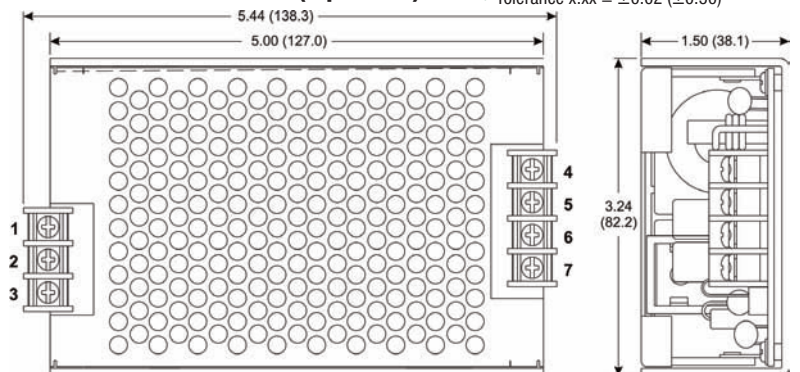
Mechanical Dimensions



Notes:

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

Cover Dimensions (Optional)



Pin Connections

Pin	Function	Pin	Function
1	AC-Line	4	+Vout
2	AC-Neutral	5	+Vout
3	AC-Ground	6	-Vout
		7	-Vout



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