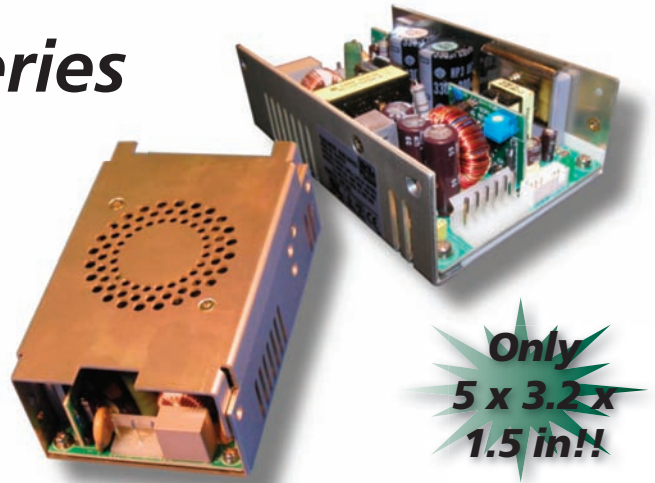


# MPA 150 Series

## Compact 1U 150W Single Output Power Factor Corrected AC/DC Power Supplies



**Only  
5 x 3.2 x  
1.5 in!!**

### Key Features:

- Compact 1U 150W Supply
- PFC to EN61000-3-2 "A"
- UL, cUL, TUV Approvals
- CE Certified
- FCC Class B Emissions
- 3 - 56 V Output Voltages
- Auto Selectable AC Input
- 600W Peak Power
- Four Mechanical Options



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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	Autoranging	90 180		132 264	VAC
Input Frequency		47		63	Hz
Input Current, Full Load	110 - 120 VAC		4		A
	200 - 240 VAC		2		A
Inrush Current, Cold Start	110 VAC			35	A
	220 VAC			70	A
Leakage Current	240 VAC		1.5		mA
Power Factor Correction	Meets EN61000-3-2 Class A				
Input Protection	T4A/250V Fuse				

#### Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Adjustment	By Trim Pot		±5.0		%
Output Regulation (Note 1)			±1.0		%
Hold Time	110 VAC, 80% Load		20		mSec
Ripple & Noise (20 MHz) (Note 2)	See Model Selection Guide				
Overload Protection	Foldback with Autorecovery	110		140	%
Over Voltage Protection	>130% of Rated Output Voltage. Recycle AC Input.				
Over Temperature Protection	>+85°C Ambient with Autorecovery				
Temperature Coefficient			±0.04		%/°C
Transient Recovery Time (Note 3)	50% Load Change		2.5		mS
Transient Response Deviation			5		%
Overshoot/Undershoot	At Turn On/Off			±5.0	%
Turn On Delay	120 VAC			1	S
Output Short Circuit	Continuous With Autorecovery				

#### General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage (Note 4)	Input - Output	3,000			VAC
	Input - FG (Frame Ground)	1,500			
	Primary - Core	1,500			
Switching Frequency	Fixed		25		kHz

#### Interface Signals

Power Supply On	Green LED (LED1) on the PCB
Power Good Signal	PG on CN1. Goes TTL high 100 to 500 mS after regulation. Goes low at least 1 mS before the loss of regulation. Will sink 100 mA.
Remote On/Off	RMSW on CN1. A TTL low signal inhibits the output. Hiccup Mode

#### Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	Ambient	0	+25	+50	°C
Output Derating	2.5%/ °C from +50 °C to + 70 °C				
Storage Temperature Range		-20		+85	°C
Cooling	See Model Selection Guide				
Operating Humidity	RH, Non-condensing			90	%

#### Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 30°C, Gnd Benign	100			kHours
Safety Standards	UL 60950; CSA C22.2 No. 60950; TUV EN60950; CB Report (IEC 60950)				
EEMI Compliance	Compliance to EN55022 (CISPR22) Class B; EN61000-3-2,3				
EMS Immunity Compliance	EN6100-4-2,3,4,5,6,8,11; EN55024;; CE Marked (LVD)				

# Model Selection Guide

Model Number	Output Voltage		Max. Output Current (Note 5,6,7)			Ripple & Noise	Efficiency (Note 7)
	Factory PreSet	Range	16 CFM (U/w Air, E, F)	Convection (U)	Min.		
MPA150x-03z	3.3 VDC	3.0 - 4.0 VDC	30.00A	20.00A	0.0A	50 mV p-p	70%
MPA150x-05z	5 VDC	5.0 - 6.0 VDC	30.00A	20.00A	0.0A	50 mV p-p	75%
MPA150x-12z	12 VDC	12.0 - 16.0 VDC	12.50A	8.33A	0.0A	±1% p-p	80%
MPA150x-18z	18 VDC	17.0 - 23.0 VDC	8.33A	5.55A	0.0A	±1% p-p	83%
MPA150x-24z	24 VDC	24.0 - 30.0 VDC	6.25A	4.16A	0.0A	±1% p-p	83%
MPA150x-48z	48 VDC	35.0 - 56.0 VDC	3.12A	2.08A	0.0A	±1% p-p	83%

**Notes:**

1. Output regulation includes line & load.
2. Ripple & noise is measured from 10 Hz to 20 MHz. Measurement connection to the unit is made with a 0.1 µF ceramic capacitor & a 22 µF electrolytic capacitor connected in parallel.
3. Transient recovery is measured to within a 1% error band for a load step change of 50% to 100%.
4. Isolation specifications are production HI-Pot tested for 3 seconds.
5. The full output range (see table above) is covered in the safety agency certification. Standard models are factory set to the "Preset" voltage. This may be set to other levels within the range without affecting the agency certification. For more information, contact the factory.
6. Units will provide peak power of 600W for 500 µs. For units capable of longer durations, contact the factory.
7. A 1% minimum load is required to maintain regulation and ripple specifications.

**Input Connector CN3:**

Mating Molex Part No. 09-91-0500 (5 pin, 3 used) or Howder Terminal Block No. HD-603-3P (3-pin) or equivalent.

**Output Connector CN2:**

Mating Molex Part No. 09-91-0600 (6 pin) or Howder Terminal Block No. HD-601-4P (4-pin) or equivalent.

**Output Pin Assignment:**

Howder	Molex
Pins 1 ~ 2: V+	Pins 1 ~ 3: V+
Pins 3 ~ 4: V-	Pins 4 ~ 6: V-

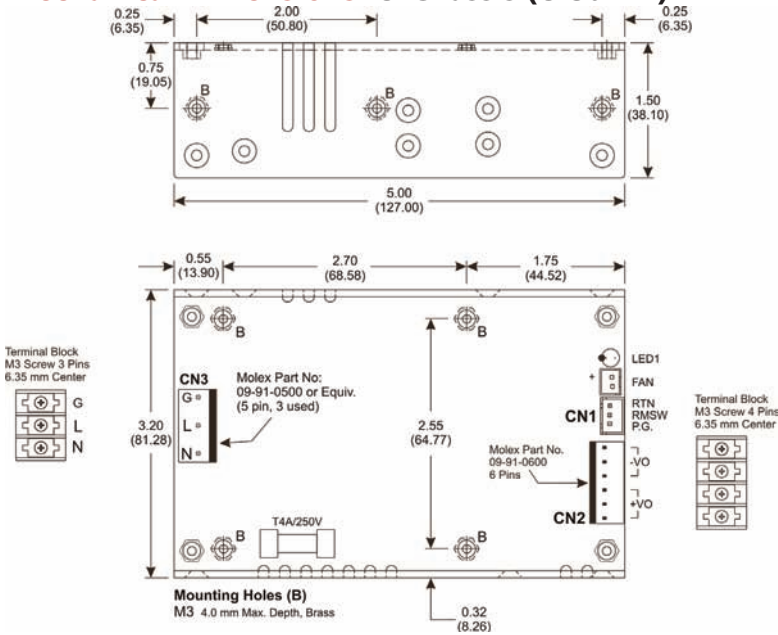
**Logic Signal Connector CN1:**

Mating JST XHP-3 or equivalent (CHYAO SHIUNN JS-2001-03).

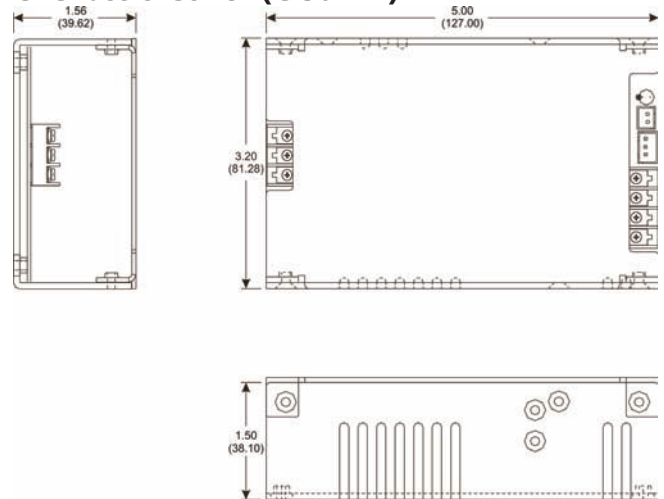
**Fan driver connector (FAN):**

12 VDC / 300 mA is available to drive an external fan. Mating JST XHP-2 or equivalent (CHYAO SHIUNN JS-2001-02).

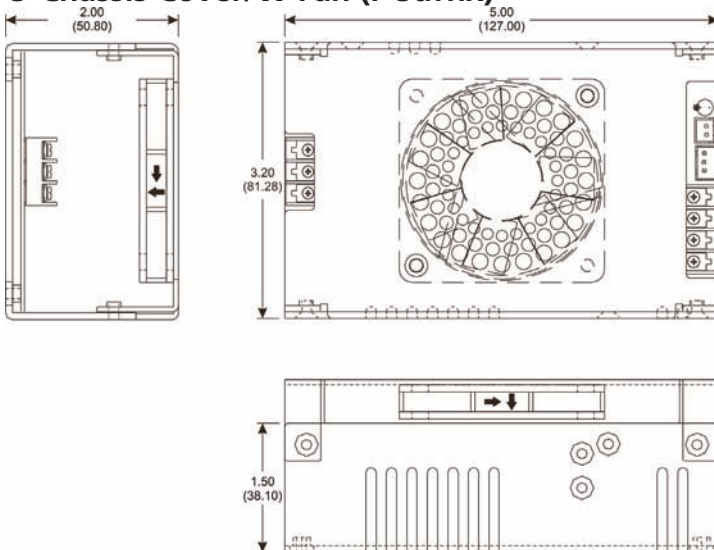
## Mechanical Dimensions: U-Chassis (U Suffix)



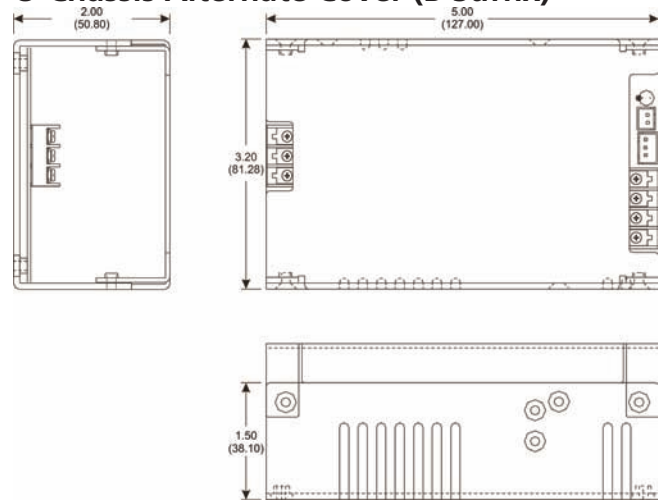
## U-Chassis Cover (C Suffix)



## U-Chassis Cover/W Fan (F Suffix)



## U-Chassis Alternate Cover (B Suffix)



## MPA 150X-YZ

Mechanical Configuration  
 U = U-Chassis  
 C = U-Chassis with Cover  
 B = U-Chassis with Alt Cover  
 F = U-Chassis With Top Fan

Output Voltage Selection  
 (i.e. 05 = 5 VDC,  
 24 = 24 VDC, etc)

Input/Output Connector Type  
 M = Molex  
 T = Terminal Block



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