

Specification

AC INPUT VOLTAGE

90~264V AC, 47~440Hz, 27~370VDC.

AC INPUT CURRENT (Typ.)

Maximum input current: 2.9A at 15VAC, 0Hz or 1.7A at 30VAC, 0Hz with 100% output load.

INRUSH CURRENT (Typ.)

Inrush current is less than 2.9A at 15VAC or less than 4.5A at 30VAC under cold start conditions. Limiting provided by internal thermistors.

SETUP RISE TIME

MPS-120: 800ms/20ms/30VAC full load
2000ms/50ms/15VAC full load
MPD, T, Q-120: 500ms/20ms/30VAC full load
1200ms/50ms/15VAC full load

HOLD-UP TIME (Typ.)

80ms/30VAC full load
14ms/15VAC full load

LEAKAGE CURRENT

Leakage current is less than 180 μ A at 264VAC

DC OUTPUT ADJUSTMENT RANGE

DC output voltage (output from multiple output models) can be adjusted between -5%~+10% at rated output voltage by potentiometer.

OVERLOAD PROTECTION

Fully protected against short circuit and output overload. The in-circuit protection will be activated at 10~150% (FoM PD, T, Q-120), 120~160% (FoM PS-120) at rated load and recovers automatically after fault conditions are removed.

OVERVOLTAGE PROTECTION

Provides output terminal voltage of 15%~135% rated output voltage (120%~140% of MPS-120/15/24/48). Output will be held on when overvoltage protection is activated.

POWER GOOD FAIL SIGNAL (OPTIONAL)

TTL logic high or open collector and TTL low or power fail. When the output voltage reaches 90% of rated value at 5V TTL signal will be enabled with 10~50ms delay. At least 1ms before the output voltage reaches 90% of the rated value the TTL signal will be turned off.
*MPS-120-3.3d does not have this optional function.

WORKING TEMPERATURE

Whole series are operated from 20~70 $^{\circ}$ C. Please refer to the derating curves.

WORKING HUMIDITY

20~90%RH non-condensing.

STORAGE TEMPERATURE HUMIDITY

-40~+85 $^{\circ}$ C, 10~90%RH

Features

- Universal AC input voltage
- Low leakage current < 180 μ A
- Protection: Short circuit, overload, overvoltage
- UL60601-1 medical safety approved
- With power good and fail signal output (Optional)
- 100% full load efficiency
- Fixed switching frequency at 5KHz
- 3 years warranty



TEMPERATURE COEFFICIENT

$\pm 0.04\%/^{\circ}$ C or as load output full load between 0~50 $^{\circ}$ C ambient temperature.

VIBRATION

2G acceleration vibration frequency adjusted from 0Hz~500Hz with 10-minute cycle test; cycles (60 minutes) per axis, X, Y, Z axes.

SAFETY STANDARDS

Medical: UL60601-1, TUVE N60601-1, IEC60601-1 approved
Commercial: Also design effect of IEC60950-1, TUVE N60950-1

WITHSTAND VOLTAGE

4000VAC between input and output
1500VAC between input and G.
500VAC between output and G.

ISOLATION RESISTANCE

>100M Ω hms of I/P-O/P/P-FGO/P-FG by using 500VDC test voltage.

EMC COMPLIANCE

EMC specifications	Compliance level
Conducted & R adiation	EN55011, Class B
	EN55022, Class B
Harmonic distortion	EN61000-3-2
Voltage flicker	EN61000-3-3

EMSC COMPLIANCE

EMC specification	Compliance level
ESD air	EN61000-4-2, Level 3 8KV
ESD contact	EN61000-4-2, Level 2 4KV
RF fields susceptibility	EN61000-4-3, Level 2 3V/m Level 3 10V/m
EFT (Electrical Fast Transient)/Burst	EN61000-4-4, Level 2 1KV/5KHz Level 2 2KV/5KHz
Lightning/Surge	EN61000-4-5, Level 4 2KV/Line-Line 4KV/Line-Earth
Conducted RFs susceptibility	EN61000-4-6, Level 2 3Vrms/m Level 3 10Vrms/m
Magnetic field immunity	EN61000-4-8, Level 2 3A/m Level 3 10A/m
Voltage dip interruption	EN61000-4-11, Compliance
Digitally conducted immunity	ENV50204, Level 2 3V/m, 900MHz Level 3 10A/m, 900MHz

MTBF

262,100 hours mean time to failure at full load and 25 $^{\circ}$ C ambient temperature, calculated per MIL-HDBK-217F.

DIMENSION (L*W*H)

177.8x107.95x35.5mm or 7"x4.25"x1.4"

PACKING

0.55Kg/24pcs/14.5Kg/0.99CUFT



1~40 utpuM edical Type

120W edical series

Output Chart

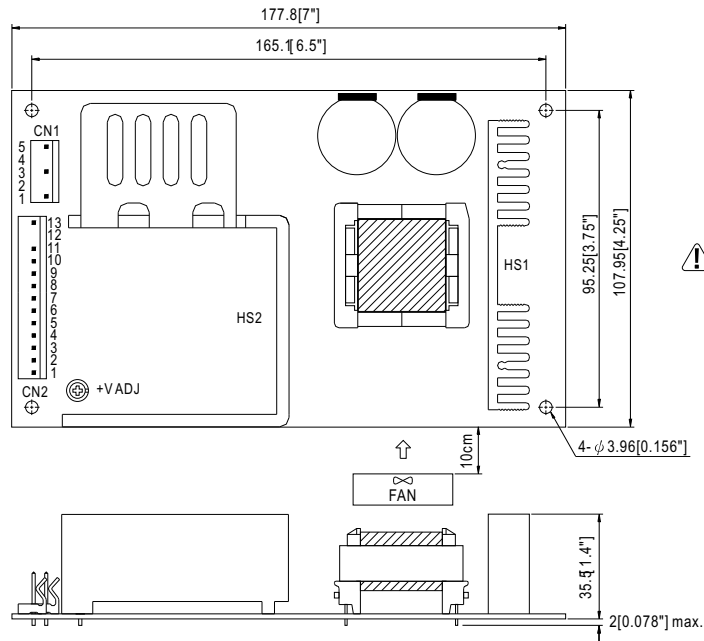
MODEL	OUTPUT VOLTAGE	RATED CURRENT	OUTPUT CURRENT				RIPPLE & NOISE (Max.) (Note2)	VOLTAGE TOLERANCE (Note3)	LINE REGULATION	LOAD REGULATION	EFFICIENCY
			MINIMUM LOAD	CONVECTION (max.)	WITH FAN (25CFM)	PEAK LOAD WITH 2.5CFM FAN (Note4)					
MPS-120-3.3	3.3V	24A	0A	16A	24A	26A	80mVp-p	±3.0%	±1.0%	±3.0%	68%
MPS-120-5	5V	22A	0A	14.7A	22A	26A	80mVp-p	±3.0%	±1.0%	±3.0%	73%
MPS-120-12	12V	10A	0A	6.7A	10A	11A	100mVp-p	±2.0%	±1.0%	±2.0%	77%
MPS-120-15	15V	8A	0A	5.3A	8A	8.8A	100mVp-p	±2.0%	±1.0%	±2.0%	79%
MPS-120-24	24V	5A	0A	3.3A	5A	5.5A	120mVp-p	±2.0%	±1.0%	±2.0%	81%
MPS-120-48	48V	2.5A	0A	1.7A	2.5A	2.8A	120mVp-p	±2.0%	±1.0%	±2.0%	82%
MPD-120A	5V	10A	2A	7.3A	10A	12A	80mVp-p	±2.0%	±0.5%	±0.5%	75%
	12V	5A	0.5A	3.6A	5A	6A	120mVp-p	±7.0%	±2.0%	±3.5%	
MPD-120B	5V	10A	2A	7A	10A	12A	80mVp-p	±2.0%	±0.5%	±0.5%	76%
	24V	2.9A	0.3A	1.9A	2.9A	3.2A	250mVp-p	±8.0%	±2.0%	±4.0%	
MPT-120A	5V	10A	2A	7.3A	10A	12A	80mVp-p	±2.0%	±0.5%	±1.0%	72%
	12V	4.8A	0.4A	3.5A	4.8A	5.8A	120mVp-p	+8,-6%	±1.5%	±3.5%	
	-5V	0.6A	0A	0.3A	0.6A	1A	80mVp-p	±5.0%	±0.5%	±1.0%	
MPT-120B	5V	10A	2A	7.3A	10A	12A	80mVp-p	±2.0%	±0.5%	±1.0%	73%
	12V	4.4A	0.4A	3.2A	4.4A	5.3A	120mVp-p	±6.0%	±1.5%	±3.5%	
	-12V	0.6A	0A	0.4A	0.6A	1A	80mVp-p	±5.0%	±0.5%	±1.0%	
MPT-120C	5V	10A	2A	7A	10A	11A	80mVp-p	±2.0%	±0.5%	±1.0%	72%
	15V	4A	0.4A	2.6A	4A	4.4A	150mVp-p	+6,-7%	±2.0%	±3.5%	
	-15V	0.6A	0A	0.4A	0.6A	1A	80mVp-p	±5.0%	±0.5%	±1.0%	
MPT-120D	5V	10A	2A	7.3A	10A	12A	80mVp-p	±2.0%	±0.5%	±1.0%	74%
	24V	2.2A	0.4A	1.6A	2.2A	2.64A	300mVp-p	+8,-6%	±3.0%	+4,-3%	
	12V	0.6A	0A	0.4A	0.6A	1A	120mVp-p	±5.0%	±0.5%	±1.0%	
MPQ-120B	5V	10A	2A	7.3A	10A	11A	80mVp-p	±2.0%	±0.5%	±0.5%	71%
	12V	4.2A	0.5A	3.1A	4.2A	5A	120mVp-p	±6.0%	±1.5%	±3.5%	
	-5V	0.6A	0A	0.4A	0.6A	1A	80mVp-p	±5.0%	±0.5%	±1.0%	
	-12V	0.6A	0A	0.4A	0.6A	1A	80mVp-p	±5.0%	±0.5%	±1.0%	
MPQ-120C	5V	10A	2A	7.3A	10A	11A	80mVp-p	±2.0%	±0.5%	±0.5%	71%
	15V	3.2A	0.5A	2.4A	3.2A	3.8A	150mVp-p	+6,-7%	±2.0%	±3.5%	
	-5V	0.6A	0A	0.4A	0.6A	1A	80mVp-p	±5.0%	±0.5%	±1.0%	
	-15V	0.6A	0A	0.4A	0.6A	1A	80mVp-p	±5.0%	±0.5%	±1.0%	
MPQ-120D	5V	10A	2A	7A	10A	11A	80mVp-p	±2.0%	±0.5%	±0.5%	74%
	12V	1A	0.2A	0.7A	1A	1.1A	150mVp-p	+8,-6%	±2.0%	±3.5%	
	24V	2.1A	0.3A	1.4A	2.1A	2.3A	300mVp-p	±8.0%	±2.0%	±3.5%	
	-12V	0.6A	0A	0.3A	0.6A	1A	80mVp-p	±5.0%	±0.5%	±1.0%	
MPQ-120E	5V	10A	2A	7.3A	10A	11A	80mVp-p	±2.0%	±0.5%	±0.5%	73%
	12V	3A	0.5A	2.3A	3A	3.3A	120mVp-p	±6.0%	±2.0%	±3.0%	
	15V	0.6A	0A	0.4A	0.6A	1A	80mVp-p	±8.0%	±2.0%	±3.0%	
	24V	0.6A	0A	0.4A	0.6A	1A	80mVp-p	±5.0%	±0.5%	±1.0%	

Notes

- All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
- Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1µf & 47µf parallel capacitor.
- Tolerance : includes set up tolerance, line regulation and load regulation.
- 33% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power.
- The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on <http://www.meanwell.com>)
- Heat Sink HS1, HS2 can not be shorted.

Mechanical Specification

Unit:mm



Pin Assignment

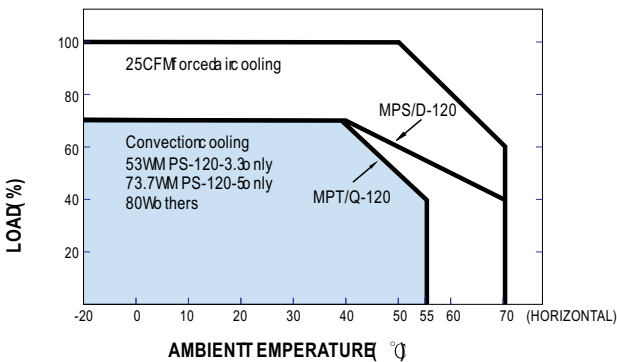
AC input connector (CN1) Molex 273-0500 equivalent

Pin No.	MPS-120	MPD-120	MPT-120	MPQ-120	Mating housing	Terminal
1	FG	FG	FG	FG	Molex 195 ø equivalent	Molex 194 ø equivalent
2,4	N/P in	N/P in	N/P in	N/P in		
3	AC/N	AC/N	AC/N	AC/N		
5	AC/L	AC/L	AC/L	AC/L		

DC output connector (CN2) Molex 273-1300 equivalent

Pin No.	MPS-120	MPD-120	MPT-120	MPQ-120	Mating housing	Terminal
1	+V	V1	V1	V1	Molex 195 ø equivalent	Molex 194 ø equivalent
2	+V	V1	V1	V1		
3	+V	V1	V1	V1		
4	-V	COM	COM	COM		
5	-V	COM	COM	COM		
6	-V	COM	COM	COM		
7	-V	COM	COM	COM		
8	+V	V2	V2	V2		
9	+V	V2	V2	V2		
10	P.F.D.	P.F.D.	P.F.D.	P.F.D.		
11	NC	NC	V3	V3		
12	N/P in	N/P in	N/P in	N/P in		
13	NC	NC	NC	V4		

Derating Curve



Static Characteristics

