

规格承认书

SPECIFICATION FOR APPROVAL

产品类别
PRODUCT

DC-DC ATX POWER SUPPLY

规格型号
PART NUMBER

MPICO-120

客户名称
CUSTOMER NAME

批准 APPROVAL SIGNATURE
日期 DATE:



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** Table Of Content **

1. Input Requirements.....	03
1-1. Input Voltage.....	03
1-2. Turn On Delay.....	03
1-3. At maximum load.....	03
2. Output Requirements.....	03
2-1. DC Load Requirements.....	03
2-2. Frequency.....	04
2-3. DC Output Voltage Ripple And Noise.....	04
2-4. Remote ON/OFF Control.....	05
2-5. Output Regulations.....	05
2-6. Power Sequence	05
2-6-1. Rise Time (T1).....	05
2-6-2. Power Good Signal (T2).....	05
2-6-3. Power Fail Signal (T3).....	05
2-6-4. Hold Up Time (T4).....	05
2-6-5. Turn On Delay Time (T5)	05
3. Protections.....	06
3-1. Short Circuit Protection.....	06
3-2. Over Voltage Protection	06
3-3. Protection Reset.....	06
4. Environment.....	06
4-1. Operating/Storage Temperature Range.....	06
4-2. Humidity.....	06
5. Physical dimension.....	07



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1. Input Requirements

1-1. Input Voltage

V_{in} =12V regulated, min=1A, max=16A (load dependent)

Input Range	11.4 -- 12.6VAC
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- Over-voltage shutdown will occur at about $V_{in} \geq 13.8V$.

1-2. Turn On Delay

At least 20 ms is needed for the raise of +5VSB rail to reach its peak, after turning on. Voltage raise is measured from 5% to 95% of peak.

1-3. At maximum load, forced air ventilation is required.

Peak load should not exceed 60 seconds.

Combined maximum power output should not exceed 130 Watts.

For fanless or improper ventilation operation, de-rate the output of +5V and +3.3V rails by about 20%.

2. Output Requirements

2-1. DC Load Requirements :

Voltage Rail	Typical Load	Max Load	Peak Load	Regulation
+5V plus +5VSB	5 A	6 A	8 A	±5%
+3.3V	4 A	6 A	8 A	±5%
-12V	20 mA	50 mA	100 mA	±10%
+12V	5 A	7 A	10 A	Depends on DC input



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At maximum load, forced air ventilation is required.

Peak load should not exceed 60 seconds.

Combined maximum power output should not exceed 120 Watts.

For fanless or improper ventilation operation, de-rate the output of +5V and +3.3V rails by about 20%.

2-2. Efficiency

Efficiency Ratings

Load on +5V Rail	Efficiency of +5V Rail	Load on +3.3V Rail	Efficiency of +3.3V Rail
2 A	88%	2 A	86%
4 A	93%	4 A	93%
6 A	94%	6 A	94%
8 A	91%	8 A	91%

2-3. DC Output Voltage Ripple and Noise

Output Voltage	Ripple Max	Noise Max.	Units
+5V	50	150	mV
+12V	80	200	mV
-12V	120	300	mV
+3.3V	100	200	mV
+5Vsb	50	150	mV

Note : The measurements should be made by crossing a 10uF/ tantalum and a 0.1uF/Ceramic capacitors at each output with measuring bandwidth from DC to 20 MHz. If ambient temperature is under 20°C or over 30°C, the AC input should be nominal input.



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2-4. Remote ON/OFF Control

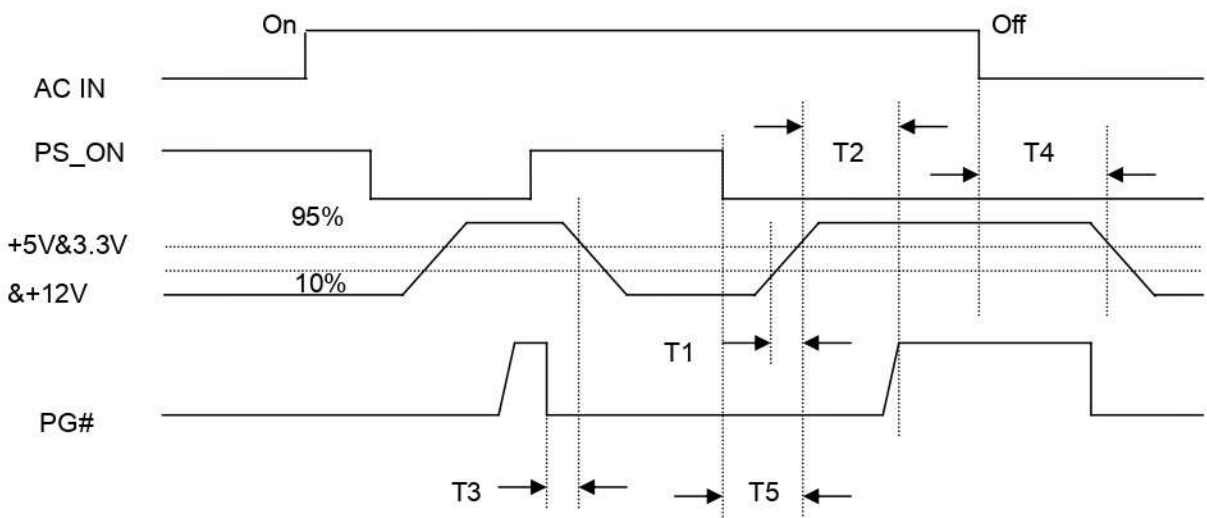
The power supply outputs shall be enabled with an active-low TTL signal.
 When TTL signal is low, the DC outputs are to be enabled.
 When TTL signal is high or open circuited, the DC outputs are to be disabled.
 Electronic means or a mechanical switch may activate the TTL signal.
 After the TTL signal is active high, must wait for 3 seconds before active low again.

2-5. Output Regulations

Output Voltage	MIN	Nominal	MAX	Units
+5V	+4.75	+5.00	+5.25	Volts
+12V	+11.40	+12.00	+12.60	Volts
-12V	-10.80	-12.00	-13.20	Volts
+3.3V	+3.14	+3.30	+3.47	Volts
+5Vsb	+4.75	+5.00	+5.25	Volts

Note : 1). The above voltage range should also include ripple and noise.
 2). The output voltage should be measured at the terminals of output connector.

2-6. Power Sequence





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2-6-1. Rise Time (T1)

MAX.	Units
20	ms

2-6-2. Power Good Signal (T2)

MIN.	MAX.	Units
100	500	ms

The test environment is 25°C condition @ nominal input.

2-6-3. Power Fail Signal (T3)

Power good signal shall go to a down level 1ms before +5V output voltage falls below the regulation limits during PS-ON signal pull high.

MIN.	Units
0.5	ms

2-6-4. Hold Up Time (T4)

MIN.	Units
10	ms

The test environment is 25°C & full load condition @ nominal input.

2-6-5. Turn On Delay Time (T5)

MIN.	MAX	Units
100	1000	ms



3. Protections

3-1. Short Circuit Protection

Outputs	GND	-12V	+3.3 V	+5V	+12V
+5 Vstb	PASS	PASS	PASS	PASS	PASS
+12V	PASS	PASS	PASS	PASS	
+5 V	PASS	PASS	PASS		
+3.3V	PASS	PASS			
-12V					

(The contact resistance is 0.05 ohm when the outputs short circuit.)

3-2. Over Voltage Protection

Any output overshoot at turn on shall be less than 15% of the nominal output value (with resistive load).

OUTPUTS	RANGE
12V	13.4V-15.6V
3.3 V	3.76V-4.3V
5 V	5.74V-7.0V

3-3. Protection Reset

When the power supply latches into shutdown condition due to a fault on an output (OPP, OVP, LVP), the protection shall reset after the fault has been removed, use remote on/off control or recycle the AC power again for a typical of 15 seconds.

4. Environment

4-1. Operation/Storage Temperature Range

Operation : 0°C to 40°C

Storage: -40°C to 80°C

Note :25°C full load at 40°C full load 80%

4-2. Humidity (non condensing)

Operation : 20% to 80% RH

Storage : 10% to 95% RH

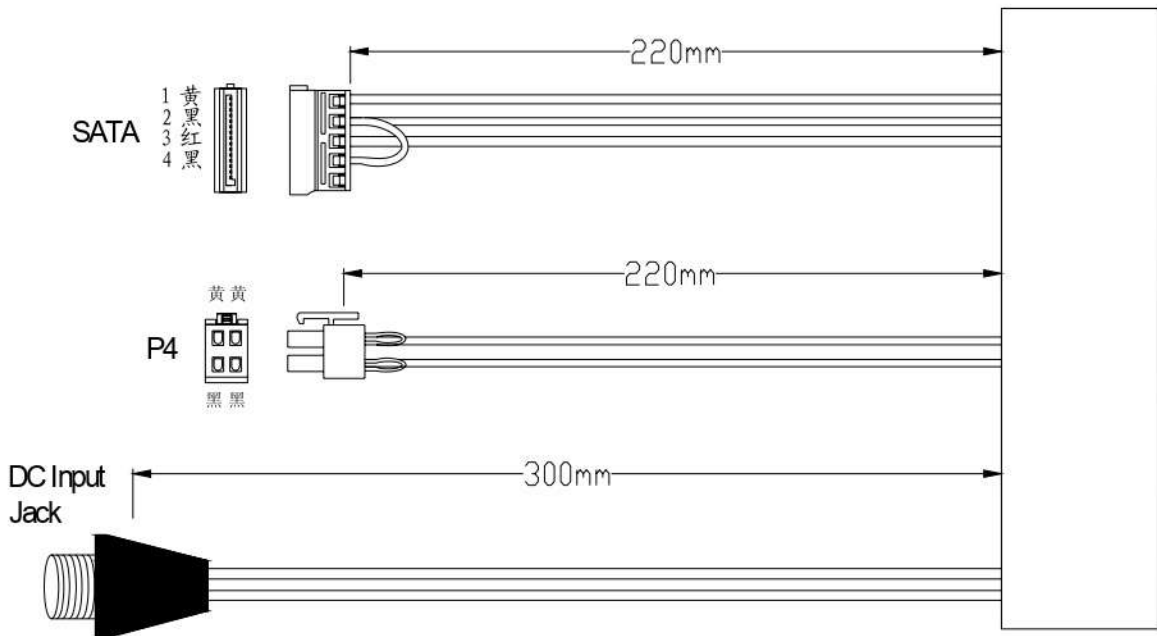
5. PHYSICAL DIMENSION AND CONNECTOR

5-1-2. DC INPUT JACK

- 5.5mm x 2.5mm x 10mm, female, panel mount.
- Length of DC input cable is about 200m.

5-1. Option for wire and connector

- One 24pin main power connector on PSU, ATX standard compatible.
- One 4pin CPU power connector.
- One SATA hard drive power connectors.



5-2. Physical Dimensions : 61*36mm

