

SPECIFICATION FOR APPROVAL

(PB-FREE APPLICATION)

CUSTOMER	:	
ITEM	:	POWER SUPPLY UNIT (for 24" HD MNT)
DESCRIPTION	:	130W BUILT-IN POWER SUPPLY UNIT
CUSTOMER P/N	:	
ISSUED P/N	:	2
DATE	:	2008. 08.25

CUSTOMER'S APPROVED

APPROVED		
2008. .		
BTC TOPSYNC		
MODEL		
DESC		
PART NO.		
EN'GR	CHECKED	APPROVED

*REV NO. :				
	CUIT.	MECH.	SAFETY	EMI
CHECKD				
APPROVED				

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DESIGN & MANUFACTURE : FRONTEK Co.,Ltd.

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TO.

DATE : 2008.08.25

7-3Lot , 4Block, 4-Complex, Gumi NationalIndustrial, Bongsan-ri, Sandong-Myeon, Gumi-City, Kyoungbuk, Korea.

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DOCUMENTATION FOR APPROVAL

PRODUCT : 130W BUILT-IN POWER SUPPLY UNIT

MODEL NAME : FPS0130-03A

COSTOMER MODEL NAME :

WRITTEN	CHECKED	APPROVAL

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PLEASE RETURN ONE DOCUMENT AFTER APPROVED SIGN.

P/N0	FPS0130-03A	REV NO. : 2.0
REMARKS		DATE : 2008.08.25

1. Revision History

DATE	PURPOSE	PAGE	CONTENTS OF ALTERATION

P/N0	FPS0130-03A	REV NO. : 2.0
REMARKS		DATE : 2008.08.25
<p>1. INTRODUCTION</p> <p>1.1 Product Description</p> <p>This specification defines the input, output, performance characteristics, environment, noise and safety requirements for a 130watts Power Supply.</p> <p>1.2 Parameter Specification</p> <p>Unless specification otherwise, all parameters must be met over the limit of Temperature, Load, and input voltage.</p> <p>2. ELECTRICAL REQUIREMENTS</p> <p>2.1 Input Requirements</p> <p>2.1.1 Input Voltages</p> <p>Normal Voltage : 220 Vrms Voltage Range : 198 ~ 242 Vrms</p> <p>2.1.2 Frequency</p> <p>Normal Frequency : 50 to 60Hz Frequency Range : 47 to 63Hz</p> <p>2.1.3 Input Current</p> <p>≤ 1.4 Arms at 220 Vac input</p> <p>2.1.4 Configuration</p> <p>3 Conductors (Live, Neutral, F.G)</p> <p>2.1.5 Input Fuse</p> <p>The live line side of the input shall have a fuse.</p> <p>2.1.6 Primary Over Current Protection</p> <p>An adequate internal fuse on the AC input line shall be provided.</p>		
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2.1.7 Inrush Current

242V 50Amax.

2.1.8 Earth Leakage Current

0.5mA peak (220VAC)

2.1.9 Hi-Pot Test (Dielectric Withstand Voltage)

Leakage (Cutoff) Current : 10mA

Primary to Secondary : 1.5KVAC for 1 minute

Mass production : 1.65KVAC for 3 seconds at Primary to GND

2.1.10 Insulation Resistance

Insulation resistance shall be 100MΩ at 500Vdc between primary Live, Neutral line and secondary.

2.1.11 Input AC Surge

The power supply withstand 300Vrms input for 10 seconds.

2.1.12 Input Surge Immunity Test.

No degradation in performance was observed during under the condition.

All Supply lead (L /N /F.G) : 2kVmax at all phase(0° /90° /180° /270°).

2.2 Output Requirements

2.2.1 Output Voltage and Current

Output voltage	Minimum output voltage	Maximum output voltage	Output Current
			Continuous
+24Vdc	+22.8Vdc (-5%)	+25.2Vdc (+5%)	0A-5.0A (120Watts)
+12Vdc	+11.4Vdc (-5%)	+12.6Vdc (+5%)	0A-1.0A (12Watts)

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2.2.2 Output Voltage Requirement

The total output voltage regulation shall be $\pm 5\%$, including the effects of line Voltage variation, load current, ripple and noise, and the AC component of the load Current.

2.2.3 Ripple and Noise

The power supply shall not exceed the following limits on the indicated voltage for 60Hz or 50Hz ripple, switching frequency ripple and noise and dynamic load variation, measured with a 20MHz bandwidth.

The effect of dynamic load changes is not included in this limit.

A	B
22.8 – 25.2Vdc	0.5 Vp-p (500mV)
11.4 – 12.6Vdc	0.25 Vp-p (250mV)

Column A: output voltage

Column B: AC ripple + switching ripple and noise

* Ripple and noise are measured at the end of output cable which are added a 0.1uF ceramic capacitor and 47uF electrolytic capacitor.(connected parallel)

2.2.4 Efficiency

When 198 – 242Vac line input voltage(220 Vac), the efficiency shall be 85% or better under maximum load.

2.2.5 Over Current Protection (Latch)

The power supply shall not be damaged by a over current from the Output to return line. If the power entered the OCP mode, It shall be Shut Down and Latch

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2.2.6 Short Circuit Protection

The power supply shall not be damaged by short between DC output and DC ground.

2.2.7 Open Circuit Protection

When primary power is applied with no load on any output level, no damage or Hazardous Conditions should occur.

2.2.8 Overshoot

The output overshoot at turn –on shall not exceed 10% of normal voltage value with or without the load connected.

2.2.9 Drop-Out

With a half cycle input voltage drop - out, the unit shall operate with the prescribed Voltages with a drop – out pulse repetition rate of 500ms.

Conditions	Limits
Full load, normal input AC voltage	Meet all requirements

2.2.10 Turn-on Delay

4 second maximum. Tested 220Vac input and full load at output.

2.2.11 Hold Up Time

10ms minimum. Tested 220Vac input and full load at output.

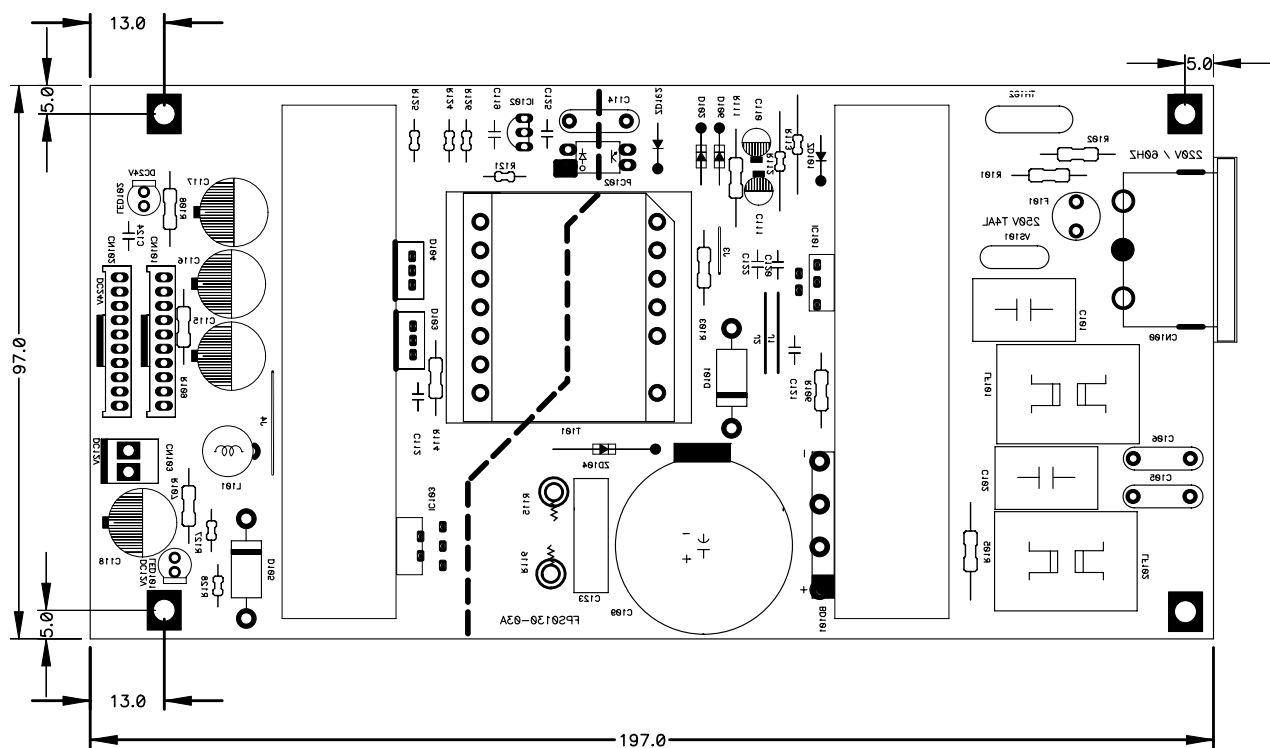
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<p>3. COOLING</p> <p>Cooling shall be with natural convection cooling.</p> <p>4. ENVIRONMENTAL REQUIREMENTS</p> <p>4.1 Temperature</p> <p>Operating : 0℃ to +50℃ Storage : -25℃ to +60℃</p> <p>4.2 Humidity</p> <p>Operating : 5% to 95% non-condensing Storage : 5% to 100% non-condensing</p> <p>5. RELIABILITY</p> <p>5.1 Mean Time Between Failure (MTBF)</p> <p>The power supply shall be designed and produced to have a mean time between failures (MTBF) Of 20,000 operating hours at 90% confidence – level while operating under the following condition.</p> <p>AC input voltage : 220Vac Duty cycle : 4hours ON, 2hours OFF Ambient Temp. : 25 ±2℃ Humidity : prevailing condition</p> <p>5.2 Life/Power On Hours</p> <p>The power supply must be designed to operate for 20,000 power – on – hours, about 1 years at An ambient temperature of 25℃</p>		
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6. BURN-IN

4hours at 40℃ (±10℃), Normal input voltage, 90% Upper of maximum load.

7. MECHANICAL FEATURES



[BOTTOM VIEW]

- 1) Input Connector (CN101)
- : ST-01 BH-BACN [SOLTEAM]

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2) Output Connector

2-1) CN101,CN102 : LW0640-10[HANLIM] etc.

PIN NUMBER	SYMBOL	REMARK
1	DC24V	DC24V
2	DC24V	DC24V
3	DC24V	DC24V
4	DC24V	DC24V
5	DC24V	DC24V
6	GND	GND
7	GND	GND
8	GND	GND
9	GND	GND
10	GND	GND

2-2) CN103 : YW396-02V[YEONHO] etc.

PIN NUMBER	SYMBOL	REMARK
1	DC12V	DC12V
2	GND	GND

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8. MARKING (LABEL)

PART NO.

LOT. NO.

VER. NO.

*. PART NO. : FPS0130-03A
 *. LOT NO. : F○○○○○○○C N

FRONTEK

LINE

YEAR

MONTH

DAY

Marking in case of
made In China

*. VER NO. : VER 1.0