

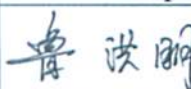
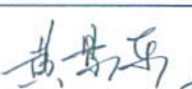

SPECIFICATION FOR APPROVAL

Customer : RCS Components LTD
 Product name : AC ADAPTER (电源适配器)
 Customer Model No. :
 Customer Part No. :
 Supplier Model No. : FBP030-120S250J2
 Supplier Part No. :

CUSTOMER APPROVED SIGNATURE

Approved by:	Checked by:	Tested by:
Explain: Please return to us "SPECIFICATION FOR APPROVAL" with your approved signatures. (承认书确认后请回签一份)		

Supplier approval signature:

Prepared by:	Checked by:	Approved by:
 鲁洪明 2010.11.25	 黄倩 2010.11.25	 2010.11.25



深圳市福瑞祥电器有限公司恒丰分厂
 SHENZHEN FEREX ELECTRICAL CO., LTD.

地址: 中国广东省深圳市宝安区西乡街道恒丰工业城 B7 栋 4-6 楼

Add: 4-6F, B7 Building, Hengfeng industrial park, Huangtian village, Xixiang town, Bao'an district, Shenzhen, Guangdong, China.

Tel: (0755) 27474030 27474044, 27474067, 27474073

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E-mail: hjliu@ferex.com.cn

Website: <https://www.ferex.com.cn>

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0. Revision control list:

Date	Description of Change	Revised by	Checked by	Approved by
2010-11-23	First release	H.M.Lu		

PRED. by	H.M.Lu 2010-11-23	 福瑞祥 SHENZHEN FEREX ELECTRICAL CO.,LTD. <small>F E R E X</small>		
CHKD. by				
APVD. by		Model: FBP030-120S250J2	Rev.:1.0	Page2 Of 13

1. Scope:

This specification defines the input, output, performance characteristics, and environment, noise and safety requirements for a **30.0** watts output switching type power adapter. The adapter input/output are **100-240VAC** input and **+12.0V DC** with **2.5 A** Normal output current.

2. Input characteristics:

Test item	Min.	Normal	Max.
AC input voltage	90 V	100-240 V	264 V
AC input frequency	47 Hz	50/60 Hz	63 Hz
AC input current	0.75A Max. @ 100-240Vac input		
Inrush current (cold)	No damage shall occur and the input fuse shall not blow up.		

3. Output characteristics:

Test item	Output	Test condition
Rated output voltage	+ 12.0 V	100-240 Vac input
Output voltage range	11.4V-12.6V	2.5A output current & 100-240 Vac input
Min. output current	0 A	100-240 Vac input
Normal output current	2.5A	100-240 Vac input
Ripple	150mV Max.	2.5A output current & 230 Vac input
		* measured at the end of output cables which added a 0.1uF(104)ceramic capacitor and a 47uF electrolytic capacitor(connect parallel), measured with a 20MHz bandwidth.
Turn-on Delay Time	3.5S Max.	2.5A output current & 100-240 Vac input
Rise Time	20mS Max.	2.5A output current & 100-240 Vac input
Overshoot	5% Max.	2.5A output current & 100-240 Vac input
LED Indication	Green light for Nominal operation. Blank or Flash for protection mode	
Remark: Unless otherwise specification output load must set at CC mode.		

4. Energy Efficiency

Item	Requirement	
power consumption	0.3W Max.	100-240 Vac input & No-load
Efficiency	<input checked="" type="checkbox"/> 82% Min.	2.5A output current & 230 Vac input
	<input type="checkbox"/> 85% Min. For average active mode.	100% /75% / 50% / 25% load & 115Vac/60Hz or 230 Vac/50Hz input

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APVD. by		Model: FBP030-120S250J2	Rev.:1.0	Page3 Of 13

5. Protection characteristics

Input fuse	<input checked="" type="checkbox"/> T2AL 250Vac Fuse <input type="checkbox"/> Wire-wound Fuse-resistor
Short-Circuit protection	The adapter must withstand a continuous short circuit on the output without damage and Auto-recovery when short-circuit moved.
Over-Current protection	In Overload mode, The output must drop to a low voltage.
Over-Voltage protection	Single component failure must not cause output voltage over <u>20V</u> , at <u>230</u> Vac input & <u>2.5A</u> output current,

6. Safety & EMC Standard

The adapter designed to meet the following standards:

Safety standards	<input checked="" type="checkbox"/> (CHINA) CCC GB4943-2001 <input checked="" type="checkbox"/> (U.S.) UL 60950-1, 2007 <input type="checkbox"/> (U.S.) UL 60065-1, 2007 <input checked="" type="checkbox"/> (CE) LVD 2006/95/EC Directive IEC 60950-1/EN 60950-1 <input type="checkbox"/> (CE) LVD 2006/95/EC Directive IEC 60065/EN 60065 <input type="checkbox"/> (TUV-GS) EN 60065/A11:2008; <input type="checkbox"/> (TUV-GS) EN 60950-1/A11:2009; <input type="checkbox"/> (TaiWan) BSMI CNS14336 <input type="checkbox"/> (TaiWan) BSMI CNS14408
EMC Standards	<input checked="" type="checkbox"/> (CHINA) CCC GB9254-2008 <input type="checkbox"/> (CHINA) CCC GB17625.1-2003 <input checked="" type="checkbox"/> (U.S.) FCC part 15 Class B /ICES-003:CLASS B <input checked="" type="checkbox"/> (CE) EMC 2004/108/EC Directive EN55022/EN55024/EN61000-3-2:2006/EN61000-3-3 <input type="checkbox"/> (Australia) C-Tick ,AS/NZS CISPR 22:2009 <input type="checkbox"/> (TaiWan) BSMI CNS13438
Hi-Pot	Primary To Secondary: <u>3000Vac 10mA</u> 1 minute or <u>4242Vdc 10mA</u> 1 minute.
Insulation Resistance	Primary To Secondary: <u>10M ohm</u> Min. at <u>500Vdc</u> .
Leakage Current	<u>0.25mA</u> Max. at 100-240 Vac input / 50-60Hz

7. Reliability & Quality control

Item	Requirement
MTBF	<u>≥30000</u> Hours at 25°C (Standard:MIL-HDBK-217F), <u>230</u> Vac input & <u>80%</u> Normal output current.
Burn-In	The power supply shall withstand a minimum of <u>2</u> hours Burn-In test at <u>230</u> Vac input & Normal output current with 35-40 °C room temperatures. After test, product shall operate normally.

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8. Environmental requirement

Item	Requirement
Operating Environmental	Temperature: <u>0°C - 40 °C</u> Relative Humidity: <u>20%-85%</u> ,noncondensing Altitude: Sea level to <u>2,000 M.</u>
Storage (Non-operating) Environmental	Temperature: <u>-20°C - 60°C</u> Relative Humidity: <u>5%-95%</u> ,noncondensing Altitude: Sea level to <u>2,000 M.</u>
Cooling	Natural convection cooling
Vibration and Shock	(Non-operating, with packing) Reference to IEC 68-2-6 Frequency: 10-300 Hz Sweep:2hours,For each axis (X, Y, Z) Acceleration:2G Displacement: 0.4 mm

9. Other requirements

Item	Requirement
Hazardous substances	The components and materials shall be in compliance with <input checked="" type="checkbox"/> EU Directive 2002/95/EC "ROHS" <input checked="" type="checkbox"/> EU Directive 2002/96/ec "WEEE"

10. Mechanical characteristics:

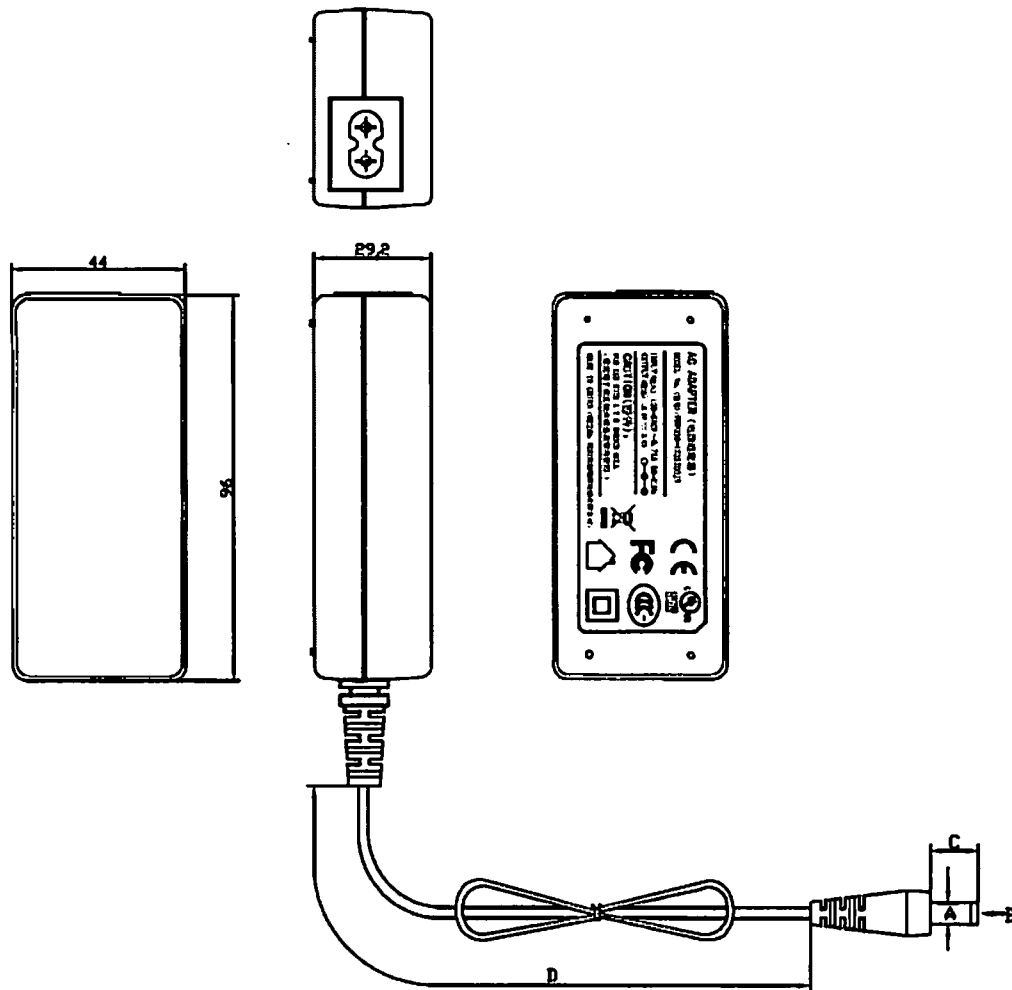
Item	Requirement
Physical dimensions	The detail dimension of product see APPENDIX A.
Input plug type	<input type="checkbox"/> Desk-type, IEC320-C6, 3-Pin Small<Live,Neutral ,FG> <input checked="" type="checkbox"/> Desk-type, IEC320-C8, 2-Pin Small<Live,Neutral > <input type="checkbox"/> Desk-type, IEC320-C14, 3-Pin Big<Live,Neutral ,FG>
Output cord	Wire: <u>UL2468 18AWG 1500mm Black</u> Plug: (OD) <u>5.5mm</u> *(ID) <u>2.1mm</u> *(length) <u>10.0 mm</u> Center (+) <u>180°音叉</u>
Nameplate	The detail information of Nameplate see APPENDIX B.
Packing	The detail information of packing see APPENDIX C.

11. Certificate:

Type of Certificate	<input checked="" type="checkbox"/> CCC <input checked="" type="checkbox"/> CE <input type="checkbox"/> GS <input checked="" type="checkbox"/> FCC <input checked="" type="checkbox"/> UL The detail Certificate of product see APPENDIX D.
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PRED. by	H.M.Lu 2010-11-23	 福瑞祥 SHENZHEN FEREX ELECTRICAL CO.,LTD. F E R E X		
CHKD. by				
APVD. by		Model: FBP030-120S250J2	Rev.:1.0	Page5 Of 13

APPENDIX A: Physical dimensions



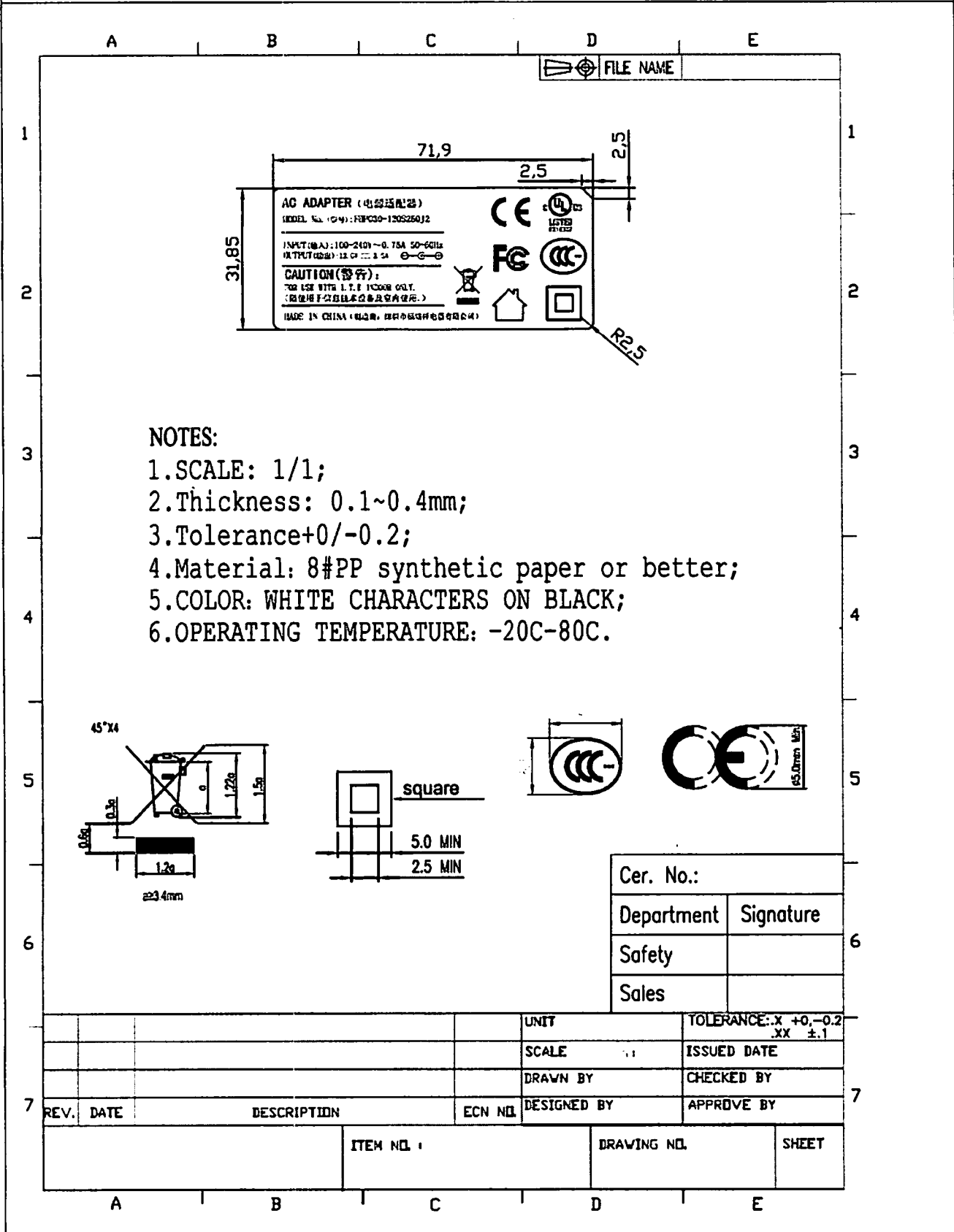
	ϕA	ϕB	C	D
DIMENSION	5.5	2.1	10	1500
TOLERANCE	± 0.1	$+0.1/-0$	± 0.5	Nor.
REMARK	UL2468 18AWG/2C 300VAC 80° C BLACK			

SHENZHEN FEREX ELECTRICAL.,LTD

DESCRIPTION	DESIGN BY:	
REVISER	CHECKED BY:	
DATE	APPROVED BY:	
		UNIT: MM

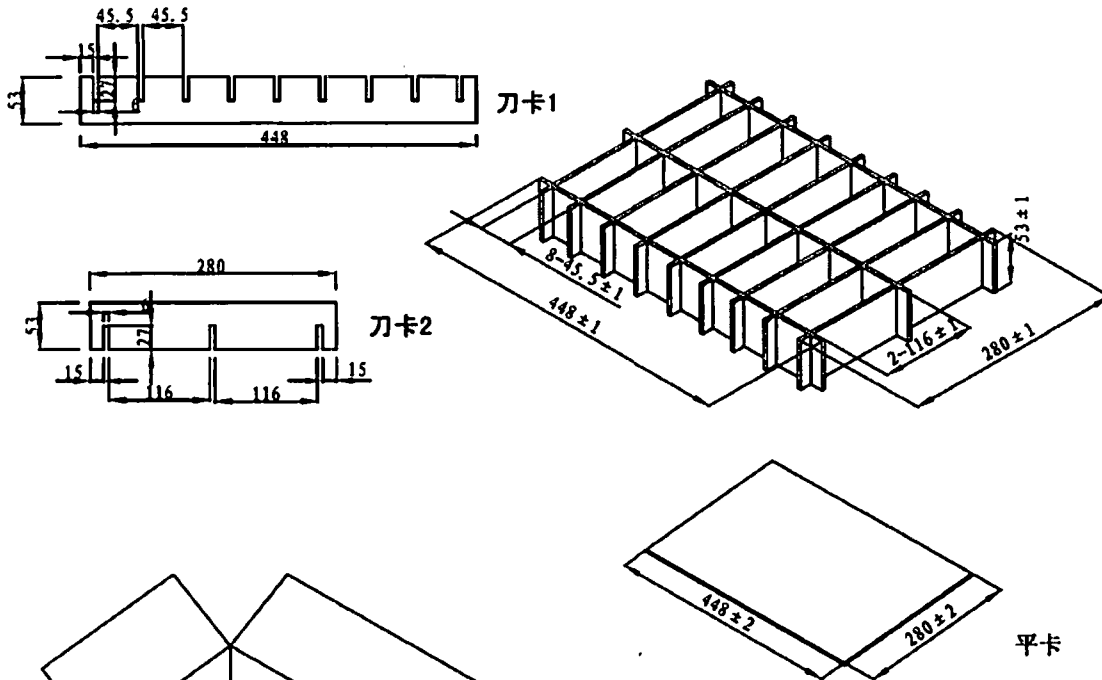
PRED. by	H.M.Lu 2010-11-23		SHENZHEN FEREX ELECTRICAL CO.,LTD.	
CHKD. by				
APVD. by		Model: FBP030-120S250J2	Rev.:1.0	Page6 Of 13

APPENDIX B: Nameplate



PRED. by	H.M.Lu 2010-11-23	福瑞祥 SHENZHEN FEREX ELECTRICAL CO.,LTD. FEREX		
CHKD. by				
APVD. by		Model: FBP030-120S250J2	Rev.:1.0	Page7 Of 13

APPENDIX C: Packing



NOTE:

1. 纸箱材质为A=A, 每箱5层, 每层16台, 共计80台, 标示尺寸(460MMX292MMX298MM)为外尺寸;
2. 平卡材质为B3B, 数量: 6片;
3. 刀卡1: 材质为B=B, 数量: 15片;
4. 刀卡2: 材质为B=B, 数量: 45片;
5. 注意波纹方向, 勿沿纹路纵向切割;
6. 接口钉合;
7. 进料前需先送样承认OK方可;
8. 使用材料要符合环保要求, 禁止使用危害物质;
9. 尺寸以标注为准, 切勿实际测量。

298	 福瑞祥 FEREX 开关电源·适配器 SMPS & ADAPTER 深圳市福瑞祥电气有限公司 SHENZHEN FEREX ELECTRICAL CO., LTD. 地址: 深圳市宝安区西乡街道铁岗社区铁岗工业村 福瑞祥工业园1号 ADDRESS: THE FEREX INDUSTRIAL PARK, LIKESHANG VILLAGE, COHENGD TOWN, BAOAN DISTRICT, SHENZHEN	 型号(MODEL): _____ 数量(QTY): _____ PCS 规格(SIZE): _____ MM	 福瑞祥 FEREX 开关电源·适配器 SMPS & ADAPTER 深圳市福瑞祥电气有限公司 SHENZHEN FEREX ELECTRICAL CO., LTD. 地址: 深圳市宝安区西乡街道铁岗社区铁岗工业村 福瑞祥工业园1号 ADDRESS: THE FEREX INDUSTRIAL PARK, LIKESHANG VILLAGE, COHENGD TOWN, BAOAN DISTRICT, SHENZHEN	 型号(MODEL): _____ 数量(QTY): _____ PCS 规格(SIZE): _____ MM
	460	空箱回收	空箱回收	292

		SHENZHEN FEREX ELECTRICAL.,LTD	
DESCRIPTION		DESIGN BY:	
REVISER	REV A0	CHECKED BY:	
DATE	2010-10-08	APPROVED BY:	

APPENDIX D: Certificate

PRED. by	H.M.Lu 2010-11-23	 福瑞祥 FEREX SHENZHEN FEREX ELECTRICAL CO.,LTD.		
CHKD. by				
APVD. by		Model: FBP030-120S250J2	Rev.:1.0	Page8 Of 13



the standard in safety

Underwriters
Laboratories

NOTICE OF AUTHORIZATION TO APPLY THE UL MARK

2008-03-27

MR. Hai He
SHENZHEN FEREX ELECTRONICS CO LTD
BLK B7, HENGFENG INDUSTRIAL TOWN
HEZHOU XIXIANG, SHENZHEN
GUANGDONG, 518126, CN
E-mail: hohai@china-hushan-sz.com

Reference: File E316352 Project 08CA07576 Report Ref# E316352-A3-UL-1

Product: USL/CNL- Power Supply Models FBP030-XXXSYYYJ2 (030 represents 30W series, the Max power is 30W; XXX: 030-300 represents output voltage is 3V-30V, the step is 0.1V; YYY: 050-400 represents output current is 0.5A-4.0A, the step is 10mA). Detailed models shall comply with appendix page.

Dear MR. Hai He,

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

UL's investigation of your product has been completed under the above project number and the subject product was determined to comply with the applicable requirements.

This letter temporarily supplements the UL Follow-Up Services Procedure and serves as authorization to apply the UL Listing Mark only at the factory under UL's Follow-Up Service Program to the subject product, which is constructed as described below:

Identical to the subject model, which was submitted to UL for this investigation. The UL Records covering the product will be in the Follow-Up Services Procedure, File E316352, Volume X1.

To provide the manufacturer with the intended authorization to use the UL Mark, the addressee must send a copy of this Notice and all attached material to each manufacturing location as currently authorized in File E316352, Volume X1.

This authorization is effective from the date of this Notice and only for products at the indicated manufacturing locations. Records in the Follow-Up Services Procedure covering the product are now being prepared and will be sent to the indicated manufacturing locations in the near future. Please note that Follow-Up Services Procedures are sent to the manufacturers only unless the Applicant specifically requests this document.

Products that bear the UL Mark shall be identical to those that were evaluated by UL and found to comply with UL's requirements. If changes in construction are discovered, appropriate action will be taken for products not in conformance with UL's requirements and continued use of the UL Mark may be withdrawn.

Sincerely,

Reviewed by:

Vonty Zhang
Engineer
Department: 3013ASUZ
Tel: +86-512-68086400-66787
Fax: +86-512-68084099-66787
E-mail: vonty.zhang@cn.ul.com


Dan Xie
Section Manager
Department: 3013ASUZ
E-mail: dan.xie@cn.ul.com

PRED. by	H.M.Lu 2010-11-23		SHENZHEN FEREX ELECTRICAL CO.,LTD.	
CHKD. by				
APVD. by				

Test Report Certification

Issued Date : 2009/08/04
Report No. : 097226R-ITUSP02V02



Product Name : AC Adapter
 Applicant : SHENZHEN FEREX ELECTRICAL CO., LTD
 Address : Block 1, The 3rd industrial park, Lisonglang village,
 Gongming town, Guangming new district, ShenZhen,
 Guangdong, China
 Manufacturer : SHENZHEN FEREX ELECTRICAL CO., LTD
 Model No. : FBP030-XXXSYYYJ2 (030 represents 30W series, the max
 power is 30W; XXX:030-300 represents output voltage is
 3V-30V, the step is 0.1V; YYY:050-400 represents output
 current is 0.5A-4.0A, the step is 10mA)
 Rated Voltage : AC 120 V / 60 Hz
 EUT Voltage : AC 100-240V, 50 / 60Hz
 Trade Name :  福瑞祥
 Applicable Standard : FCC CFR Title 47 Part 15 Subpart B: 2008 Class B,
 CISPR 22: 2006, ICES-003 Issue 4: 2004 Class B
 Test Result : Complied
 Performed Location : Hsinchu EMC Laboratory
 NO. 75-2, 3rd Lin, Wangye Keng, Yonghxing Tsuen, Qionglin
 Shiang, Hsinchu County 307, Taiwan, R.O.C
 TEL:+886-3-592-8858 / FAX:+886-3-592-8859


Documented By : Sandy Chuang
 (Sandy Chuang / Engineering Adm. Specialist)
 Reviewed By : Jerry Yeh
 (Jerry Yeh / Assistant Engineer)
 Approved By : Arthur Liu
 (Arthur Liu / Deputy Manager)

PRED. by	H.M.Lu 2010-11-23	 福瑞祥 SHENZHEN FEREX ELECTRICAL CO.,LTD. F E R E X		
CHKD. by				
APVD. by		Model: FBP030-120S250J2	Rev.:1.0	Page10 Of 13



SHENZHEN SETEK TECHNOLOGY CO., LTD.

Declaration of Conformity


Certificate No. : EMC0706022
 Applicant : SHENZHEN FEREX ELECTRONICS CO., LTD
 Address : 4-6F, Block B7, HengFeng Industrial Town, HeZhou, XiXiang,
 Shenzhen, China
 Product : AC adapter
 Trademark : FEREX, , HUSHAN, METRONIC
 Model(s) : FBP030-XXXSYYJ2
 ("030" represent 30W series, the max output power is 30W; suffix
 "XXX" could be 030-300, represent output voltage is 3V-30V, the step
 voltage is 0.1V. "YYY" could be 050-400, represent output current is
 0.5A-4.0A, the step current is 10mA)
 Manufacturer : SHENZHEN FEREX ELECTRONICS CO., LTD
 Address : 4-6F, Block B7, HengFeng Industrial Town, HeZhou, XiXiang,
 Shenzhen, China
 Test report No : EMC0706022

Complies with the requirements of the
 EC EMC directive 2004/108/EC with amendments.
 Test Standards:

- EN55022: 2006
- EN55024: 1998+A1: 2001+A2: 2003
- EN61000-3-2: 2006
- EN61000-3-3: 1995+A1: 2001+A2: 2005


Remarks:
 The CE markings as shown below can be affixed on the product after preparation of
 necessary conformity documentation, as stipulated in article 10 of the Council
 Directive 93/68/EEC.



Phenix
 Phenix Zhan
 For Chief Executive
 Jun 30 2010


PRED. by	H.M.Lu 2010-11-23	 福瑞祥 SHENZHEN FEREX ELECTRICAL CO.,LTD. F E R E X	Model: FBP030-120S250J2	Rev.:1.0	Page11 Of 13
CHKD. by					
APVD. by					

Declaration of Conformity

Certificate No : LVD0706023
Applicant : SHENZHEN FEREX ELECTRONICS CO., LTD
Address : 4-6F, Block B7, HengFeng Industrial Town, HeZhou, XiXiang,
 Shenzhen, China
Product : AC adapter
Trademark : FEREX, , HUSHAN, METRONIC
Model(s) : FBP030-XXXSYYYJ2
 ("030" represent 30W series, the max output power is 30W; suffix "XXX" could be
 030-300, represent output voltage is 3V-30V, the step voltage is 0.1V, "YYY" could
 be 050-400, represent output current is 0.5A-4.0A, the step current is 10mA)
Manufacturer : SHENZHEN FEREX ELECTRONICS CO., LTD
Address : 4-6F, Block B7, HengFeng Industrial Town, HeZhou, XiXiang,
 Shenzhen, China
Test report No : LVD0706023


Complies with the requirements of the
 EC LVD directive 2006/95/EC with amendments.

Test Standards:
EN60950-1: 2006 Information technology equipment - safety -
 part 1: General requirements

Remarks:
 The CE markings as shown below can be affixed on the product after preparation of
 necessary conformity documentation, as stipulated in article 10 of the Council
 Directive 93/68/EEC.



Phenix zhang
 Phenix zhang
 For Chief Executive
 June 29, 2007



PRED. by	H.M.Lu 2010-11-23	 福瑞祥 SHENZHEN FEREX ELECTRICAL CO.,LTD. F E R E X		
CHKD. by				
APVD. by		Model: FBP030-120S250J2	Rev.:1.0	Page12 Of 13

1007/09/2007



中国国家强制性产品认证证书

证书编号: 2009010907344422

申请人名称及地址

深圳市福瑞祥电器有限公司
深圳市光明新区公明办事处李松朗社区第三工业区博聚潜能工业园1栋

商标:

制造商名称及地址

深圳市福瑞祥电器有限公司
深圳市光明新区公明办事处李松朗社区第三工业区博聚潜能工业园1栋

生产企业名称及地址

深圳市福瑞祥电器有限公司
深圳市光明新区公明办事处李松朗社区第三工业区博聚潜能工业园1栋

产品名称和系列、规格、型号

电源适配器

FBP030-XXSYYYJ2 其中30表示30W系列, 最高输出功率30W; XXX:030-300表示输出电压3V-30V, 输出电压步进为0.1V; YYY:050-400表示输出电流为0.5A-4.0A, 输出电流步进为10mA; 输入:100-240Vac, 0.75A, 50-60Hz (不带电源线销售)

产品标准和技术要求

GB4943-2001 GB9254-1998 GB17625.1-2003

上述产品符合强制性产品认证实施规则的要求, 特发此证。

发证日期: 2009年06月17日

本证书的有效性依据发证机构的定期监督获得保持。



主任:

中国质量认证中心

中国·北京·南四环西路188号9区100070

<http://www.cqc.com.cn>



Q 0073235

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CHKD. by					
APVD. by		Model: FBP030-120S250J2	Rev.:1.0	Page13 Of 13	