



深圳市金芯微电子有限公司

SHENZHEN GOLDICWELL ELECTRONIC CO.,LTD.

产品规格书

Product specification

产品名称 Model Name	1200W110V 正旋波逆变板
型号规格 Specification	1200W110V60Hz / 18-25V
产品编码 Product Code	
文件版本 File Version	V1.0
生效日期 Effective Date	2022-08-25

客户 Customer:

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批准 Approved 陈文思 2022/8/26 盖章 Stamp _____

地址: 深圳市龙华区龙华街道东环一路良基大厦三楼 335.336 室

Address: Room 335.336, 3rd floor, Liangji Building, First East Ring Road, Longhua Street, Longhua District, Shenzhen



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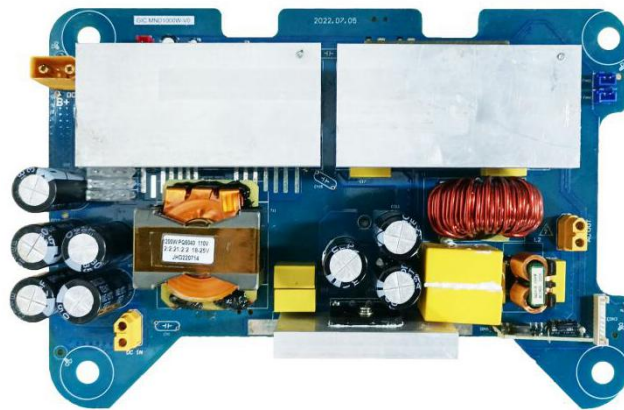
更新履历 Update history

序号 No.	版本 Version	日期 Date	更新说明 Updated instructions
1	V1.0	2022-08-25	制定 Initial release



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1. 功能特点 Functional features

- ① 输出输入转换比不低于 86%

The output/input conversion ratio shall not be less than 86%

- ② 完善保护机制: 输入直流欠压超压保护/输入直流欠压超压恢复/输出交流短路保护/超温保护/输出交流过功率保护/插拔负载恢复

Improve the protection mechanism: input DC undervoltage and overvoltage protection/input DC undervoltage and overvoltage recovery/output AC short-circuit protection/overtemperature protection/output AC overpower protection/plug and switch load recovery

- ③ 应用: 家电、电动工具、办公和便携式设备

Applications: Home appliances, power tools, office and portable equipment

- ④ 采用了自己开模设计的散热片, 散热效果好, 产品整机温升低

Adopt the heat sink designed by oneself, heat dissipation effect is good, the temperature rise of the whole machine is low

2. 电气性能指标 Electrical performance index

2.1 输入规格 Input specifications

输入直流电压范围 Input DC voltage range	18V - 25V ±0.5V
输入直流额定电压 Input DC rated voltage	22.2V
输入直流额定电流 Input DC rated current	62.8A
空载功耗 No-load power consumption	MAX 12W

2.2 输出规格 Output specifications

输出交流额定电压 Output AC rated voltage	110V
输出交流电压范围 Output AC voltage range	110V ±20V



输出交流频率 Output AC frequency	60.0Hz
输出交流频率范围 Output AC frequency range	60Hz ±1Hz
输出额定功率 Output rating	1200W
过载一（1.3 倍）额定功率延时 Overload (1.3 times) rated power delay	5s
输出峰值功率 Peak output power	2400W
过载二（2 倍）额定功率延时 Overload (2 times) rated power delay	1s
拔插输出额定功率负载 Plug and remove the rated output power load	2 次（间隔时间超过 10 秒）不出现异常 2 times (interval of more than 10 seconds) no abnormal
开机延迟时间 Startup delay time	1 秒，空载从通电到稳定输出 1s, no load from power to stable output

3. 保护功能(Protection function)

3.1 输出保护功能 Output protection function

短路保护 Short circuit protection	输出先短路，上电后不出现永久性损坏，连续做 2 次测试（测试间隔时间超过 10 秒） Output short-circuit first, no permanent damage after powering on, continuous test for 2 times(test interval more than 10 seconds)	
	交流输出稳定后，空载做短路测试，不出现永久性损坏，连续做 2 次（测试间隔时间超过 10 秒） After the AC output is stable, short-circuit test shall be performed in no-load condition without permanent damage, and be performed continuously for 2 times(test interval exceeds 10 seconds)	
	交流输出稳定后，带额定负载做短路测试，不出现永久性损坏，连续做 2 次（测试间隔时间超过 10 秒） After the AC output is stable, short-circuit test with rated load is carried out for 2 consecutive times without permanent damage(test interval is more than 10 seconds)	
欠压保护 Under voltage protection	17.5V ±0.5V	
欠压恢复 Owe pressure recovery	18.5V ±0.5V	
过压保护 Over voltage protection	25.6V ±0.5V	
过压恢复 Overpressure recovery	25V ±0.5V	
过功率保护 Over Power Protection	Low pressure 18V	1300W ±20W
	High pressure 25V	1750W ±20W



过温保护 Over temperature protection	前级 90°C ±5°C Before the class
	后级 90°C ±5°C After class
过温恢复 Thermal recovery	前级 60°C Before the class
	后级 35°C After class
开启风扇温度 Starting fan temperature	45°C
关闭风扇温度 Turn off the fan temperature	35°C-40°C

3.2 模组指示灯 Module indicator LED

前级指示灯 Front indicator LED

闪烁 1 次 Flashing once	上电 Access to electricity
间歇循环闪烁 5 次 Intermittent cycle flashing 5 times	过温报警 The temperature alarm
间歇循环闪烁 6 次 Intermittent cycle flashing 6 times	电池过压报警 Battery overvoltage alarm
间歇循环闪烁 7 次 Intermittent cycle flashing 7 times	电池欠压报警 Battery undervoltage alarm

后级指示灯 Rear indicator LED

闪烁 1 次 Flashing once	上电 Access to electricity
间歇循环闪烁 2 次 Intermittent cycle flashing 2 times	过载报警 Overload alarm
间歇循环闪烁 5 次 Intermittent cycle flashing 5 times	过温报警 The temperature alarm
间歇循环闪烁 8 次 Intermittent cycle flashing 8 times	短路报警 Short circuit alarm

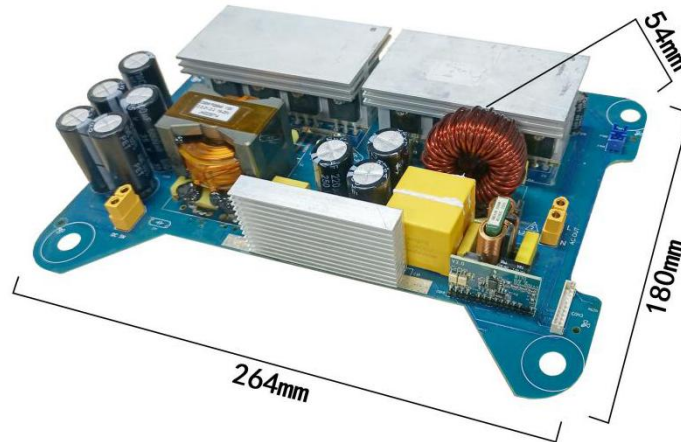
3.3 环境 Environment

工作温度 Working temperature	-10°C - 80°C
储存温度 Storage temperature	-20°C - 70°C
工作湿度 Working humidity	5% - 90%
储存湿度 Store humidity	5% - 70%
冷却方式 Cooling way	风扇散热 Fan cooling



4. 结构 Structure

4.1 尺寸 Size



尺寸: 长(264mm)*宽(180mm)*高(54mm)

Size: L(264mm)*W(180mm)*H(54mm)



4.2 端口定义 Port definitions



端口说明 The port that

图 Figure	位号 A no.	端口说明 The port that
	CON3	10pin 综合端口 (如图, 从右到左) 10pin integrated port (as shown, from right to left) p1-KEY: 保留 keep p2-ACON: AC 开启开关 AC switch p3-NC: 空 p4-NC: 空 p5-+5V: 供电 The power supply p6-TXD: 发送数据 To send data p7-RXD: 接收数据 Receive data p8-GND: 指示灯共阴公共 Indicator lights are in common shade p9-R: 逆变器输出红色指示灯(红色指示灯亮表示逆变器故障) Inverter output red indicator (red indicator on indicates inverter failure) p10-G: 逆变器输出绿色指示灯(绿色指示灯亮表示逆变器正常输出)



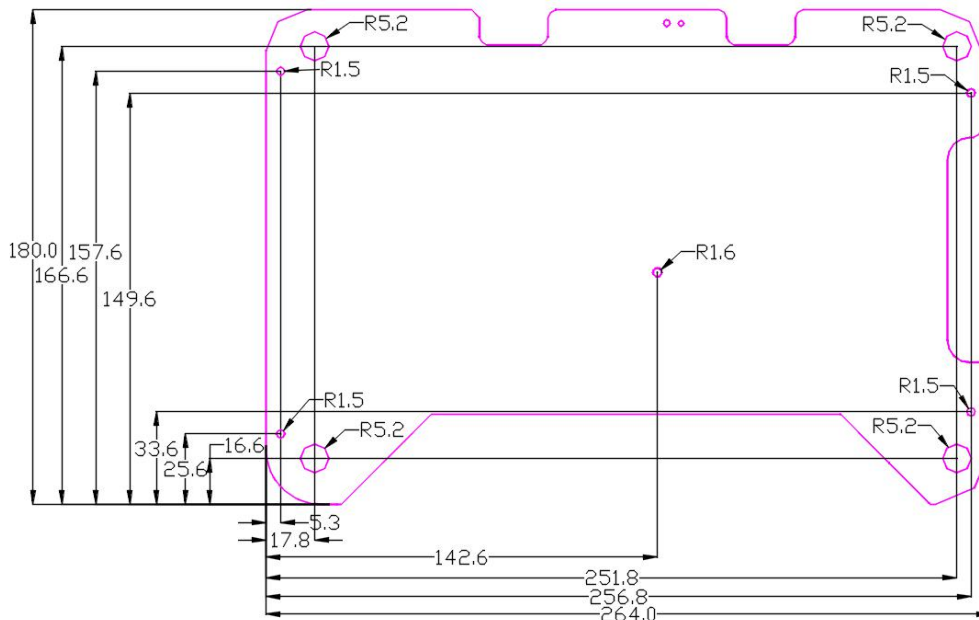
		Inverter output green indicator (green indicator on indicates normal inverter output)
负极  正极	FAN1 FAN2	风扇端口 (如图, 从左到右) Fan port (As shown, from left to right) p1-负极- p2-正极+
正极  负极	/	电源输入 XT90 端口 (如图, 从左到右) Power input XT90 port (As shown, from left to right) p1-正极+ p2-负极-
	CON1	电源开关 The power switch 该电源开关为机械开关 The power switch is mechanical
N  L	/	交流输出端口 (如图, 从左到右) Ac output port (As shown, from left to right) p1-N p2-L

5. 可靠性 Reliability

平均无故障工作时间 Average trouble-free working time	应在 25℃ 下连续运行 30000 小时, 输出额定负载和额定输入电压 It shall operate continuously at 25℃ for 30000 hours with rated output load and rated input voltage
老化测试 Aging test	18V - 25V 直流输入, 交流输出 1200W, 老化 1 小时 18V to 25V DC input, 1200W ac output, aging 1 hour
温升 Temperature rise	配合外壳风扇散热的情况下 ≤45 摄氏度 ≤45 °C for heat dissipation with fans in the shell

6. 图 Figure

6.1 安装孔及 PCB 尺寸 (单位: 毫米) Mounting hole and PCB size(Unit:mm)

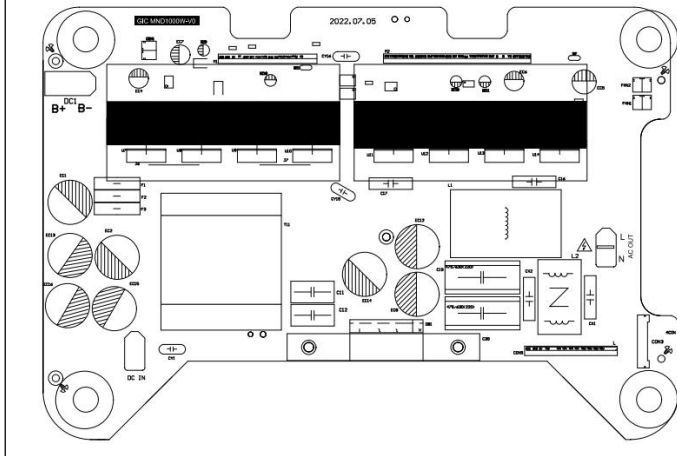




6.2 元器件丝印图 Silkscreen of components

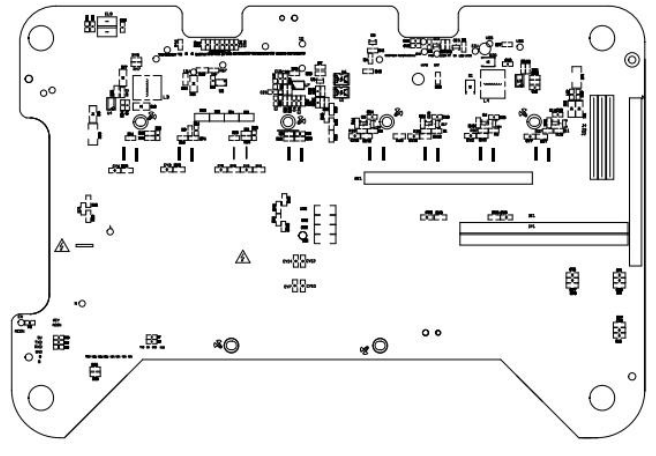
顶层丝印图

Top screen printing



底层丝印图

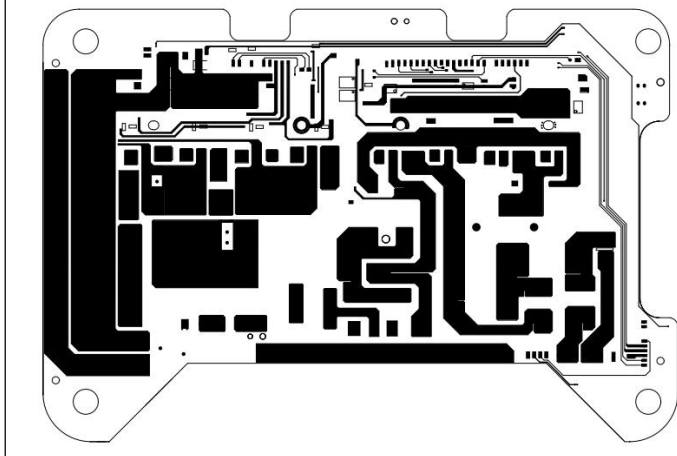
Bottom screen printing



6.3 布线图 Wiring diagram

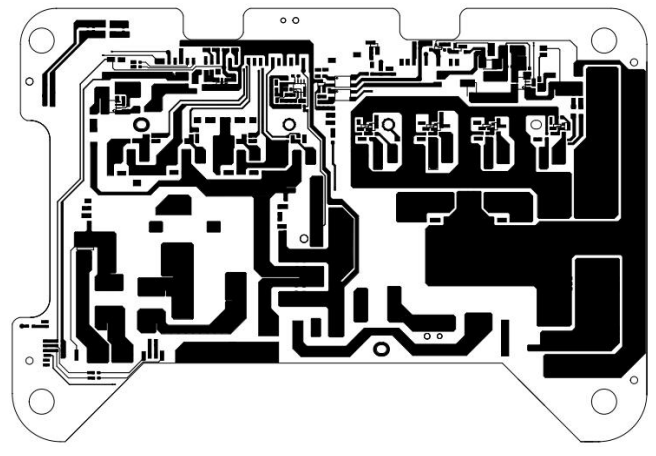
顶层布线图

Top layer layout



底层布线图

Bottom layer layout



7. 包装规格 Packing specification

外箱尺寸: 521*360*236mm

Outer box size: 521*360*236mm

箱内刀卡尺寸: 长刀卡 511*220mm /短刀卡 350*220mm

Knife card size: long card 511*220mm/short card 350*220mm

材质: K636K

Material: K636K

包装方式: 一箱装 16 个, 每个板子气泡袋包裹, 刀卡隔开

Packing: pack 1 to one box, each board wrapped in bubble bag, separated by knife card