

通用功能测试机 ETE-A100

General function tester ETE-A100

产品介绍 Production introduction

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- 系统组成 System composition
- 产品特点 Products features
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■ 产品简介: Products profile

通用功能测试机 : **General function tester**

背景: 是针对滞后的人工测试以及为了满足 PCBA 测试在操作简便性上的需求而诞生的。

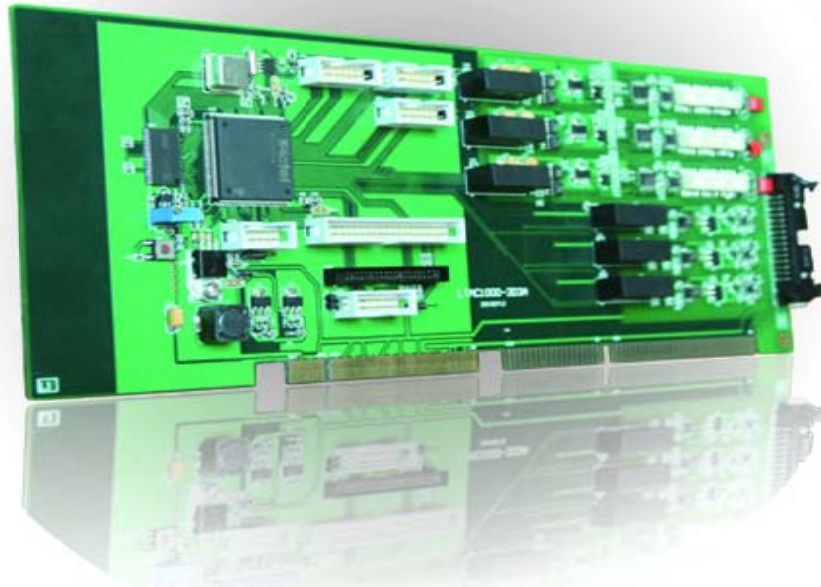
Background : It is generated for the lag manual test and make the PCBA test more easily.



■ 系统组成——硬件板卡:

system composition-hardware board card

● 中速采集卡 Medium speed acquisition card



参数 Parameter:

AD 通道 Channel: AD0~AD2

直流量程 DC range: 0.2V, 2V, 20V, 200V

交流量程 AC range: 0.2V, 2V, 20V, 200V

采样率 Sampling rate: 100ksps

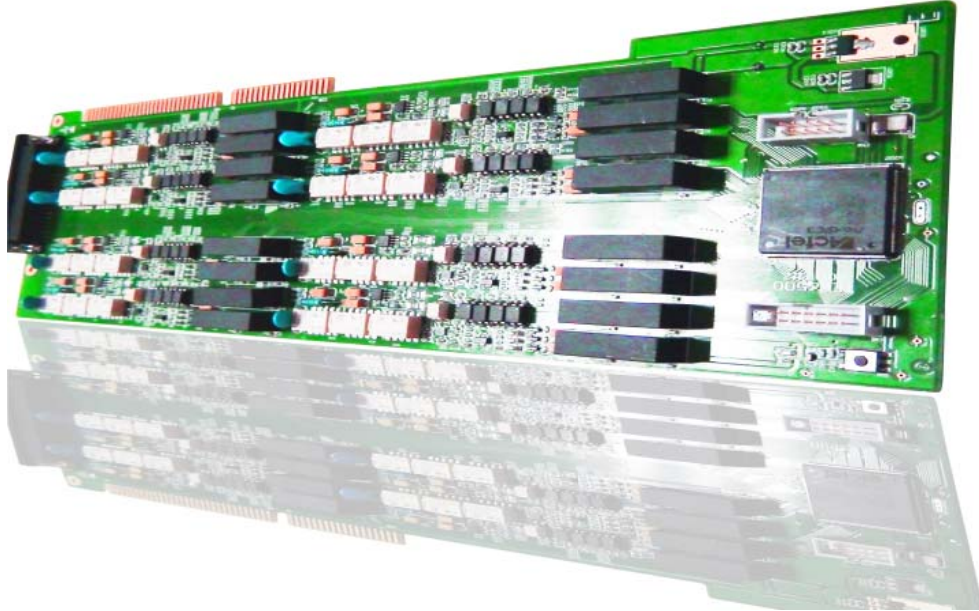
DA 通道 Channel: DA0~DA2

采样率 Sampling rate: 100ksps

板卡测试对象介绍: 此板卡具有各三路 100Ksps 独立的 AD 输入和 DA 输出, 并且输入采样时, 通过继电器切换就能变换量程, 数据稳定, 精度高。

Board card test target introduction: Each this board have three ways of 100Ksps independent AD input and DA output, and when input sample adoption, can Change measure range use relay switching while the data stability and high precision.

●低速采集卡 Low speed acquisition card



参数 Parameter:

AD 通道 Channel: AD0~AD15

直流量程 DC range: 0.5V, 5V, 50V, 500V

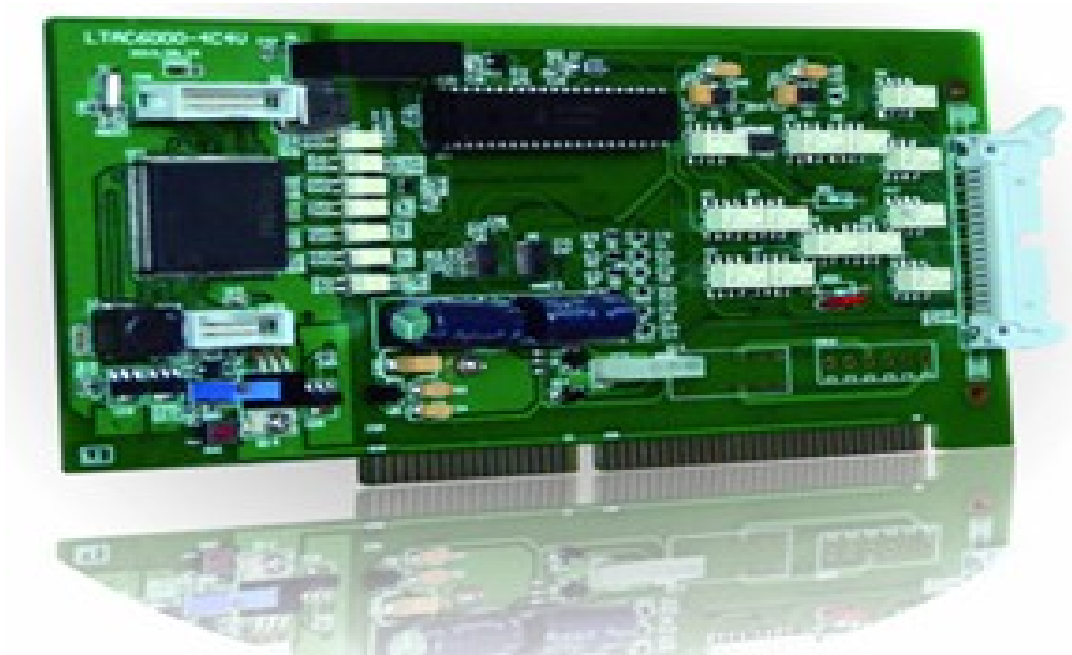
交流量程 AC range: 0.2V, 2V, 20V, 200V

采样率 Sampling rate: 125sps

板卡测试对象介绍: 此板卡是 16 路同时运行，单独隔离的交直流采集卡。采样速度快，精度高，对于直流和交流的有效值测量有很好的效果。

Board card test target introduction: This board card is that 16 ways operate simultaneously, and separate independently AC/DC adoption card. Sample adoption speed is fast and high precision, have best test results to the AC/DC effective value.

● 控制采集卡 Control acquisition card



参数：Parameter

总共 96 路 I/O 通道， Total 96 routes I/O channel

含 48 路普通 I/O 通道， 10Mps； Include 48 routes general I/O channel, 10 Mps

含 48 路高速 I/O 通道， 100Mps； Include 48 routes high speed I/O channel, 100Mps

含 8 路脉宽调制(PWM)； Include 8 routes PWM

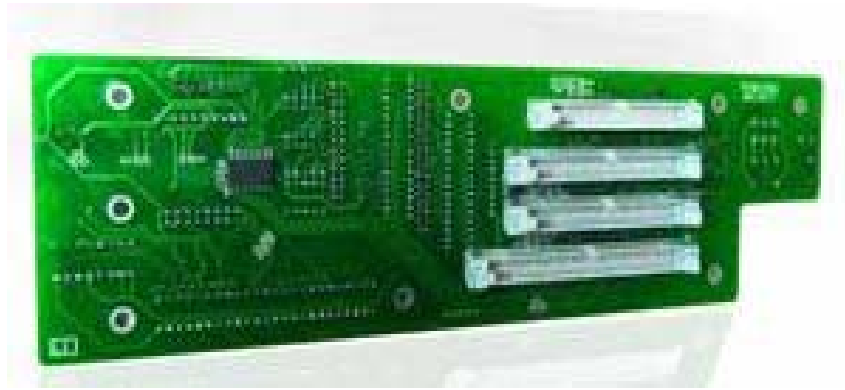
含 4 路逻辑响应； Include 4 routes logic response

可增加订制脉冲采集输出协议。 Can increase order pulse ,collect output agreements.

板卡测试对象介绍：此板卡完成每套测试系统的逻辑控制；还可以通过 I/O 设置模拟按键，模拟开关和高速数字信号采集和输出。

Board card test target introduction: This board card complete the logic control of very set test system. Also can set the analogy keyboard by I/O.

● 连接板 Connection board card



参数：（参考连接板使用说明书） **Parameter:**(refer to the connection board manual)

板卡连接对象介绍：连接板将待测 PCBA 和测量控制采集板卡连接起来，起桥梁的作用；它连接了一块中速采集卡、两块低速采集卡和一块 DIO 卡。有可编程高灵敏过流保护部分、模拟输入输出、光耦隔离输出输入、四个继电器控制端口。造价便宜、连接方便，功能齐全，此板基本可以满足一套治具接口资源。如果需要转换机种，只需要更换治具上此板和针板，不需要重新焊连线，简单方便。

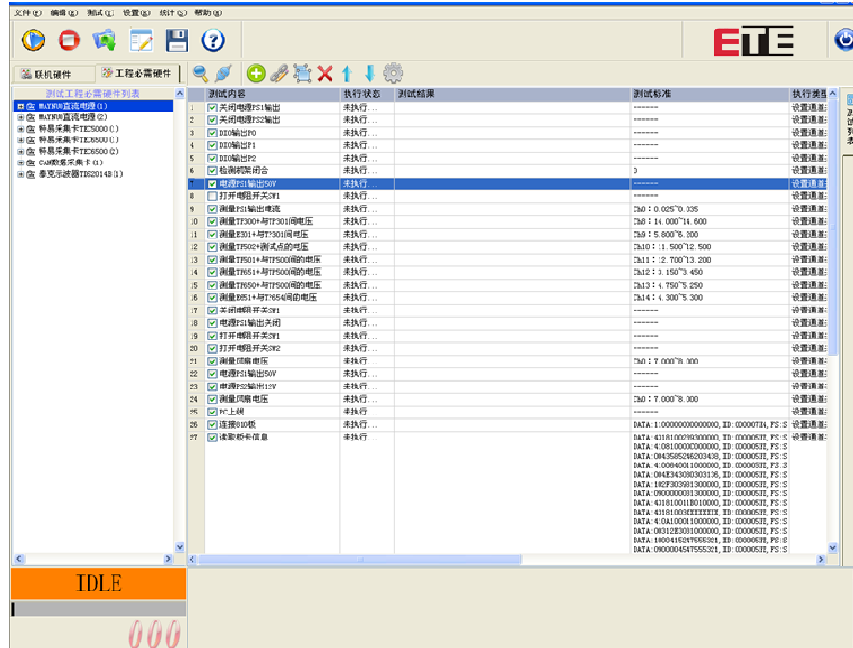
The connection board connect to target introduction: The connection board will be connect PCBA under test to the control acquisition card. It connect medium speed acquisition card, two pcs low acquisition card and one DIO card. It have programmable over current protection (OCP) apparatus , analog input and output, optocoupler Isolation input and output,, four relay control the interface.The price is cheap and connect convenient, multi-function, can meet a full set fixture interface source. If transformation the PCBA model, then just need change the control acquisition card and needle board of fixture, no need welding again,simple and convenient.

▶ 板卡特点 board card features

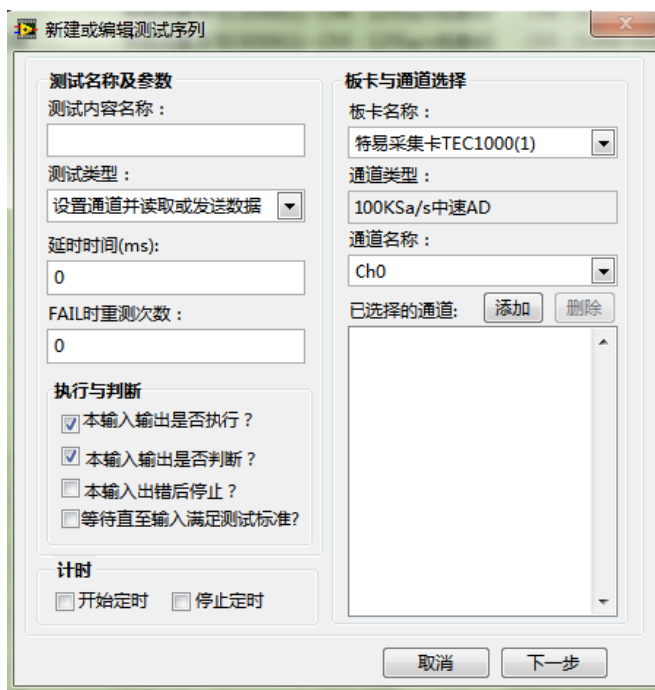
1. 开短路测试+功能测试(ICT+FCT) Open /short test + function test(ICT+FCT)
2. 通道多，采集量大 Multi-channel
3. 速度快，精度高 High speed and precision
4. 过电流保护 Over current protection

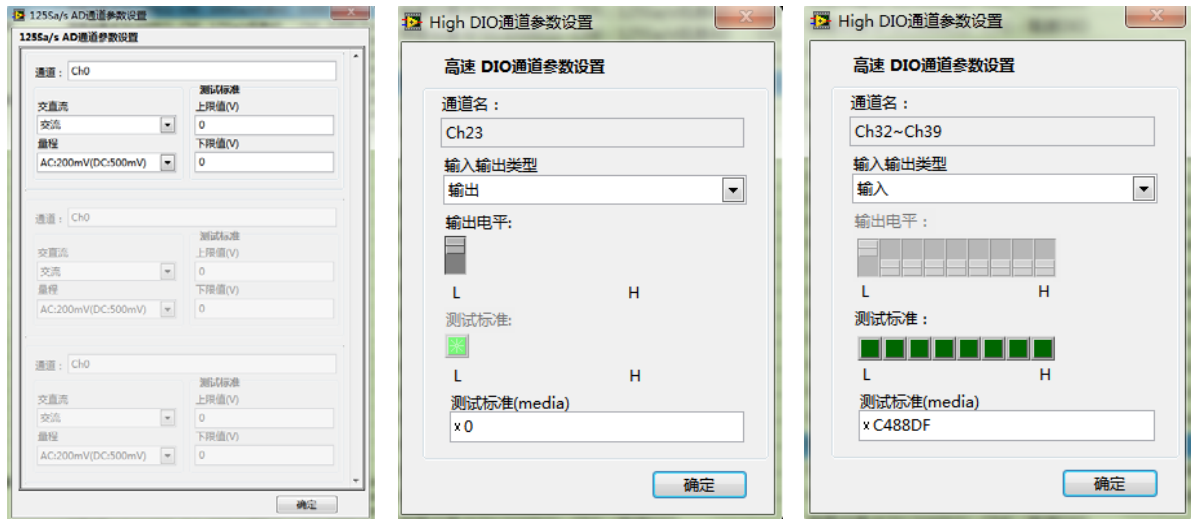
■ 系统组成——软件 System composition- software

● 界面介绍 Interface introduction:



● 编辑介绍 Edit introduction:





● 软件特点 Software features:

1.编程环境 : Programming Environment

基于 LABview 开发的编译平台，客户在这个平台下进行二次编程，简单、方便、快捷，直接填写检测内容。

Based on the compiling platform of LABview, it is very easy, convenient ,shortcut and can fill the test content directly with customer re-programming on this platform.

2.统计报表功能 Statistical reporting function

3.权限管理功能 Management permissions function

4.条码扫描、打印功能 Barcode scanning and print function

5.插座自适应功能 :Socket adaptive function

6.PC 机与夹具 IC 同时存储程序 PC and fixture's IC save program simultaneously.

7.整机测试环境，不介入被测产品的技术核心内幕。

Test in the whole machine enviorement, nonintervention inside the core technology of products.

■ 测试流程:Testing process

前提条件: Precondition

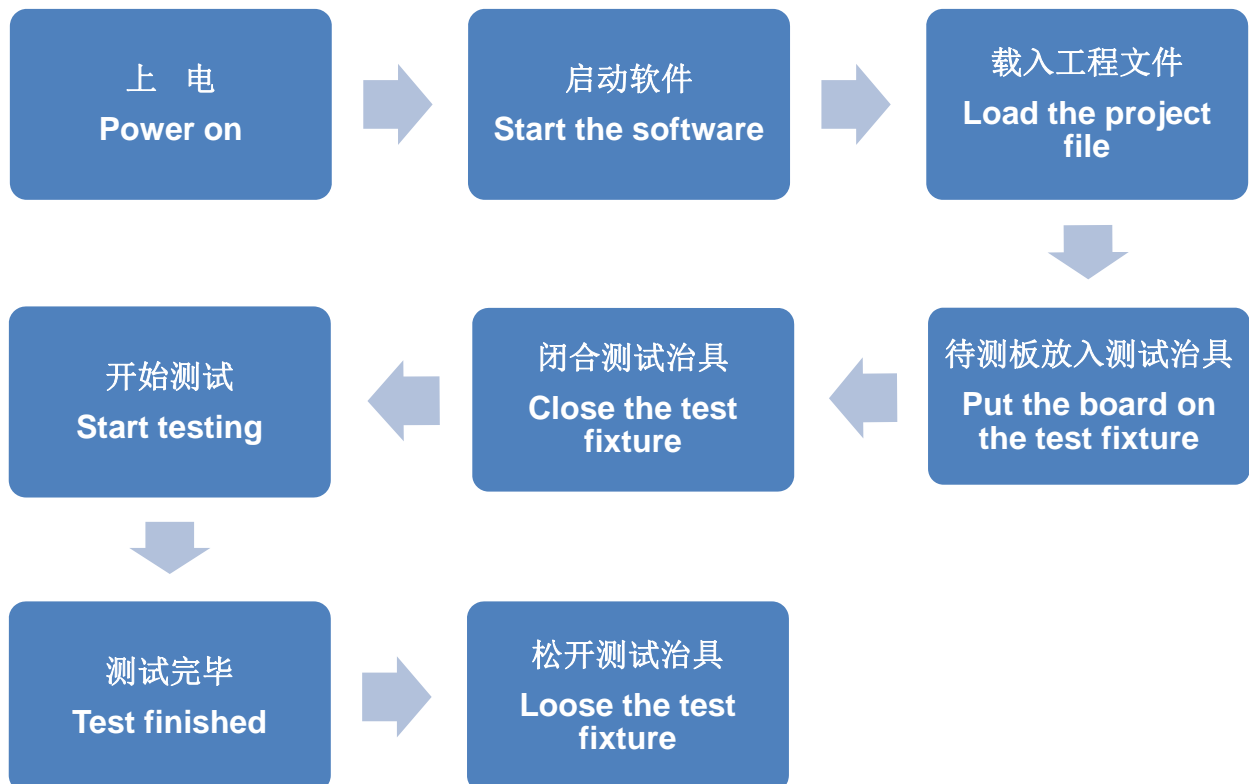
1.系统硬件连接无误; Hardware connection without any error

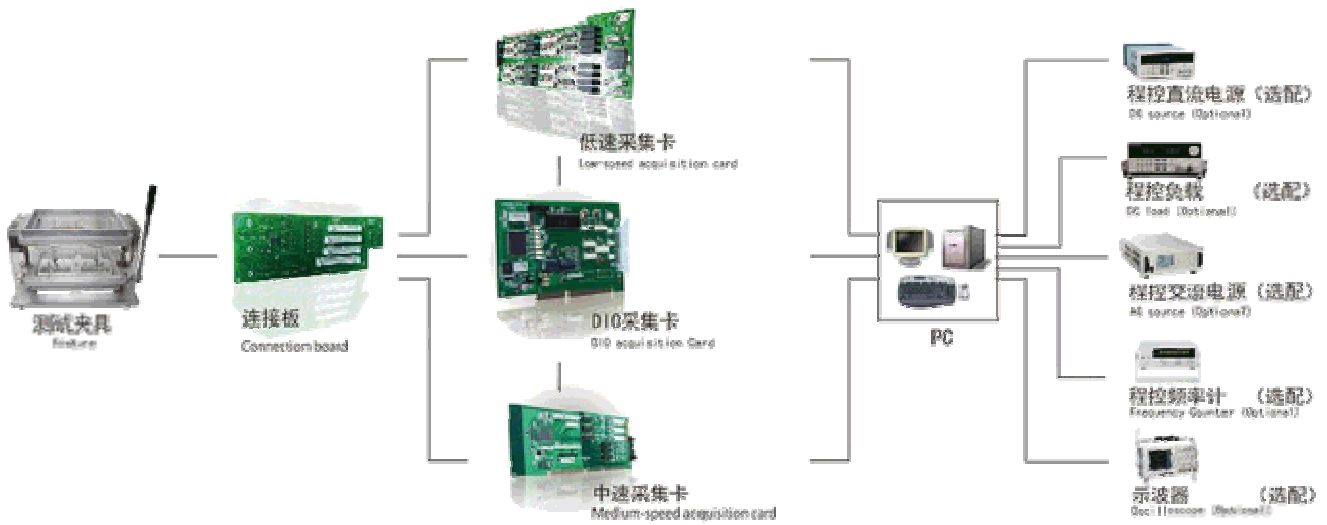
2.测试机架连线准备完毕,测试机架按照测试需求下针,接线。并按照测试需求将所有需要测试的测试点与系统硬件相连,并选择合适的通道与量程;

Prepare well the test fixture wired, implant test probes according to the test requirements and connect all the test point with the hardware base on the test requirements, choose the suitable channel and measuring range.

3.测试工程文件编写完毕,按照测试需求编写测试工程文件,使 OK 板测试通过,并尽可能缩小测试标准范围。

After completing the test project file, then compile the test project file accord to the test requirements,make the OK board test passed, and possible reduce range of the test standard.





产品特点:product features

可测内容: Test content

1) 输入功能 Input Features

电压, 电流, 波形频率, 波形幅值, 数字波形频率, 数字波形占空比, 数字电平, 位置检测, 图像识别, 音频信号, 视频信号, 温度信号, 湿度信号, 压力信号, 振动信号, 开关量, LED 测量, LCD 测量等。

Volatage,current,wave frequency,wave amplitude,digital waveform duty cycle.digital level,position detection,image recognition,audio signal,vedio signal,temperature signal,humidity signal,presure signal,vibrationsignal,swith,LED measurements,lcd measurements.

2) 输出功能 Output Features

交流电压, 交流电流, 直流电压, 直流电流, 波形发生器, 机械运动控制, 直流电机控制, LED 显示控制, FLASH 和 EEPROM 烧写控制等。

AC Voltage,,AC current,DC voltage,DC current,waveform generator,mechanical motion control,DC motor control,Led display control,FLASH and EEPROM programming control

优势 Advantages

1. 测试专案的局限性原因：The limit reason of special test case

① 目前夹具厂商制作的 ATE 几乎是测试专案，专案只适合测试同类产品。

At present the ATE (Automated Test Equipment) just for special test case, this special case just suit for testing the congeneric products.

② 测试专案采用局部虚拟设备，必须了解技术内幕，如通信协议。

The special test case adopt the part virtual equipment,so must know the technology core,such as the communication protocol.

③ 产品变更时会重复投资。

When the products model transformation,the overlapping investment will generate.

④ 焊接点多，转 Model 不便。

Too many solder joints,it is inconvenient to transformation the PCBA model

2. 趋于通用测试，整机环境的创造不需介入被测产品的核心技术内部。由于系统集成了众多电子信号的处理功能而可对应市面上大部分产品的测试。接插件式连接方式实现了转 Model 无需拆焊及重焊，普通员工可转 Model。插座自适应方法的采用而同样的接插件不存在接错的问题。夹具可存储测试程式，所以不存在程式丢失的问题。

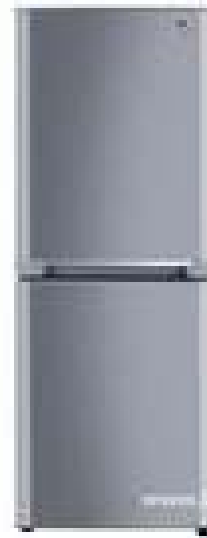
Tend to the general test, tested in the whole machine environment,so not intervene inside the core technology of products.The system integrate numerous processing functions of electronic signals so can correspond to most of market products test.The connection type no any unsolder and resolder when transformation the model,the normal staff can transformation the model.The adoption of socket self adaptive way make the plugin connection without any error at the same situation.The fixture can save the test Programs ,so the test Programs can be saved very well.

参数 Parameter

系统参数:system parameter	
电源电压:Supply voltage	AC185 ~ 230V
环境温度:Tem	0-45℃
允许湿度 Humidity	30 ~ 95%
重量 Weight	50Kg
示波器 (选配) OSC(optional)	Tektronix Dpo2XX4 、 Dpo3XX4 , Agilent U2701A
PCB 尺寸范围 PCB size	350x250 (MAX) 、 250x190 (MAX)
系统外观尺寸 System appearance size	1360 (H) X 800 (L) X 600 (W)
系统占用面积 System occupied space	800 X 600mm 0.48 m ²
系统工位占用面积 System service position occupied space	800mm X 1100mm 0.88 m ²
额定功率 power rating	350W
可编程直流电源 (选配) Programmable DC sources(optional)	Maynuo M8811 30V 5A 、 M8812 75V 2A 、 M8813 150V 1A
可编程交流电源 (选配) Programmable AC sources(optional)	精久 JJ98DD053A 0-300V/45-400Hz
可编程直流负载 (选配) Programmable DC power load(optional)	Maynuo M9712 0-150V/300W
操作系统 operation system	Windows XP Professional
统计报表功能 Statistical reporting features	全程记录测试数据并进行统计分析,可实时查看生产状态和品质分析,可输出 Excel 文件格式 Record all of statistic and analysis test data,check production and quality analysis at any time,can output Excel file
逻辑测试 Llogic testing	96 (可扩充至 384 路) 路输入/输出可配置、采样率 3MSPS : 96(can be expanded to 384way)input/output can be configured,sampling rate
电流测试 Current testing	8 路 (可扩充至 16 路)、AC/DC、0~2A、2‰、采样率 125SPS:8 way(can be expanded to 16 way), AC/DC、0~2A、2‰,sampling rate: 125SPS
电压测试 Voltage testing	35 路 (可扩充到 268 路); 其中 32 路 (可扩充到 256 路) 静态电压测量, 直流 500mV、5V、50V、500V, 交流 200mV、2V、20V、200V, 精度 1‰, 可配成电流采集 0~2A、2‰, 采样率 125SPS; 3 路 (可扩充到 12 路) 可配置 DC~100KSPS 动态电压采集, 2V、20V、200V、500V, 精度 1‰; 2~4 路 DC~20GSPS 示波器 (选配)。 35way(can be expanded 268 way); which 32 way "(can be expanded to 256way),static voltage test,DC 500mV、5V、50V、500V,AC 200mV、2V、20V、200V,the accuracy is 1‰,can be dubbed the current collection 0~2A, 2‰. The sampling rate is 125SPS; 3 way(can be expanded 12 way),can configurable DC~100KSPS dynamic voltage acquisition, 2V、20V、200V、500V,the accuracy is 1‰, 2-4 ways DC~20GSPS oscilloscope (optional)
波形输出 Waveform output	3 路 (可扩充至 12 路) DC~100 KSPS 电压 -2.048V~+2.048V 16 位。 3way(can be expanded to 12 way) DC~100 KSPS,

■ 应用范围 Application range

● 家电产品 Appliance products



●电源产品 Power supply products



●安防产品 Security products



●汽车电子 Automotive electronics



●IT 产品 IT PRODUCTS



●通讯产品 Communication products



■ 售后服务 After sales service

服务内容 The service content

- ▶ 从收货之日起，保修一年、终身维修、软件免费升级。

Upon the receiving cargo date,the warranty is one year,lifelong time amendment,and the software upgrade in free.

- ▶ 提供专业的培训及指导。

Provide the professional training and guide.

- ▶ 接到客户的申请后，以最快的速度赶到现场。

Upon receive the customer application , reach to the spot on shortest time.

- ▶ 定期对设备进行免费的检修、保养工作，并出具书面检测报告。并与用户进行沟通，定期开展技术交流，预防故障发生，保证设备的正常运行，提供免费的升级服务。

Overhauling and maintaining the equipment in free at regular time,and make the written detection report,and communicate with customer,about the technology on regular time,prevent the bug happen,make sure the equipment work well,offer the free upgrade service.

- ▶ 保修期满后，如客户需继续保修，可与公司再签定售后服务的合同。

After the guarantee expired,if the customer still need amendment ,can sign the after sales service contract with company again.

产品升级跟进 :Follow up the Products upgrade

当用户改变应用范畴，公司将会及时根据实际情况做出软件升级方案；当公司的应用软件有升级版本时，将及时通知用户，并提供相应的升级服务；当系统的硬件设备有更新换代产品时，将及时通知用户，提供新的产品信息和解决方案。

When the customer change the application scope,the company will make the software upgrading solutions accord to the reality.When the company 's software have upgrading version,we will inform the customer on time and offer relate upgrading service. When the system hardware equipment have upgrade products,we also will inform the customer without any delay ,and provide the new products information and solutions.