

MyCode From Germany

新一代炉温测试仪



功能最强、精度最高、稳定性最好

The most powerful, highest accuracy and the best stability

MPC Elektronik GmbH & Co.

MyCode 3 产品说明书

温度曲线测试仪

Temperature Curve Analyzer

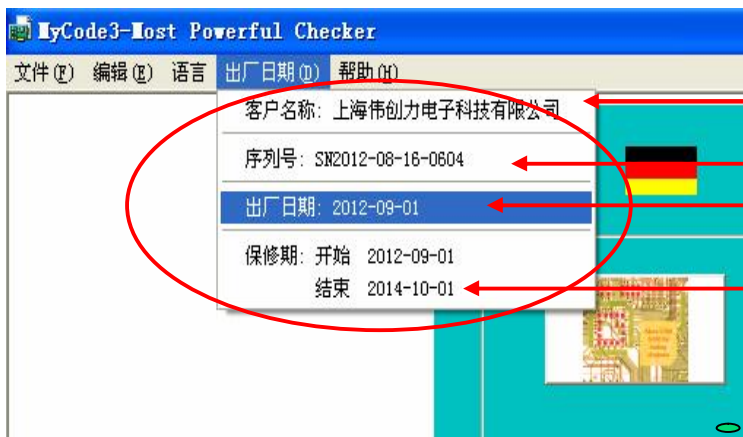
本仪器适用于电子、钢铁、陶瓷、食品加工、汽车喷涂、炉窑等行业

This instrument applies to the industries of electronics, steel, ceramics, food processing, automotive painting, furnace, etc.

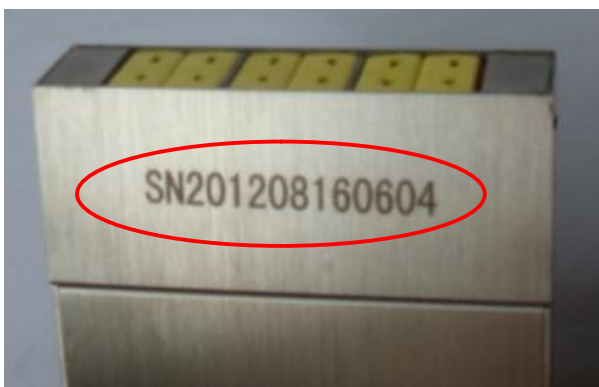
请留意 MyCode3 的标识



MyCode3 是 MyCode 的第 3 代产品，测量精度 $\pm 0.5^{\circ}\text{C}$ ，原厂生产，品质保证。
是在 MyCode2 的基础上对软硬件进行全面升级，功能更强大，系统更稳定，测量精度更高。



1. 贵公司的名称加入到软件中，
2. 序列号是每台仪器唯一的 ID，和仪器背面一一对应。
3. 出厂日期是仪器实际出厂的时间
4. 保修期是从出厂日期开始计算的 2 年 1 个月。



只有原厂正品才有这些标识！

特性 / FEATHERS

- | 硬件设计全部采用先进的 CMOS 低压芯片(3.3VDC),确保整个系统极其稳定,可靠和采样温度的精准;
- | 即使电压低至 1.9VDC, 仍然保证采样温度精准;
- | 效率高, 连续存储温度数据 20 组, 同时下载至计算机分组分析处理;
- | 分析系统可基于 PC (Windows) 及 PDA (Pocket) 进行数据分析;
- | 电脑 USB 接口进行 通信/充电 ,无需充电器;
- | 功耗低, 采用锂电池供电, 连续使用长达 120 小时以上, 快速充电 10 分钟即可使用;
- | 多层隔热保护, 采用不锈钢精制而成, 可应对最严酷的无铅制程和承受苛刻的工业环境;
- | 体积小、存储容量大 (250,000 数据点), 采用 FLASH 存储芯片, 任何意外均不会丢失数据;
- | 记录仪一旦移出回流炉/波峰炉,将自动终止采样,不需人为干预;
- | 存储温度数据 20 组后,系统将按时间自动覆盖最早的数据;
- | 每组温度数据均详细记录采样的起始时间, 采样频率, 采样总点数和热电偶的位置;
- | 开始采样前,自动检测各通道热点耦的连接状况;
- | 精确计算由于热点耦在测温板位置的不同,而引起的进炉时间差,并自动进行补偿;
- | 检测当前电池电量;
- | 导出 Excel 数据, 方便进行各类图表分析;
- | 本系统软件适应 Win2000, WinXP, Vista, Win7 等操作平台.

MyCode3 is the third Version of MyCode.

In MyCode2 is based on hardware and software to conduct a comprehensive upgrade and more powerful, the system more stable, higher measuring accuracy.

All of the hardware design chips using advanced CMOS low-voltage (3.3DVC), to ensure that the system is extremely stable, reliable and accurate sample temperature;

Even if the voltage is as low as 1.9VDC, still ensure accurate sample temperature

High efficiency, continuous storage temperature of 20 groups of data, and downloaded to a computer analysis grouping;

Analysis system can be based on PC (Windows) and PDA (Pocket) data analysis;

Computer USB interface communication / charging without charger.

Low power consumption, powered by lithium battery, continuous use up to 120 hours, 10 minutes fast charge to use;

Multilayer insulation protection, stainless steel refining, can deal with the most severe bear lead-free Manufacturing process and harsh industrial environments;

Small size, large memory (250,000 data points), using FLASH memory chips, no accident will not lose data;

Recorder Once out of the back stove / peak furnace, will automatically terminate the sample, without human intervention.

Storage temperature data of 20 groups, the system will automatically overwrite the earliest data time.

Detailed records of each temperature data sampling starting time, sampling frequency, sampling points and the total thermocouple position.

Start sampling before the hot spot for each channel automatically detect the connection status of coupling.

Accurate calculation of temperature as hot plate coupling in the different positions, but due to time difference into the oven and automatically compensate.

Detect the current battery power.

Export Excel data to facilitate various types of chart analysis;

This system software to adapt to Win2000, WinXP, Vista, Win7 platform.

优点 / EXCELLENT

- 操作简单方便，所有数据均采用数据库管理，可使用向导快速导入工艺制程分析；
- 软件操作配备中简、中繁、英文、韩文、日文等语言版本；
- 高温保护，仪器内部温度超出 70℃ 自动关闭测试功能，超出 80℃ 自动关闭电源；
- 采样频率设置（0.01 秒~60 秒）；
- 测量精度 ±0.5℃（-40℃~1370℃），采集方式为温度触发启动；

easy operation, all data are used database management, use the wizard to import process quick process analysis;

software with the simple operation, in the Traditional, English, Korean, Japanese and other language versions;

High temperature protection, internal temperature

exceeds 70 °C instrument automatically turn off the test function, automatic power off than 80 °C;

Sampling frequency set (0.01 seconds ~ 60 seconds);

Accuracy ± 1 °C (-40 °C ~ 1370 °C), acquisition mode for the temperature triggered start;

智能化控制，任何情况均有指示灯提示（电量过低、充电状态、数据下载、数据清除、

存储器溢满、高温警告、仪器重置等）；

Intelligent control, any tips are light (low power, charging status, data download, data cleaning,

Memory overflowing, high temperature warning, equipment replacement, etc.);

技术参数 / Technology Parameters

存储器	Memory	250,000 数据点,可连续采集 20 组数据
采样频率	Sampling frequency	0.01s~60s.
精度	Precision	± 0.5 °C
分辨率	Resolution	0.1°C
工作电压	Run Voltage	DC1.9V~DC4.2V
电池	Battery	聚合物锂电 1440mAh
仪器功耗	Power Consumption	≤40mAh
仪器尺寸	Size of Checker	200 (L) x 68 (W) x 18 (H) mm
隔热盒尺寸	Insulated box size	250 (L) x 88 (W) x 30 (H) mm
内部最高工作温度	Max. inner run temperature	70°C.

MyCode3 和其他品牌在参数及性能上的比较/MYCODE and other brands in the parameters and performance comparison

No.	项目	炉温测试仪品牌			备注
		MyCode3	KIC	Datapaq	
1	温度采样精度	不需校正	各通道软件校正	各通道软件校正	硬件设计达不到要求,才用软件补偿
2	稳定性	工作电压 3.3	工作电压 9V	工作电压 9V	KIC 和 Datapaq 在 4.5V 时工作就开始不稳定
3	PCB 工艺	全 SMT 表面贴装	分离式通孔元件	分离式通孔元件	在抗干扰方面,表面贴装更好
4	使用电池	3.3V 锂电池	9V 碱性电池	9V 镍氢电池	9V 碱性电池,镍氢电池不环保
5	锡膏库,设备库	已经做好,拿来就用	需要自己建	需要自己建	
6	充电 1 次的使用时间	至少 6 个月	1 个月	1 个月	
7	软件设计	采用面向对象设计	采用面向过程设计	采用面向过程设计	早期的面向过程设计,层层嵌套,很难理解
8	软件结构	全图形显示	数字显示	数字显示	图形显示比数字显示更直观,一目了然
9	内存容量	保存 20 组温度曲线	保存 6 组温度曲线	保存 3 组温度曲线	
10	保修期	2 年	1 年	1 年	
11	最快采样间隔	0.01 秒	0.04 秒	0.05 秒	这个参数在一定程度上反映硬件设计的水平

软件系统/Software System

主画面



初学者完全掌握需要
半个小时左右。

由于采用了模块化设计,因此整个软件系统条理清晰,简单明了.

主画面共有 7 个模块:

1. 锡膏库/温控方案
2. 设备管理库
3. 产品管理库
4. 工艺管理库
5. 记录仪设定
6. 数据导入
7. 曲线检视

Due to its modular design, so the whole software system clarity, simplicity.

The main screen a total of seven modules:

1. Solder paste database / temperature control scheme
2. Device management database
3. Product management database
4. Process Management Library
5. Recorder settings
6. Data import

专业的图表式曲线检测系统能显示已下载的曲线,并制度计算其相关的制程参数,然后会显示来自锡膏数据库的相关锡膏资料 and 各个制程参数转化的图表.这些参数图表集中放在同一个制程窗口上,形象直观,十分容易理解.用户可以通过直观的无色(好)/黄色(坏)在独立的界面上进行评估,大大简化了评估的难度.

系统还支持下列功能:

- 1、温度采样点位置名称及 PCB 或工件 示意图
- 2、任意两点之间的时间标注
- 3、任意两点之间的斜率标注
- 4、任意时刻点的温度标注
- 5、设置背景温度曲线进行多组曲线对比
- 6、任意位置,任意范围的曲线缩放显示
- 7、任意时间范围内的温差曲线显示
- 8、四条游标线计算指定区间内的各种温度值
- 9、完整的锡膏数据库 (SMT) / 温度控制方案 (热处理), 设备数据库
- 10、完美的工艺分析报告 PWI
- 11、模拟曲线功能, 工艺优化, 测试日期和时间
- 12、公司名称、产品名称和备注信息的输出
- 13、可直接打印测试报告或输出电子档的测试报告
- 14、软件清除仪器内存数据方式
- 15、时间补偿
- 16、温度统计

Professional chart type curve detection system can display the downloaded curve, and the system to calculate their fabrication parameters, and then will be displayed from the solder paste database of relevant information, and each process parameter conversion chart. These arguments focus placed on the chart the same process window, the image of the intuitive, very easy to understand. Users can visually green (good) / red (bad) in the independent assessment of the interface greatly simplifies the evaluation difficult.

System also supports the following features:

- 1, temperature, PCB sampling sites name and diagram
- 2, the time between any two points marked
- 3, marked the slope between any two points
- 4, the temperature at any time point mark
- 5, set the background temperature profile curve of multi-group comparison
- 6, any place, any zoom range of curve
- 7, at any time within the scope of the temperature difference curve shows
- 8, four cursor line calculation of various temperatures within the specified range of values
- 9, complete solder paste database(SMT)/the temperature control scheme (heat treatment) , equipment database
- 10, a perfect process analysis of PWI
- 11, simulation curve function, process optimization, test date and time
- 12, company names, product names and notes the information output
- 13, can directly print the test report or test report output of electronic files
- 14, clear the instrument memory data mode software
- 15, the time compensation
- 16, the temperature statistics

曲线检视/ Curve View



系统自动准确地插入回流炉参数在图表中的位置，并将锡膏参数，回流炉各温区的长度，温度设定，链速和温度曲线有机地结合在一起，完美地呈现在您的面前。

您要做的就是点击“测试报告”，输出您想要的结果。

就这些！

The system automatically return to furnace parameters accurately into position in the chart and paste parameters, reflow oven the temperature zone length and temperature setting, chain speed and temperature curves organically combine a fine display in front of you .

You have to do is click on the "Test Report", the output you want results On these!.

That's all.

I 两个重点: 【最大温差】和【时间补偿】 /two key points: [Maximum temperature difference] and [Time compensation]

【最大温差】:对于电子、钢铁、陶瓷、食品加工、汽车喷涂、炉窑等行业的温度测试, 温度高低, 持续时间的长短及温度均匀性都对产品的质量产生直接的影响。如果 PCB 或工件的受热温度不均匀, 温差太大将会导致焊点冷焊, 局部过热, 工件变形, 固化不良, 淬火硬度不够等严重问题。

如何切实有效, 方便快捷地计算出全时间段内的温差曲线和最大温差值, 就显得非常必要。

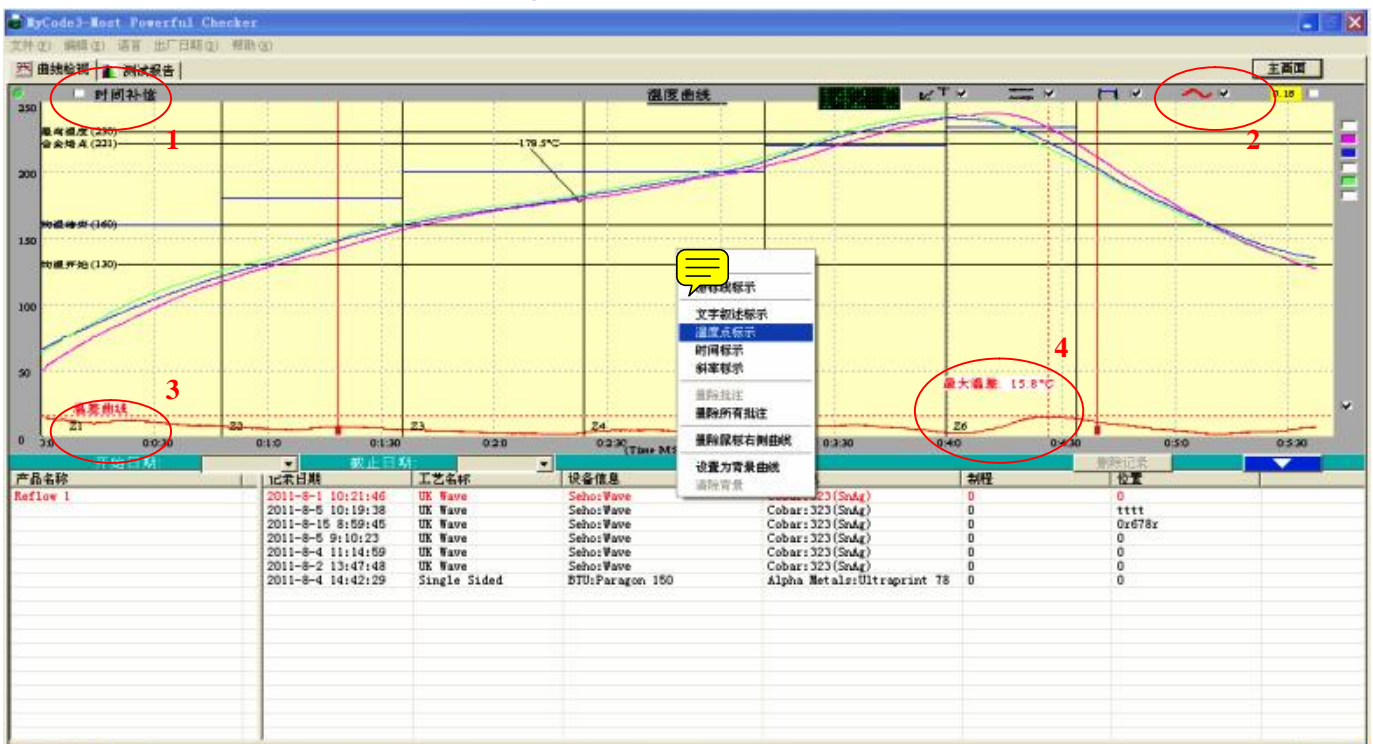
[The maximum temperature difference]: the industries of electronics, steel, ceramics, food processing, automotive spray, kiln temperature test, high and low temperature, the duration and temperature uniformity of the quality of the products have a direct impact. If the uneven heating temperature of the PCB or the workpiece, the temperature high and low will lead to cold welding, solder joint, overheating, deformation of the workpiece, not the amount of curing, quenching hardness is not enough serious problems.

How to effectively, quickly and easily calculate the temperature difference curve for the whole period of time and the maximum temperature difference value, it is very necessary.

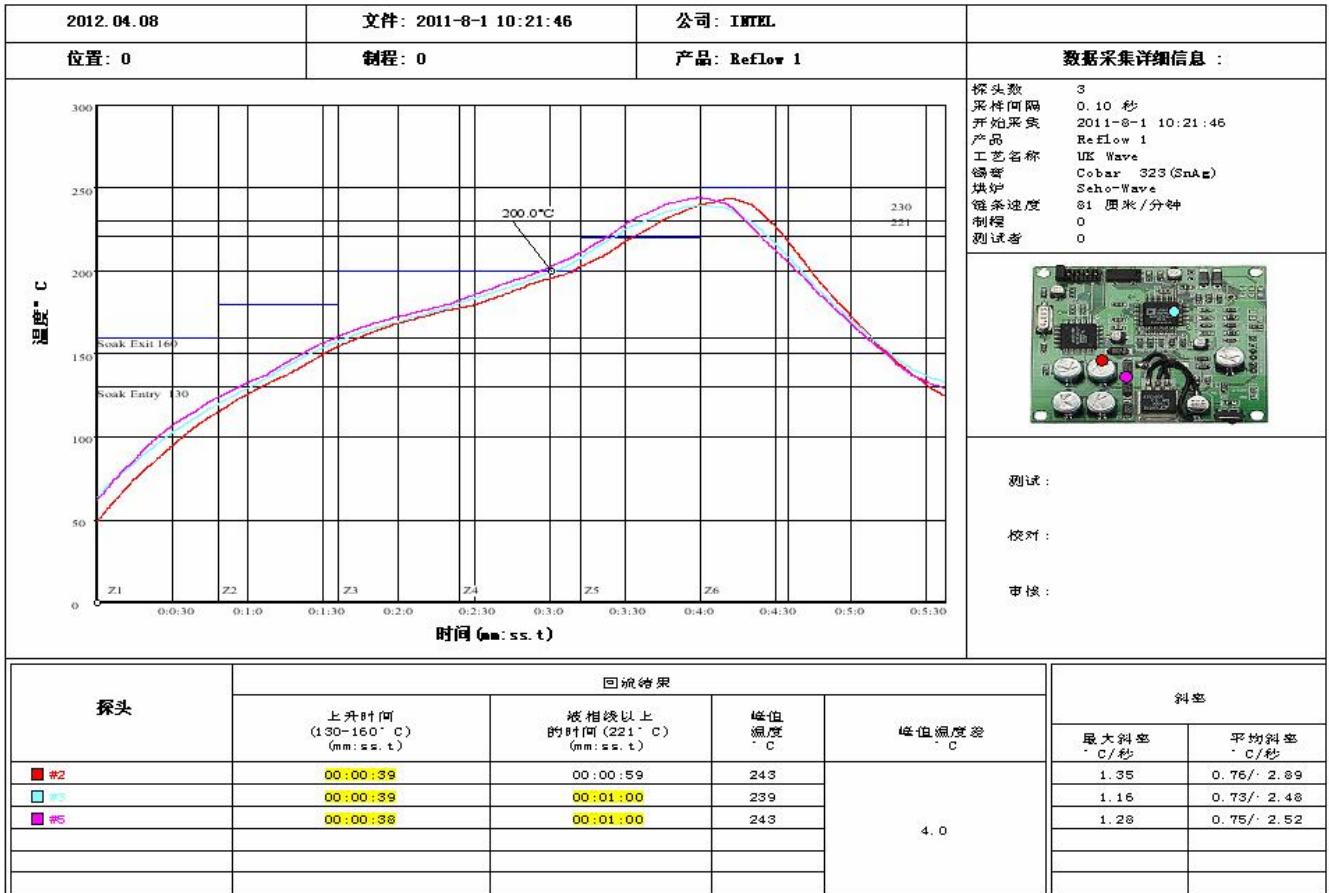
【时间补偿】: 由于 PCB 或工件有一定的尺寸, 在进入隧道炉时(如 SMT 回流焊, 波峰焊, 涂装线等), 导致测温点进入炉内的时间不一致, 出现了时间差. 怎样对时间差进行有效的补偿, 使您看到一幅有效的温度曲线图, 进行各种有价值的分析。同样很重要!

[Time Compensation]: PCB or workpiece has a certain size, in the tunnel furnace (such as SMT reflow, wave soldering, coating line, etc.), the time differences between the measurement points into the furnace, the time difference. How effective compensation of time differences, allowing you to see an effective temperature curve, and a variety of valuable analysis. Equally important!

下面是具体的说明: /The following specific instructions:



1. [时间补偿] 2. [最大温差] 3. 温差曲线 4. 最大温差值。
[Time compensation], [the maximum temperature difference], the temperature difference curve, The maximum temperature difference value.



系统自动对温度曲线的 5 个重要参数进行分析。可以轻松掌控整个回流过程。

- 1 各通道最高温度
- 2 各通道最大温差
- 3 全过程升/降温斜率。
- 4 锡膏熔融时间
- 5 均温时间

对于 NG 的数据，系统自动用黄色进行警示。

Automatically on the temperature curve analysis of five important parameters. Can easily control the entire reflow process.

1, 2, the maximum temperature for each channel the maximum temperature for each channel the entire process of 3 liters / cool down the slope.

Average temperature of molten solder paste 4 hours 5 hours

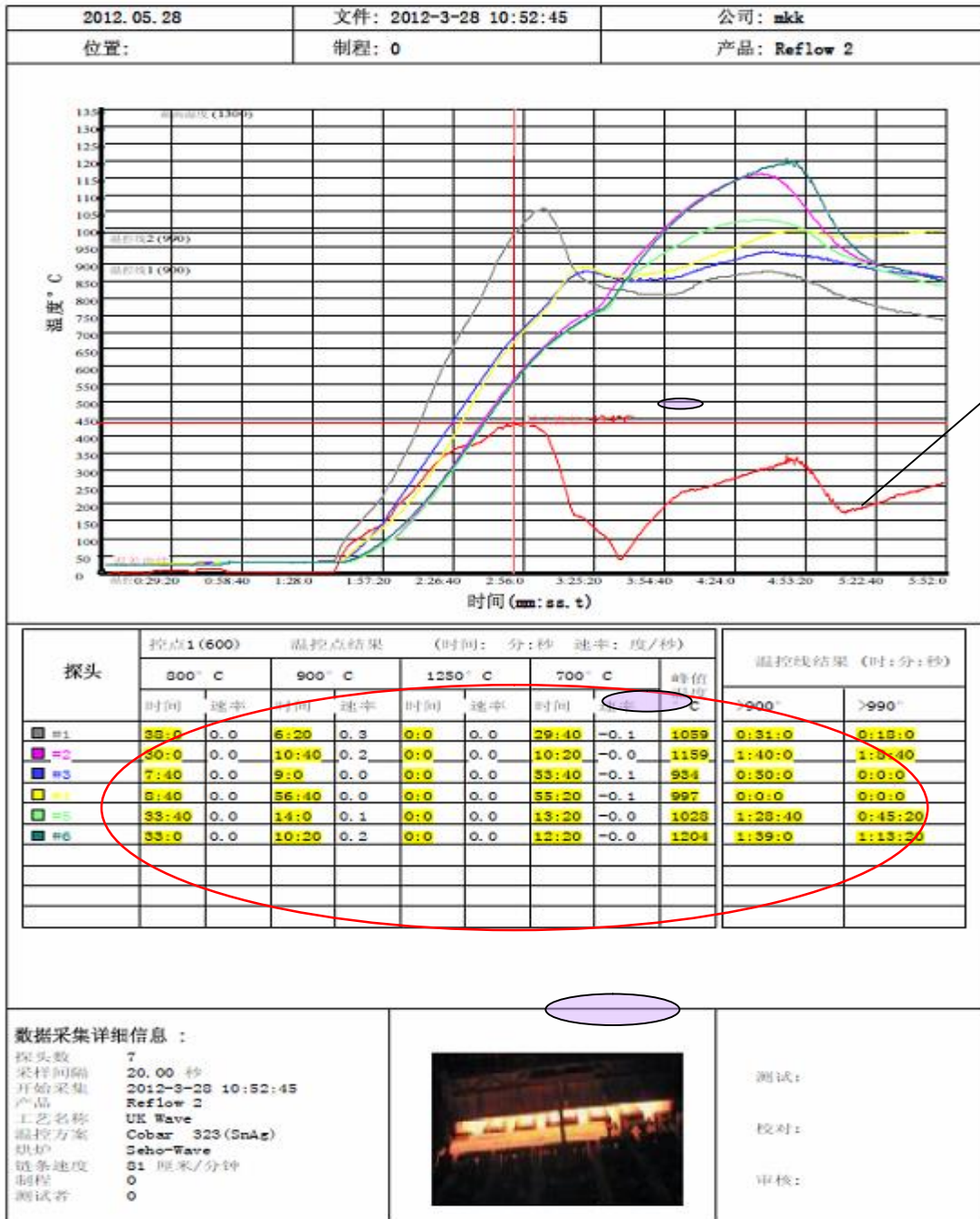
The data for the NG, the system automatically carried out with a yellow warning.

I 钢铁、陶瓷、食品加工、汽车喷涂、炉窑等行业

Iron and steel, ceramics, food processing, automotive coating, furnaces and other industries

针对钢铁、陶瓷、食品加工、汽车喷涂、炉窑等行业对温度**均匀性**，**准确性**和**持续时间**的进行验证，制定精准的【温度控制方案】，使【输出报告】更具针对性，以满足不同行业的需要。

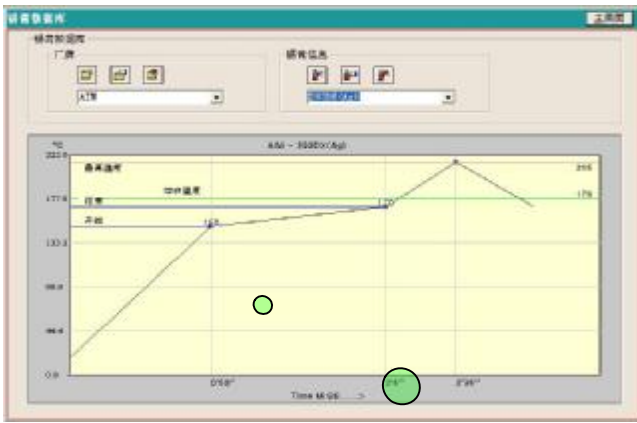
Temperature uniformity, accuracy, and the duration of the conduct of verification for the iron and steel, ceramics, food processing, automotive coating, furnaces and other industries to develop accurate [temperature control] [output report more targeted to meet the needs of different industries.



温差曲线

为钢铁、陶瓷、食品加工、汽车喷涂、炉窑等行业定制的【温度控制方案】。

锡膏数据库/Solder Database



锡膏数据库存储有众多的品牌锡膏,通过选择数据库内的锡膏品牌和型号,用户能看到锡膏厂商推荐的相应制程数据和图表,并能自行动手,不断增加最新的,特殊的锡膏资料.

Paste database storage has many brand solder paste, solder paste within the database by selecting the brand and model, the user can see the solder paste manufacturers recommend the appropriate process data and charts, and to their own hands, increasing current, a special tin Paste data.

都是现成的库,拿来就用,好方便哦!

设备数据库/Equipment Database



设备数据库内保存着众多回流炉生产商的产品型号,从设备数据库中选择相应的回流炉,系统就会自动显示回流炉的相关资料.

Device database maintains a number of returning select the appropriate reflow oven, reflow oven system will automatically display the relevant information.

产品管理系统/ Product Management System



在产品管理界面里,用户可以对生产的每个产品进行精确的曲线设置.在这个界面里,还可以详细记录准备测试的 PCB 板的详细资料,测试点和测试通道的数量.

In product management interface, the user can carry out the production of precision of the curve for each product set. In this interface, the detailed records can also be prepared to test the PCB board details, test points and test the number of channels.

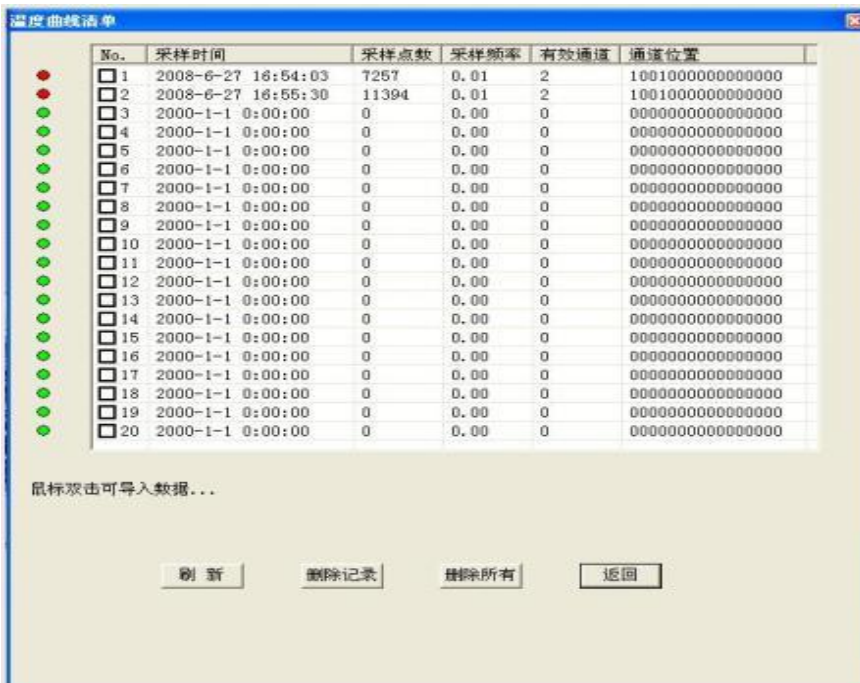
工艺管理系统/ Process Management System



简单地讲，就是把实际生产中这条生产线上回流炉的设定（包括每个温区的温度设定，链速，所用的锡膏）等复制（输入）到电脑中，以便和实际温度数据一起进行工艺分析。

Simply put, is to the actual production of this line back to furnace settings (including the temperature of each temperature range setting, chain speed, the use of solder paste), etc. Copy (input) to your computer in order and the actual temperature process analysis data together.

数据导入/ Data import



清单上共显示 20 组温度曲线。

每组曲线均详细记录了：1 采样时间 2 采样点数 3 采样频率 4 有效通道 5 通道位置

对于已导入的数据，自动标记为红色。

对于未导入的数据，自动标记为绿色。

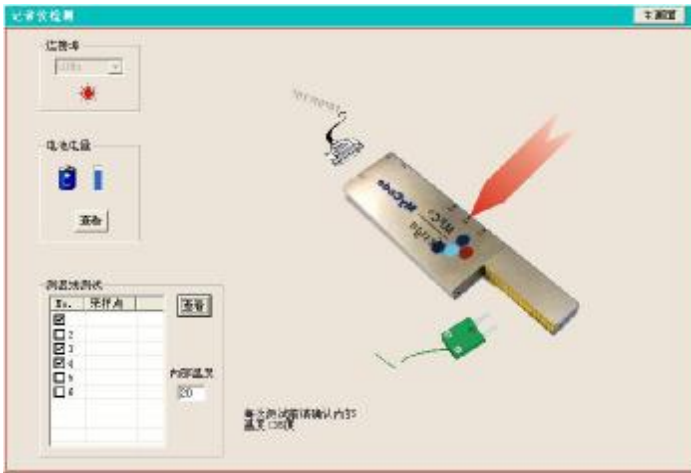
A total of 20 groups on the list shows the temperature curve.

Detailed record of each curve: 1 2 sampling frequency sampling points 3, 4, 5-channel position effective channel

For the imported data, system marked in red.

For has not imported the data, the system is marked as green.

记录仪设定/ checker settings



在开始采样前，先可以检测1. 电池电量，2. 各通道热电偶的连接状态，3. 记录仪的内部温度，4. 显示通信埠号
Begin sampling before inspection can detect 1. Battery power, 2. The channel thermocouple connection status, 3. Recorder's internal temperature, 4. Display communication port

采样方案设置/ Sampling Scheme settings



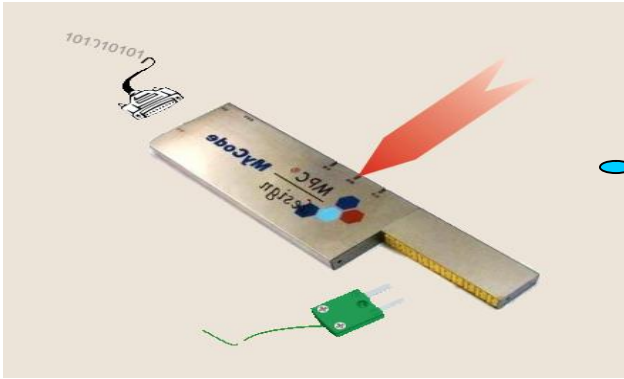
通过电脑时间来校准记录仪时间，简单方便，按“设置”即可。

采样频率的范围 0.01---60 s，按“设置”即可。

1. By computer time recorder time to calibrate, simple and easy, click "settings."

2. Sampling frequency range 0.01 --- 60 s, according to "settings."

操作面板/ CONTROL PANEL



面板操作超简单，3 分钟搞定！

睡眠状态： 通常情况下，仪器处于睡眠状态，三个 LED 不亮

唤醒状态： 按键 3 秒钟，三个 LED 全亮（绿色）

采样状态： 在“唤醒状态”下，按一下按键，“采样” LED 变为红色，进入采样状态

通信状态： 在“唤醒状态”下，按键 3 秒钟，“通信” LED 变为红色，进入通信状态

退出： 在“采样”或“通信”状态下，按一下按键，即退出并进入“睡眠状态”

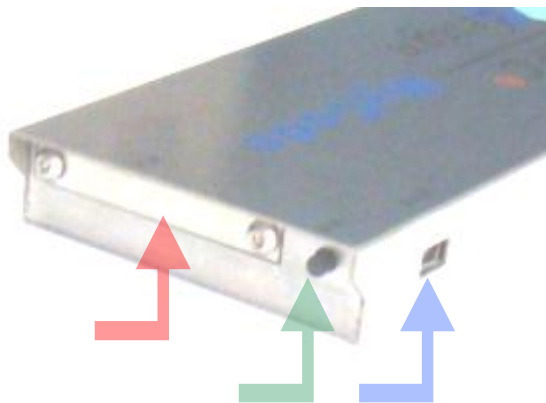
Sleep: Normally, the unit is in sleep mode, the three LED does not light

Arousal: button for 3 seconds, all three LED light (red)

Sampling Status: in "arousal", click button, "sampling" LED turns green, enter the sample state

Communication status: in "arousal", the button for 3 seconds, "communication" LED turns green, into the communication state

Quit: "sample state" or "communication status", click the button to exit and enter "sleep"



BUTTON: 按钮 Button

BATT: 电池口 Battery mouth

COMM: 通信埠/充电口 communication port / charging port

产品系列/Products

本系列产品共有 4 个型号
用户可根据自己产品制程的复杂程度,选择合适的型号.
简单制程 6 通道.
普通制程 8 通道.
较复杂的制程 10, 12 通道

The collection consists of four models

Users can process products according to their complexity, select the appropriate model.

Simple 6-channel process.

Normal process 8 channels.

More complex process 10, 12 channels

6 通道/ 6 channels



8 通道/ 8 channels



10 通道/ 10 channels



12 通道/ 12 channels



I 隔热箱：为适应钢铁、陶瓷、食品加工、汽车喷涂、炉窑等行业在狭小空间内进行长时间高温测试的需求，为您准备了全球范围内最优良的隔热箱。

Insulation box: In order to meet the demand of iron and steel, ceramics, food processing, automotive coating, furnaces and other industries in a confined space for prolonged testing worldwide best insulation box for you.

型号	温度(度)	时间(小时)	尺寸(厘米)	适用行业
2-001	120	1	25 x 10 x 5	塑胶
2-002	300	1	28 x 13 x 9	涂装
2-003	500	1	31 x 15 x 11	不粘锅
2-004	600	6	45 x 30 x 26	铝钎焊
2-005	650	1.5	40 x 23 x 20	铝轮毂热处理
2-006	900	1.5	32 x 18 x 12	搪瓷
2-007	1000	2	45 x 30 x 25	金属热处理
2-008	1200	2~5	58 x 43 x 30	钢坯热处理
2-009	1300	8	76 x 56 x 36	钢坯加热

100 度 5-15 小时， 200 度 3-10 小时， 600 度 2-10 小时， 800 度， 1000 度， 1200 度， 1350 度等测试时间长和测试温度高等产品为非标产品，具体尺寸需技术沟通。

100 degrees 5-15 hours, 200 degrees 3-10 hours, 600 degrees 2-10 hours, 800, 1000, 1200, 1350 Degree test for a long time and test temperature products, non-standard products, and confirm the specific size required technical communication.



真正体积最小，时间最长，耐温最高！



您只需点击一下流程图上的小按钮.....



视频培训软件在 15 分钟内从
面板操作到所有软件菜单, 100%
为您演示, 100% 让您掌握!

只要您 15 分钟!

测试仪配置清单/ Checker Bills



名称	Item	数量/ Qty
1. 仪器箱	Instrument Box	1
2. 隔热盒	Insulation heat box	1
3. 测温仪器	Oven Tracker	1
4. 锂电池	lithium battery	1
5. 用户手册	User Manual	1
6. 软件	Software CD	1
7. 热电偶	thermocouple	6/8/10/12
8. 数据线	Data cable	1
9. 2.0mm内六角	Screw Driver for Batt.	1
10. 2.5mm内六角	Screw Driver for Jig	1
11. 轨道宽度夹具	Tools for rail width adjustment	2
12. 高温隔热手套	high-temperature oven mitts	1
13. 高温胶带	high-temperature tape	1
14. 出厂检测报告	Inspection Certification	1

注：本产品无需检验/ Note: This product is no need to test

这是目前为止唯一的无需校验的仪器，现在和将来都无需校验。

最强的产品，才提供这样的服务！

▣ **服务承诺/ Service promise commitments :**

自购买产品 24 个月内，为您提供免费保修及软件升级、年度维护服务。

Since the purchase of products within 24 months, to provide you with free maintenance and software upgrades, annual maintenance services.

▣ **Company Information:**

MPC Elektronik GmbH & Co. KG Wolfener Strasse 32/34 D-12691 Berlin, Germany.

Tel:+49 30 93 66 82-0

Fax:+49 30 93 66 82 44

代理商/Distributor (华南地区总代理)

深圳市金狮王科技有限公司

联系人: 何小姐

热线: 134-2136-2703

电话: 0755-83658759

网址: www.k-lion.com

根据仪器型号规格不同，参数会发生变化，由于持续开发产品，因此参数规格若有变化恕不另行通知，请以实物为准。

The parameter will be different base on different model and standard, Will do not inform if parameter is being change due to development continuously.

Please refer to actual product.