



[Appearance of CA Pro series products of Dianyang Technology]



CA Pro series Thermal Analyzers

CA Pro series thermal analyzers

CA Pro series thermal analyzers are characterized by simple structure and flexibility, and can detect, store and analyze such data as object temperature changes with time, so as to reduce test times and save experimental time for engineers, designers, university experimenters and other consumers.

Characteristics of CA Pro series thermal analyzers

➤ Detection temperature:

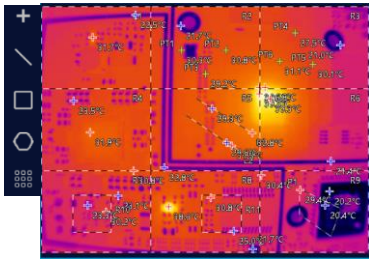
- Multiple temperature detection and mapping tools: points, lines, rectangles, polygons, and equal-scale segmentation diagrams (nine-square diagrams);
- 16 color boards, which are suitable for a variety of different applications;
- Detailed inspection in the rectangular frame, which is suitable for observing the local temperature change of the thermal field;
- Multiple temperature width detection methods: dynamic temperature width, bright high temperature area and isotherm;
- Multiple temperature data displays: high temperature, low temperature and average temperature;
- Display of multiple temperature change curves: global temperature, temperature measurement at 40 points and 20 areas (line, rectangle and polygon);

➤ Store temperature data:

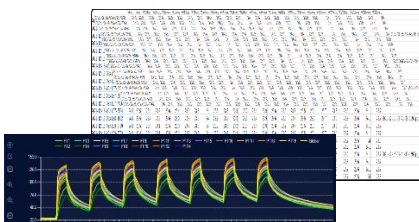
- Recording of temperature data and information without time limit and saving in CSV format;
- Flexible set of the temperature sampling frequency, such as 20FPS, 10FPS, 5FPS, 1FPS.
- Automatic photographing and saving when the temperature exceeds the threshold, which is suitable for offline analysis;
- Supporting manual photographing and video recording.

➤ Analysis of infrared thermal imaging data:

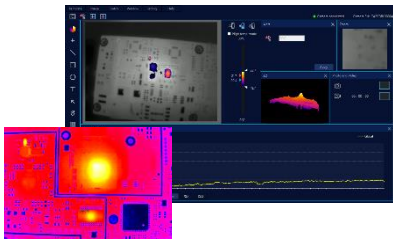
- Online temperature analysis to master the temperature change of each point on the line in real time;
- Display of the measured temperature data in real time in curve form and supporting the display of multiple periods: 1 minute, 5 minutes and 10 minutes;
- CSV format data analysis, which is suitable for offline analysis;
- Offline analysis of infrared thermal images;
- Multi-dimensional comprehensive analysis of infrared thermal images, time and temperature changes;
- Isotherm hierarchical analysis of temperature and thermal field;



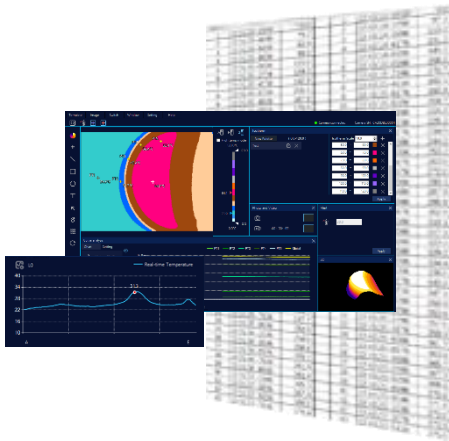
[Multiple drawing tools to display high and low temperature]



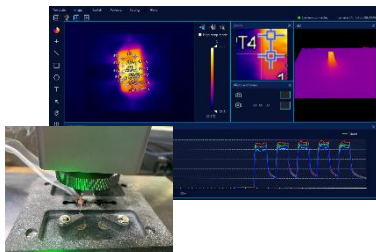
[Temperature data storage and analysis]



[Quick capture of the high temperature point of PCBA]



[Isotherm and online temperature analysis of heat conduction materials]



[Simulating the heating process of resistance heating wire and storing massive data to analyze the uniformity]

Application of CA Pro series thermal analyzers on PCBA

Every high temperature point on the circuit board may affect the performance of other devices or products. The thermal analyzer can solve the detection problem of temperature and temperature change process for consumers in the R&D and production process.

- Multi-area measurement, which is suitable for the module test of each area of PCBA;
- Working temperature range: $-10^{\circ}\text{C}\sim+55^{\circ}\text{C}$, measurement range: $-10^{\circ}\text{C}\sim550^{\circ}\text{C}$, which can adapt to the circuit board measurement in multiple scenes;
- High temperature and bright temperature width detection, which can quickly capture the high temperature of the circuit board;
- High temperature warning, photographing and video recording, which can be used to analyze the working process of the circuit board;

Thermal analysis of heat dissipation and heat conduction materials

CA Pro series thermal analyzers of Dianyang Technology can conduct temperature detection and thermal analysis on the heat conduction, heat dissipation and uniformity of materials in the use and R&D of raw materials.

- Multi-color boards for different color and temperature chromatic aberration, which is suitable for analyzing different kinds of materials.
- Isotherm, which can fix temperature bars and colors according to various temperature ranges and is an important tool for consumers in thermal analysis of materials;
- Massive actual temperature measurement data from 40 points and 20 areas for the detection of the heating uniformity of materials;
- Online distribution function for the detection of the thermal conductivity of materials in real time;
- Temperature measurement accuracy of 50mk to detect the thermal conductivity change of heat conduction materials;

Development and design of electronic cigarette atomizer

In the quality of electronic cigarettes, the temperature control is a very important, which determines the atomization efficiency of atomizer on e-liquid and has a great influence on taste.

- Customized adjustment of the simulated suction degree, duration and times of the suction pump and analysis of the trend of temperature change with curves, which can assist in choosing the product design schemes;
- Simple assembly method and detecting the working tolerance range of resistance heating wires in batches;
- Automatically drawing the equal-scale segmentation diagrams and detecting the temperature of multiple products at the same time;
- Flexible data sampling frequency, such as 20FPS, 10FPS, 5FPS, 1FPS, to completely observe the heating and cooling process;
- 3D mode to detect the instantaneous or small changes of the products and supplement the 2D function;
- Uniformity measurement of heating surface to directly observe the heating uniformity during the atomization heating;

Specifications

System parameters	CA-20	CA-30	CA-60
IR resolution	260*200	384*288	640*480
Spectral range	8~14um		
NETD	70mK@25°C	50mK@25°C	
Angle of visual field	36°X25°	56°X42°	56°X42°
Frame rate	25FPS		
Focus mode	Manual focus		
Working temperature	-10°C~+55°C		
Measurement and analysis			
Temperature range	-10°C~450°C	-10°C~550°C	-10°C~550°C
Temperature measurement method	Maximum temperature, minimum temperature and average temperature		
Temperature measurement accuracy	±2 or ±2% for -10°C~120°C, and ±3% for 120°C~550°C		
Measuring distance	20mm~1m		
Temperature correction	Manual/Automatic		
Emissivity correction	Adjustable within 0.1-1.0		
Data sampling frequency	It can be configured flexibly, such as 20FPS, 10FPS, 5FPS, 1FPS.		
Image file	Full-temperature JPG thermogram (Radiometric-JPG)		
Video file	MP4		
Device dimension			
Single board	220mm x 172mm, height of 241mm		
Double board	346mm x 220mm, height of 341mm		
Data acquisition accessories (not included in standard configuration)			
Heating table	Standard configuration of 2 oiling test holes of resistance heating wires, which can be customized		
	Customized adjustment of the simulated suction degree, duration and times of the suction pump		
Data acquisition	Recording of temperature data without time limit, including temperature change data, data corresponding to resistance heating wires and resistance values, data corresponding to simulated power supply time and temperature, and calculation of heating uniformity		

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