



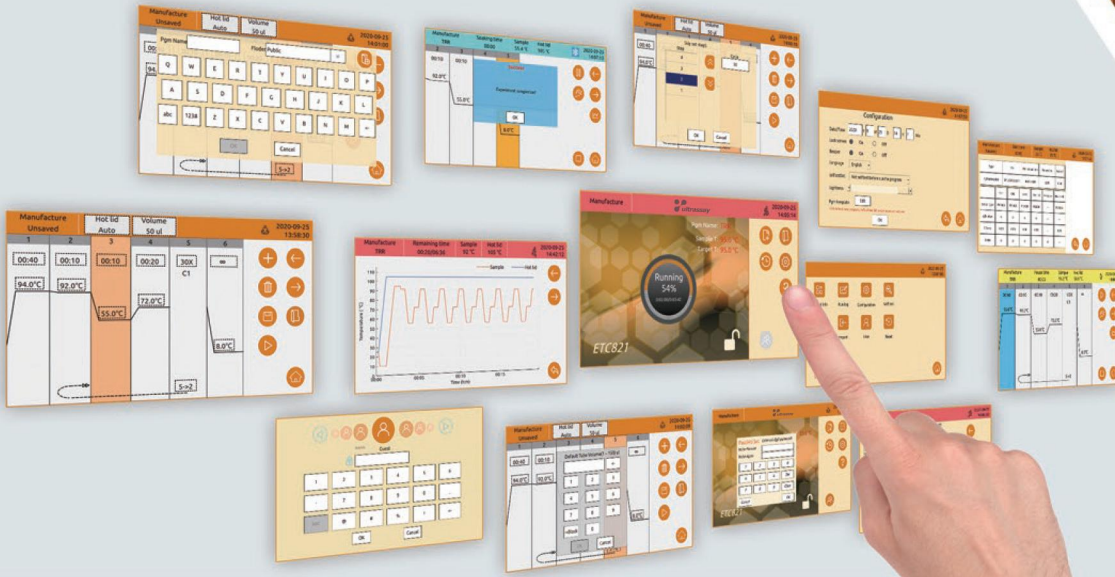
ETC821

Thermal Cycler Pro



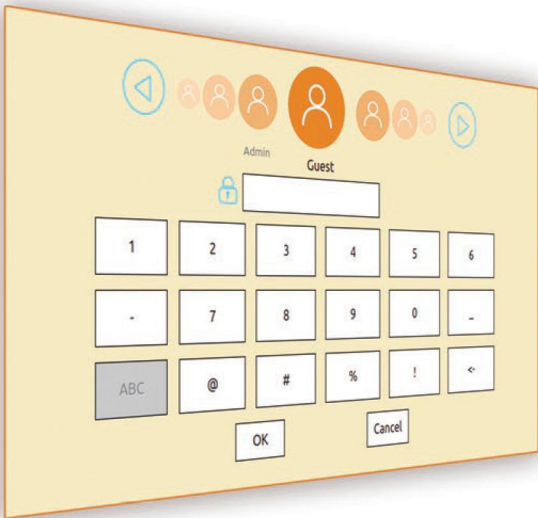
info@ultrassay.com

<http://ultrassay.com>



ETC821 Features

Personal Documents Management



Personal password



Personal interface



Personal template



Personal file



Personal run log



Users can create personal accounts and set personal passwords to protect data individually. Only you or your authorized person can use the program to prevent others from modifying or mistakenly removing programs.

Switchable Multi-interface

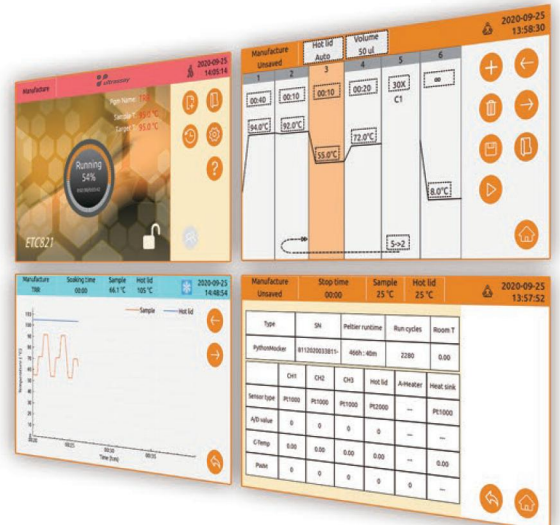
Concise main interface

Dynamic step

Real-time curve

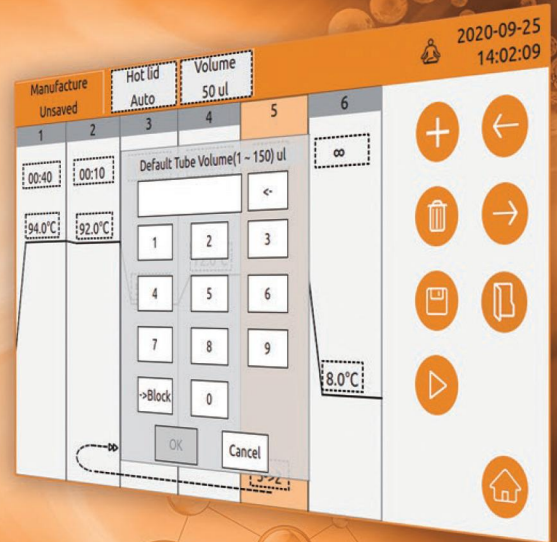
Engineering interface

Switch interface to meet various needs such as browsing, observation, maintenance, and research.



Smart Sense of Operation

- Windows style interface
- Wizard on template
- Guided setup
- Dynamic color
- Animation runner
- Auto hot-lid setting
- Used file list



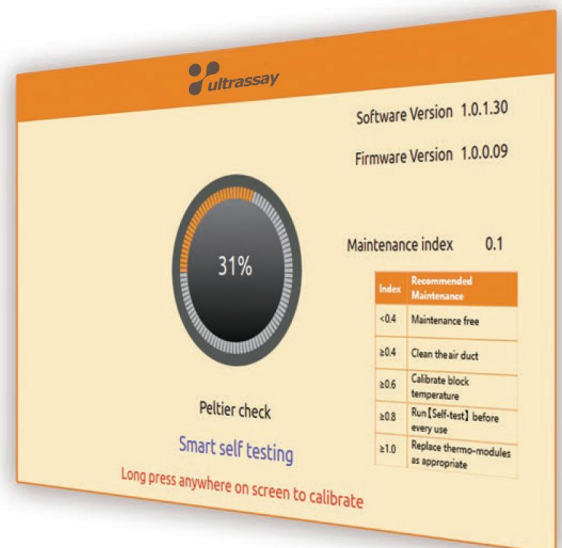
Especially for Industrial Users

- Program protection
- One-click import/export
- USB upgrade
- Self-test
- Run log
- Screen lock
- Maintenance record
- Temperature calibration



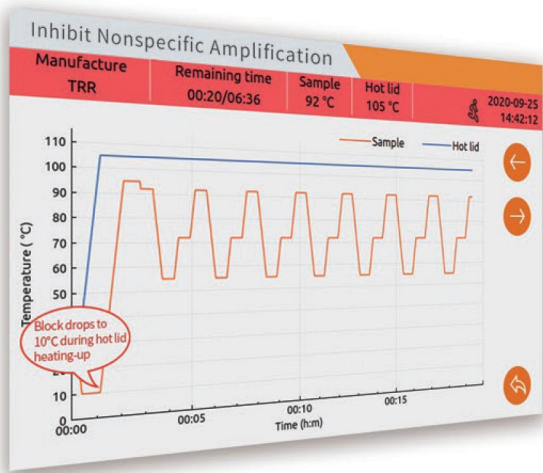
Life prediction of Peltier

- The adoption of PC series long-life Peltier brings more than 30% life extension to the machine.
- The early warning function of Peltier's working status will automatically evaluate Peltier's health status, and give maintenance suggestions, so that you can have confidence in the experimental process and know the reliability of the instrument.

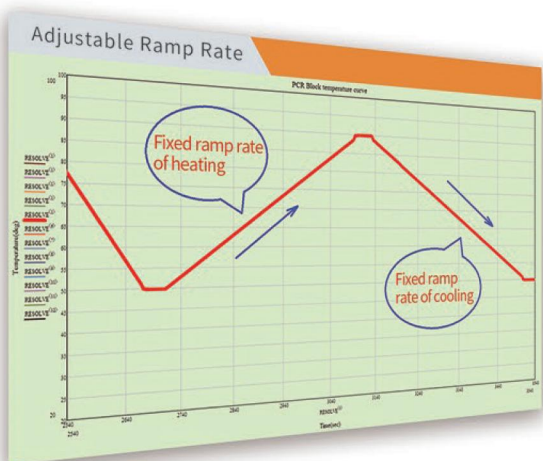


Inhibit Nonspecific Amplification

The experienced soft design inhibits the nonspecific amplification of reagents. In practice, if the PCR reagent is put into the block immediately before the hot lid temperature reaches the set value, the reagent in the block will also heating-up with hot lid. Here, the reagent in block will begin to react slowly. But this is not the desired, that is, nonspecific amplification. What to do? during the hot lid warming up, the block is cooled to 10°C until the hot lid temperature get set value before running the cycle program.



ETC821 Features

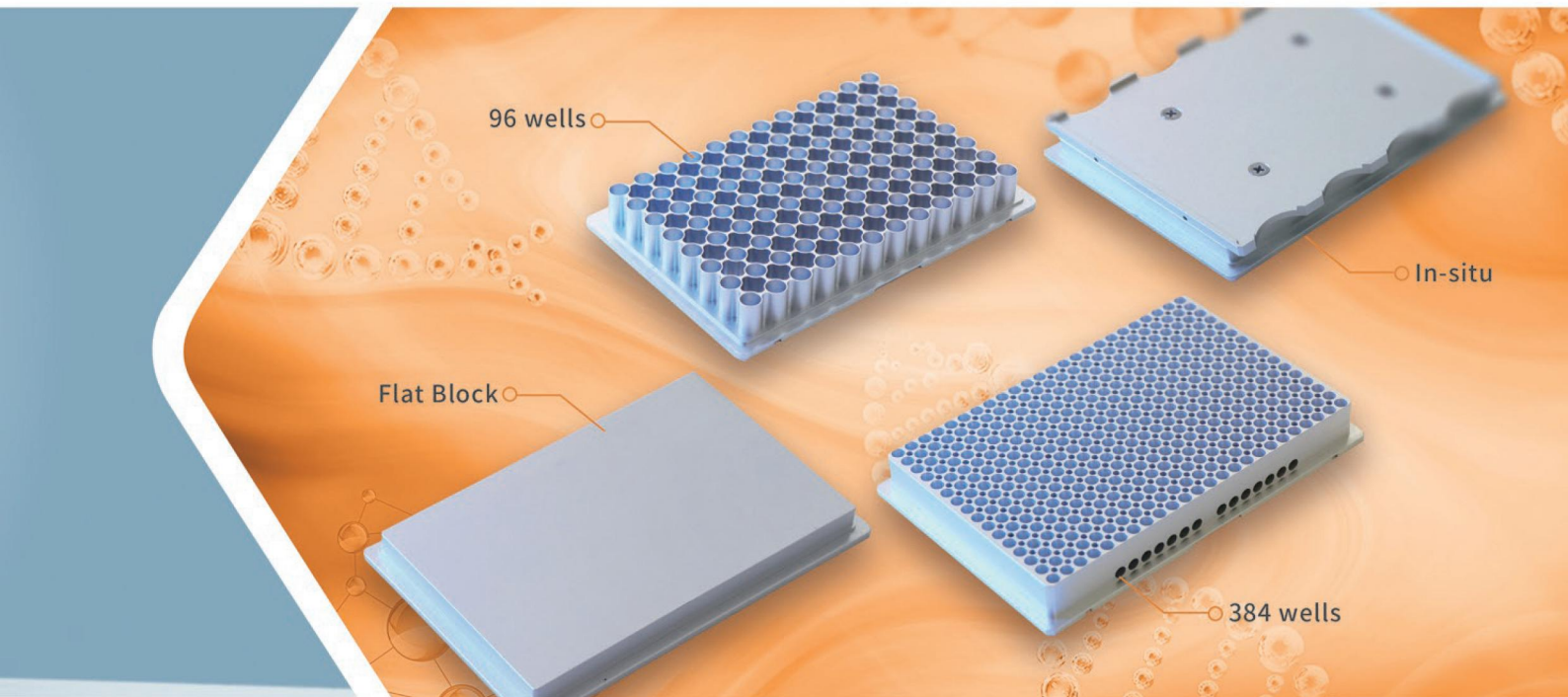
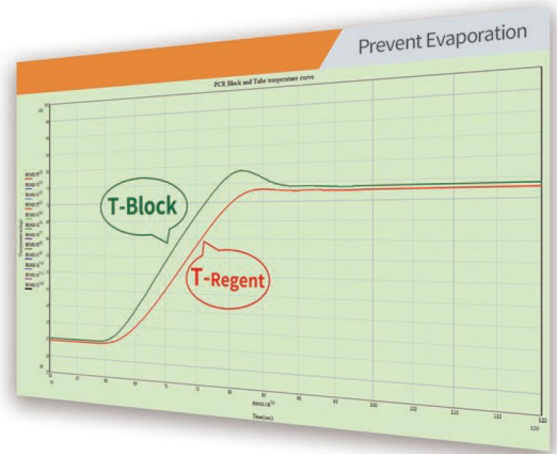


Adjustable Ramp Rate

Actually, not all PCR experiments require the fastest ramp rate. Some PCR reactions require fixed heating rate or cooling rate to ensure the result of PCR reaction. After long-term technical accumulation and algorithm optimization, ETC821 provides a nearly perfect linear temperature control curve.

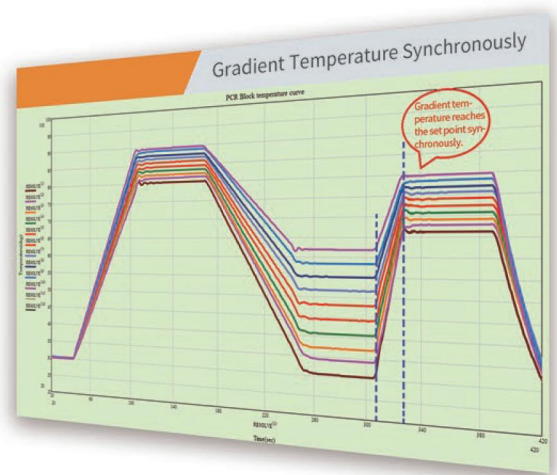
Prevent Evaporation

In order to speed up the temperature balance between block and reagent and shorten the reaction time of PCR, the control mode of overheating block temperature is often used in the temperature control algorithm of PCR. However, for small-volume reaction of PCR, excessive overheating will make reagent temperature close to boiling point, which will cause reagent evaporation or even drying, leading to the abandonment of previous work. With the accumulation of temperature control technology for many years, the reagent of ETC821 PCR will not evaporate even in a small volume of 5-15ul, so as to ensure the success of the experiment.



Gradient Temperature Synchronously

When gradient function is used to optimize the PCR reaction conditions, there are two variables, time and temperature. When the temperature gradient is set, we tend to focus only on the effect of temperature on the PCR reaction. In fact, the time of arrival of temperature is different for each column well. This raises the question: is the result of optimization a function of temperature or time? ETC821 uses a special temperature control algorithm to solve this problem well. By eliminating the time variable, the gradient PCR optimization experiment is only related to temperature, which greatly improves the certainty of the test results.



Selected components, quality first without compromise.

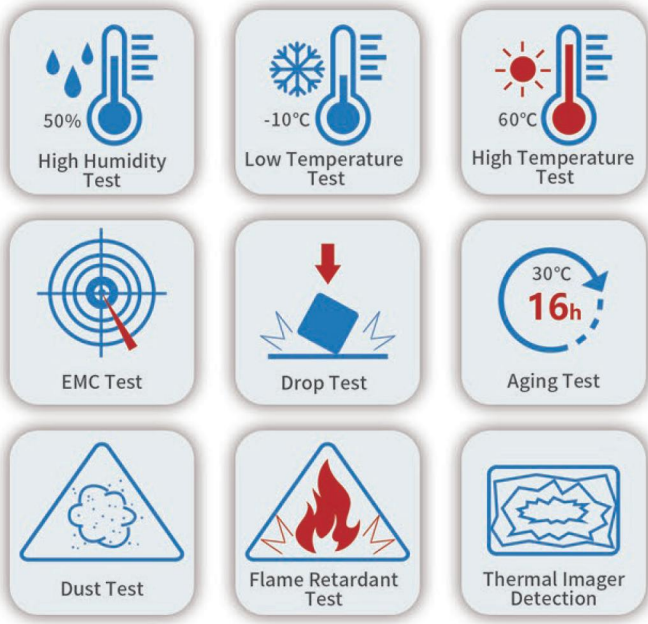
Module Power Supply 	Peltier 	Connector 	Driving Circuit 
Special Materials 	Wave Filter 	Relieving Radiator 	

ETC821 Features

Easy to Press and Lock

-  Press and lock quickly
-  Damped rating shaft makes the hot lid can stop if you want
-  Adaptable to different tubes (except full skirt)





Strict Quality Control

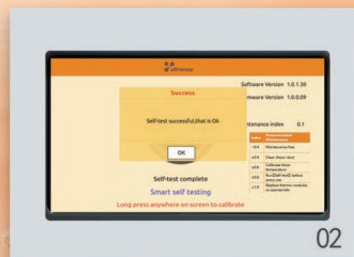
A series of rigorous quality tests should be carried out before each machine leaves the factory, including low and high temperature test, aging test, EMC test and so on, to ensure the reliability of the quality of the machine leaving the factory.

Quick Service

Errors Reporting Takes Only 20 Seconds

The service QR code is directly linked to the after-sales service platform under the handlebars and help pages of each machine. When needed, take a picture of Err popup windows use mobile phone, scan the QR code, and send it to our service WeChat. It takes only 20 seconds at the fastest. Our Service Engineer will answer your question.

- 01 ETC821
- 02 Take photo of Err popup windows use mobile phones
- 03 Scan the service QR code under the handle
- 04 Send photo to the WeChat



WeChat service regularly publishes technical information such as common faults and solutions, daily maintenance and so on (see the public number "Dongdong", "Longlong" question and answer column for details). It is convenient for users to inquire and learn at any time, just like the pcr consultants around you.

At present, it is only available in Chinese.

Basic Parameters of ETC821					Block thermal performance of ETC821		
1	Model	ETC821	ETC821-384	ETC821-***	7	Temperature control accuracy	$\leq \pm 0.1^{\circ}\text{C}$
2	Blocks	0.2ml*96 wells, Aluminum	384 wells, Aluminum	In-situ or flat	8	Block temperature precision	$\leq \pm 0.1^{\circ}\text{C}$
3	Matching Consumables	96 Microplate(non-skirt/semi-skirt, except full skirt) Single/8-strip/12-strip tubes(tall/short tubes, flat/dome tubes)	384 Microplate	Customizable	9	Block temperature uniformity	$\leq \pm 0.3^{\circ}\text{C}$ @55°C
4	Input power	100-240V~50/60Hz, 600VA			10	Max. ramp rate	$\geq 5^{\circ}\text{C/s}$
5	Dimension L*W*H	427*288*227 mm			11	Avg. ramp rate	$\geq 2^{\circ}\text{C/s}$
6	Net Weight	9.6kg			12	Temperature Control Technology	3 Peltier independently control. Distributed auxiliary heating on block edge.

Features of ETC821		
13	Block control mode	Tube (Reagent volume setting) / Block
14	Block temperature range	0-105°C
15	Hot lid temperature range	30-105°C, ON/OFF
16	Time setting range	1s-9h0m0s, ∞ means forever
17	Auto hot lid	Yes. Auto setting temperature of the hot lid according to the PCR parameter.
18	Real-time curve	Yes. Displays dynamic temperature curve of block and hot lid.
19	Gradient range / span	12 columns of gradient / 30-99°C/ 1-42°C, just set the leftmost and rightmost column temperatures, others are auto computed.
20	Temperature touch down	Yes. $\pm 0.1 \sim \pm 10^{\circ}\text{C}/\text{Cycle}$
21	Time touch down	Yes. $\pm 1 \sim \pm 120\text{s}/\text{Cycle}$
22	Waiting for operating	Yes. Auto pause and hold temperature waiting for user operation according to program.
23	Cycles setting range	1-150X, Non cross dual nest loops available.
24	Adjustable ramp rate	Yes. 0.1-3.5°C/s
25	Step setting range	1-100
26	Memory capacity	Max 1000 folders, each folder includes max 1000 files.
27	Wizard template	Yes. The wizard template guides editing and prompt errors.

File management of ETC821		
28	Administrator	Create user account, set password, software upgrade, system reset.
29	Guest	No password
30	User	Create accounts as needed. Data will be protected independently.
31	Read-only protection	Yes. File name suffix # makes files read-only.
32	Run log	Yes. Including programs, running times and operations.
33	Run history	Yes
34	Editing during runtime	Yes. Other applications can be edited during run.
35	File template	Provide programmable templates.
36	USB interface	Yes. Files can be imported / exported with one click. Easy exchange files between PCR machines. Software upgrade.

More features of ETC821		
37	Display	7" WVGA 64000, LED backlight, high sensitive touch screen.
38	User friendly interface	Yes. Dynamic temperature and color background, animation running status, breathing light indication, buzzing prompt.
39	Screen lock	For large users, in order to prevent the machine from being misoperated by others in the experiment, the operator can lock the screen so that the click on the screen will not respond until it is unlocked with a password.
40	Easy interfaces switch	Simple main interface, operating interface, dynamic curve, engineering interface.
41	Inhibit Non-specific amplification	Yes. Before running the cycle program, the block is cooled to 10°C until the hot lid temperature get set value during hot lid warming up.
42	Tube mode	Yes. Precise control according to reagents volume.
43	Adaptive lid	Auto adapts to various heights of tubes (high tube, low tube, flat top tube and dome tube).
44	Smart gradient	Yes. Dynamic power control ensures that the temperature of each column reaches the target synchronously.
45	Self-test when power on	Yes
46	Auto report after running	Yes
47	Self-diagnosis and report	Yes
48	Soaking after running	Yes. The lowest soaking temperature is 0°C.
49	Memory function of power-down	Yes
50	Total time / Remain time prediction	Yes
51	Peltier life warning	Yes, automatically assess Peltier's health status and give maintenance suggestions.
52	Screen calibration	Yes
53	Block temperature calibration	Yes. Engineering mode only.
54	Key tone	On/off
55	Screen brightness adjustment	Yes
56	System	Includes system configuration, self-test, factory setting, software upgrade, engineering interface (Engineering mode only).
57	Help	Product features, software features, quick guides, error codes, contact information.
58	Interface language	Chinese / English, switch freely.
59	WeChat Service	Yes. User can contact us by sending photos to WeChat when errors occur.

Due to the different weights of 384 block, in-situ block, and flat block, the temperature parameters are slightly different. See instructions separately for details.



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