

T100 Thermal Cycler

Brand- **BioGenix®**



Description

The BIOGENIX thermal cycler is a small thermal cycler offering a comprehensive set of convenient features in a small footprint. This compact thermal cycler features an intuitive touch-screen user interface to make running PCR easy. Thermal gradient technology allows you to quickly optimize your reaction in a single run. With its robust design, the T100 system is a reliable personal thermal cycler that delivers exceptional performance for years — Launch the System Tour to test drive the T100 thermal cycler now.



Innovatively designed lid, patent protect

7" TFT full color touch screen

Front air-in and back air-out, two cyclers could be place side by side

Features of the T100 Thermal Cycler

Intuitive touch screen — easy programming using a large color touch screen and intuitive interface

Consistent results — robust design ensures effective and consistent performance run to run

Easy optimization — this gradient thermal cycler allows fast PCR optimization using a unique thermal gradient

Easy protocol management — protocols can be organized using personalized folders or a USB flash drive

Small space-saving footprint — the T100 is a compact thermal cycler that fits in any laboratory

Setting Up the T100 Thermal Cycler

Home Screen Overview

The home screen provides access to all the main functions of the thermal cycler, as well as the date, time, and name of the thermal cycler (optional). To initiate the functions in the home screen, touch the button for each function:

New Protocol — creates a new protocol

Saved Protocols — for viewing, editing, and running saved protocols

Incubate — for running at a constant temperature similar to an incubator

Tools — logs, settings, self-test, system information, and firmware update



Creating a New Protocol or Editing an Existing Protocol

To create or edit a protocol:

- To create a new protocol, touch **New Protocol** from the home screen.
- Alternatively, to edit an existing protocol, touch **Saved Protocols** from the home screen, select the protocol to be modified and touch **Edit**.
- The protocol editing screen opens.

Run protocol

The protocol editor displays the protocol in a graphical format using editable boxes.

To edit the temperature or time for each step, the sample volume, and the lid temperature, touch the appropriate box and enter a new value in the numeric keypad.

Touch **Run** to run the protocol immediately without saving it. Alternatively, touch **Save** to choose a folder location and save the protocol, and then touch **Run** to run it.

Loading Samples

The inner lid of the reaction module applies heat and force to the reaction vessel lids (caps or sealing film). Heating the inner lid prevents condensation, and applying force seals the reaction to prevent evaporation.

Inserting a Protocol Step

Insert a protocol step if a new temperature, GOTO, or gradient step is needed:

Select a step to the left of where the new step is to be inserted.



Maintenance and Cleaning

The T100 thermal cycler exterior should be cleaned on a regular schedule to remove any debris or dirt that might interfere with proper function.

To clean the exterior of the thermal cycler, follow these instructions and pay careful attention to the warnings:

- **Clean the air vents.** Remove dust with a soft brush, damp cloth, or vacuum cleaner. Remove any heavy dust that is deep in the vents with a vacuum cleaner. Cleaning the vents allows sufficient air flow for precise thermal control during a run
 - **Clean the touch screen.** Remove debris on the control panel with a soft cloth and any commercial touch screen cleaning fluid or mild soap solution
- WARNING!** Do not use abrasive detergents or rough material; they will scratch the display.
- **Clean the outside case and lid of the thermal cycler.** Use a damp cloth or tissue to clean spills off the outside case. If needed, use a mild soap solution, and remove the residue completely. Cleaning the outside case prevents corrosion
 - **Clean the inner heated lid.** Use a soft cloth and water to remove debris and solutions from the inner lid surface. Never use abrasive detergents or rough material that can scratch the surface. Cleaning the inner lid improves precise sample heating and cooling

Replacing Fuses

Fuses on the T100 thermal cycler are designed to blow in case of severe power surges or other causes of electrical short. This process protects both the user and the instrument from excessive electric charge. Fuses on the T100 thermal cycler rarely need to be replaced.

However, some institutions prefer to replace fuses on a regular basis to maintain uninterrupted operation.

If the thermal cycler does not turn on, first check that the power cord is plugged into a functioning power source.

Also, check that the power cord and power source are within the specifications for this instrument. To replace a power cord, contact Bio-Rad Technical Support .



Precautions and instructions about battery replacement

WARNING! If misused or abused, the battery may explode or leak, causing injury to personnel and/ or damage to the unit. Do not attempt to revive or recharge a used T100 battery by any means. Do not expose the battery to flames, high temperatures, moisture, or direct sunlight. Do not open, dismantle, modify, or short circuit the battery.

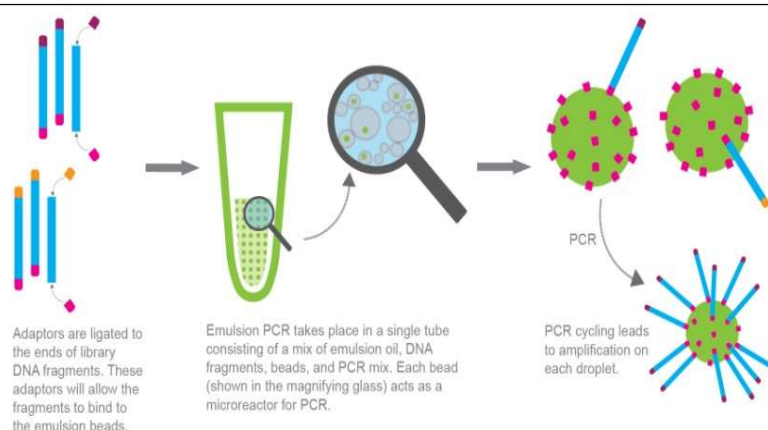
- Disconnect the power cord.
- Turn the unit over so the bottom faces up and remove the green access panel.
- Note the orientation of the old battery in the battery holder.
- Remove the old battery from the battery holder and place it on a nonconductive surface such as a sheet of paper.
- Install the new battery into the battery holder with the same orientation noted earlier.
- Replace the access panel and turn the unit right-side up.
- Reconnect the power cord.
- Prior to disposal, protect the old battery from shorts by sealing it in the packaging from the replacement battery or by wrapping it with insulating tape.
- Dispose of the old battery in accordance with local rules and regulations

Specification

Thermal Cycler	
Brand	BioGenix
Sample capacity	96 x 0.2 ml tubes, 0.2 ml tube strips, or 1 x 96-well plate
Maximum Heating rate	5°C/sec
Maximum cooling rate	4°C/sec
Time & Temp	YES , Available for long PCR & Touchdown PCR
Temperature range	4–100°C
Temperature accuracy	±0.2°C of programmed target
Temperature uniformity	±0.5°C well-to-well within 30 sec of arrival at target temperature
Input power	Global switch power supply 85 -265 , 50-60 Hz Max. 600w
Mode of Temperature control	Sim- tube & block
Heated Lid Tem- range	30°C- 99.9°C
Max. number of programmas	Max. 10,000 programs on board ,unlimited storage of protocols with USB flash drive
USB flash drive	Unlimited storage of protocols with USB flash drive
Communications Part	2 USB 2.0 AND LAN
Auto pause/ Auto restart	YES
PC Connection	PC remote control to mänge more than 100 units of A100/A200 Across the network
Block Temperature	0°C ~ 100°C
Max. step and max. cycle	30 steps. 100 typical cycles, max. 60000 nesting cycles
Display	7 color touch screen , graphical display of protocol and running status
Port	1 USB A
Dimensions (W x D x H)	26 x 47 x 23 cm (10 x 18 x 9")
Packing Size (L x W x H)	430mm*344mm*345mm
Weight	9.8 kg
Gradient	
Gradient range	30–100°C
Temperature differential range	1–25°C

Applications and Uses for the Thermal Cycler

- Nucleic acid amplification (PCR)
- Gene cloning and analysis
- Gene expression analysis
- Mutational analysis
- Cycle sequencing



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