

Polymerase Chain Reaction

Thermal Cycler



SEDI

The SEDI Thermal Cycler is a superb thermal cycler that features an intuitive 7" LCD touch panel that allows users setting up PCR protocols with ease and an efficient gold-plated reaction block with Peltier elements that precisely controls temperature and delivers consistent PCR results.

Reliable Thermal Design and Precision

The SEDI Thermal Cycler achieves its precise temperature control and delivers consistent PCR results through its excellent thermal design. The system comprises of a fully digitized PWM (Pulse Width Modulation) Peltier temperature-controlled system, a selection of interchangeable 96-well or 384-well reaction modules, a user-friendly 7-inch LCD touch screen, and a 140 mm low noise fan and the sideway ventilation design for maximum cooling performance.

The fully digitized PWM Peltier temperature-controlled system allows precise temperature control and gradient temperature capability. The interchangeable 96-well or 384-well reaction modules feature the auto-adjusting heated lids that protect the samples and allow for easy access, the gold-plated reaction blocks that deliver superior thermal conductivity, and a vapor-free, water proof dual sealing casket of the reaction chamber that guarantees excellent insulation. The 140 mm fan and the sideway ventilation allow constant airflow and ensure maximum efficiency of the Peltier elements.



A Reliable Partner Handles Your Sample with Care

The SEDI system offers a variety of convenient features with maximum flexibility. The intuitive user interface on the SEDI system is driven by the 7-inch LCD touch screen. The color touch screen allows users not only to navigate and program their PCR protocols with ease but to organize and view their experiment history in just a few taps.

The graphical protocol programming and real time temperature display make it easy to monitor their experiments and create a new protocol. The Auto Pause Step allows users to modify their protocol by adding a step that pauses the run at the target temperature at any stage automatically.

The efficient Peltier elements of the SEDI allow the reaction chamber to reach up to 0 °C and provide a consistent low temperature environment for storage. Presetting the storage function, the SEDI system takes care of your samples right after the run for overnight. In addition, the Power Recovery feature resumes your PCR experiment after the system has encountered a power failure.



Superb Temperature Accuracy and Excellent Performance



Excellent Temperature uniformity
Heating ramping speed up to 4.8 C/sec
Temperature validation compliant to NIST and ITS-90 standard
Gradient Temperature, R-T PCR and Touchdown capability
Integrate Tm calculator functionality

Features

Digitized PWM Peltier Temperature-controlled System – controls the temperature of the reaction block dynamically with speed and accuracy.

Interchangeable 96-well or 384-well Reaction Module – with the selection of 0.2 ml PCR tubes or 384-well PCR plate modules, the SEDI G or B and SEDI X are available for users to choose. Different sample volume but equal performance.

Gold-plated Reaction Block – maintains excellent thermal conductivity and prevents corrosion and oxidization over time.

Auto-adjusting Heated Lid – provides even pressure on the various types of PCR reaction tubes and keeps your samples safe.

Dual-casket Reaction Chamber – insulates the reaction chamber and prevents condensation.

Intuitive User Interface – allows users to setup protocol with ease, to inspect their current experiment real-time, and to navigate and recall their past protocol easily.

Preset 6 °C Storage Temperature – stores users' PCR samples right after the run by the presetting storage function

Thermal Ventilation Design – integrates 140 mm low-noise fan to constantly draw air in and exhaust through the sideways ventilation to ensure maximum efficiency of the Peltier elements.

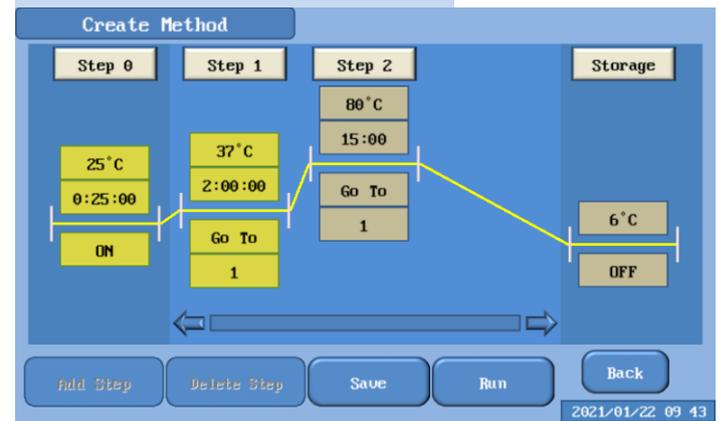
Power Recovery – automatically resumes the run after the system has encountered a power failure

Auto Pause Step – allows users to set up a method that can be paused automatically at any stage they desire for a prolonged time. Return and press resume to proceed to the next step.

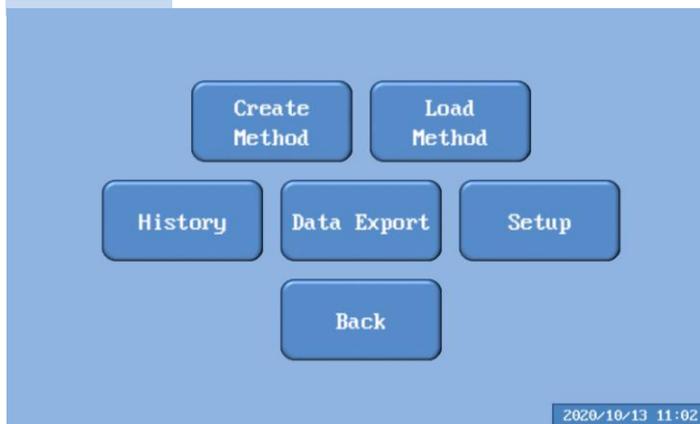
Mode Selection



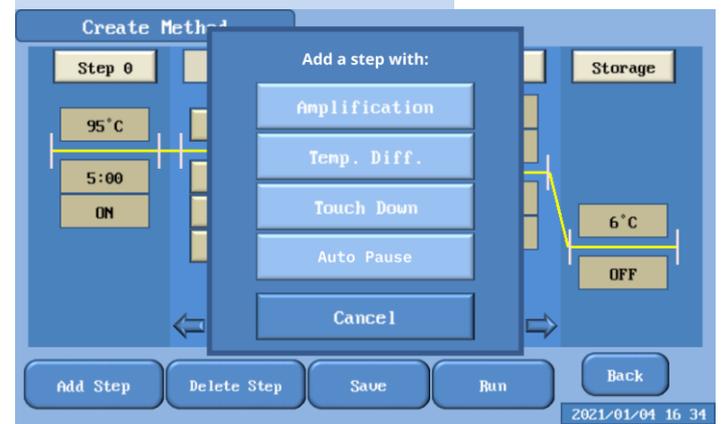
Create Method (Incubation)



Main Screen



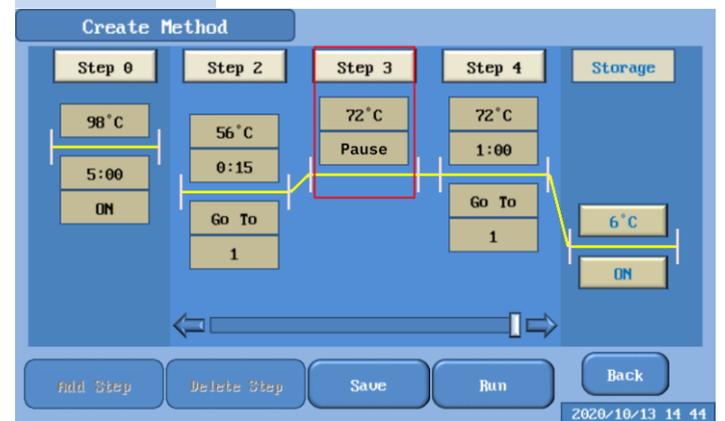
All Parameters for Each Step



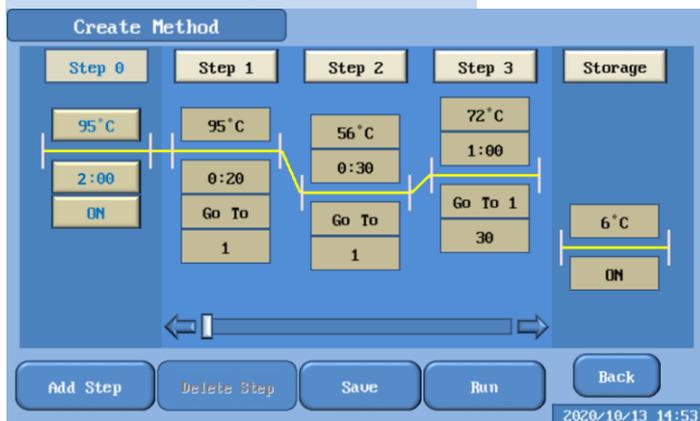
Setup Menu



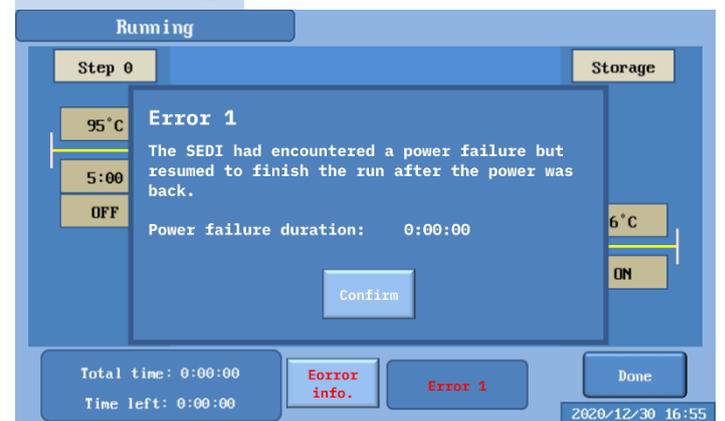
Auto Pause



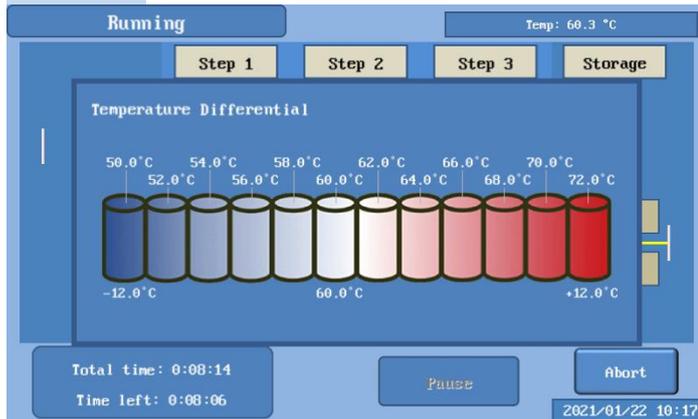
Create Method (Amplification)



Error Message



Gradient



Multi User

Setup screen with a 'Multi User' dialog box. The dialog box contains a table with the following data:

Default	User1
User2	User3

The dialog box also has 'Create', 'Delete', and 'Exit' buttons. The background setup screen shows options for Language, Multi User, Sample Volume, Beep Sound, Energy Save, and Done. A timestamp of '2021/01/22 10:26' is visible at the bottom right.

Heated Lid

Setup screen with a 'Lid Temperature' dialog box. The dialog box shows 'Lid Temperature' set to '105 °C'. It includes 'OK' and 'OFF' buttons. The background setup screen shows options for Language, Multi User, Sample Volume, Beep Sound, Energy Save, and Done. A timestamp of '2021/01/22 10:27' is visible at the bottom right.

Power Option

Setup screen with a 'Power Option' dialog box. The dialog box shows 'Energy saving' set to 'ON' and 'Power recovery' set to 'OFF'. It includes 'ON' and 'OFF' buttons for each setting. The background setup screen shows options for Language, Multi User, Sample Volume, Beep Sound, Energy Save, and Done. A timestamp of '2020/12/30 17:05' is visible at the bottom right.

Language

Setup screen with a 'Language' dialog box. The dialog box shows a grid of language options: English, 繁體中文, 简体中文, 日本語, French, and German. It includes 'Control Bus Net' and 'Done' buttons. The background setup screen shows options for Language, Time, Force Cooling, Beep Sound, Multi User, Sample Volume, T_m Calculation, Step Control, and Done. A timestamp of '2014/11/10 08:45' is visible at the bottom right.

Ramp Speed Control

Setup screen with a 'Step Control' dialog box. The dialog box shows 'Step Control' set to 'OFF'. It includes buttons for 'Enter' and 'Exit'. The background setup screen shows options for Language, Multi User, Sample Volume, Beep Sound, Energy Save, and Done. A timestamp of '2021/01/22 10:29' is visible at the bottom right.

Method History

History screen showing a list of method runs. The list includes columns for Date, Time, Method Name, and Action. The entries are:

- Date - 2021/01/22 10:17 - Default - Method 000 - [Abort]
- Date - 2020/12/30 16:55 - Default - Method 000
- Date - 2020/12/30 16:55 - Default - Method 000
- Date - 2020/12/30 16:55 - Default - Method 000 - [Abort]
- <Empty>
- <Empty>
- <Empty>

The screen also has 'Search', 'Load', 'Delete', and 'Back' buttons. A timestamp of '2021/01/22 10:32' is visible at the bottom right.

Sample Volume

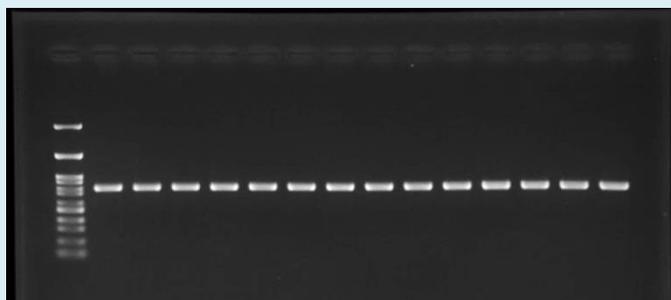
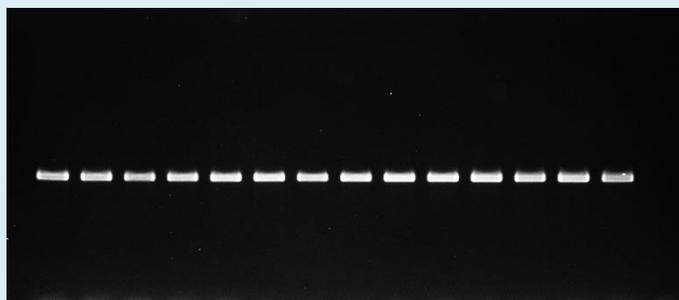
Setup screen with a 'Sample Volume' dialog box. The dialog box shows four volume range options: '1-10µL', '11-35µL', '36-65µL', and '66-100µL'. It includes 'Sample Volume', 'T_m Calculation', 'Step Control', and 'Done' buttons. A timestamp of '2021/01/22 10:30' is visible at the bottom right.

Tm Calculator

Touch Down

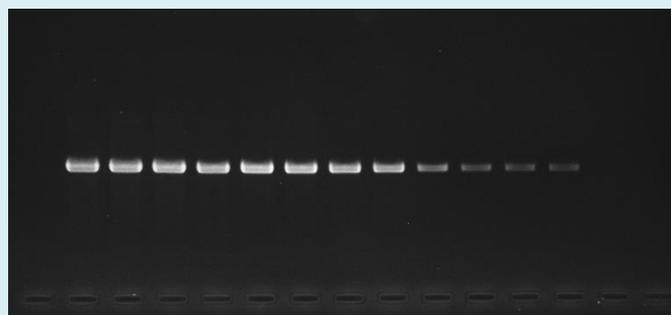
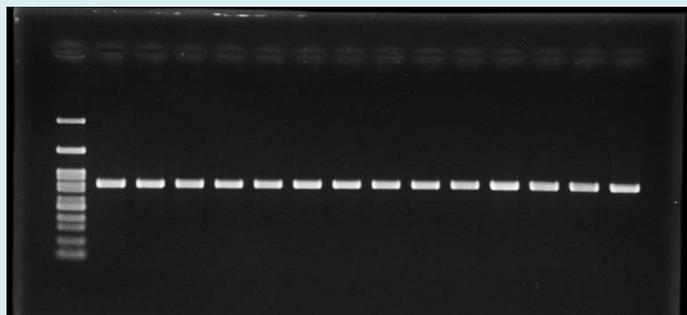
Sample: pFLAG-mLRH-1
 Electrophoresis: GES and ELITE 600
 Staining: Ethidium bromide
 Imaging: KETA M

Imaging method: Gel Documentation
 Capture method: Manual Capture
 Exposure time: 0.7 / 0.26 / 0.22 seconds



Electrophoresis condition:
 2% agarose gel in TAE buffer; 100V, 70 minutes
 PCR condition:
 20 µl sample volume, 0.26 sec exposure

Electrophoresis condition:
 1.5% agarose gel in TAE buffer; 110V, 60 minutes
 PCR condition:
 50 µl sample volume, 0.7 sec exposure



Electrophoresis condition:
 1.5% agarose gel in TAE buffer; 110V, 60 minutes
 PCR condition:
 80 µl sample volume; 0.7 sec exposure

Electrophoresis condition:
 2% agarose gel in TAE buffer; 100V, 70 minutes
 PCR condition:
 20 µl sample volume; gradient, 0.22 sec exposure

Ordering Information

Catalog No.	Description
1310001	SEDI B Thermo Cycler, gold plated 96 wells reaction module, 100 - 240V, 50 - 60Hz
1310006	SEDI G Thermo Cycler unit, gold plated 96 wells reaction module, 100 - 240V, 50 - 60Hz (1310001+1311061)
1310026	SEDI X Thermo Cycler unit, gold plated 384 wells reaction module, 100 - 240V, 50 - 60Hz
1311061	Step temperature control software with 12 sets differential range + / - 1~ 12°C
1311111	Plate sealing machine
1311112	Sterilized sealing film, 100/pk

Specifications

Model	SEDI B	SEDI G	SEDI X
Large LCD		7"	
USB port		Yes	
Service port		Yes	
Cooling fan		Yes	
Volume selectable*	1-100µl	1-100µl	1-35µl
Top lid temperature		95 -108°C	
Temp. range		0 – 100°C	
Language		Multiple	
Method storage		9999	
Temp. accuracy		<+/-0.25°C well to well	
Temp. uniformity		<+/-0.5°C Row / Column	
Temp. uniformity @ 56 C		<+/-0.25°C well to well	
Temp. accuracy in vial		<+/- 0.1°C	
Temp. increment setting		+/- 0.1°C	
Ramp rate		Higher than 4.8 C / sec	
Cooling rate		Higher than 3.8 C / sec	
Storage function		Yes	
Ramping control		0.5 / 1.0 C By Selection	
Certification		CE	
Reaction module			
Reaction core	96	96	384
Peltier		6	
Temp. sensor		7	
Heated top lid		Yes	
Gold plated		Yes	
Weight	3kg for reaction module; 6.8kg for main cabinet		
Dimensions	534 x 396 x 297 mm (W x D x H)		
Input power	100 - 240VAC, 50 - 60Hz, 750W		
Step Temp. control software	option	Yes	Yes

*Selectable volume 5, 20, 50 and 80 µl from the touch panel. The spec is subject to change without prior notice.

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