



miniPCR[®] thermal cyclers

mini8X (QP-1000-08) and mini16X (QP-1016-16)

User's guide

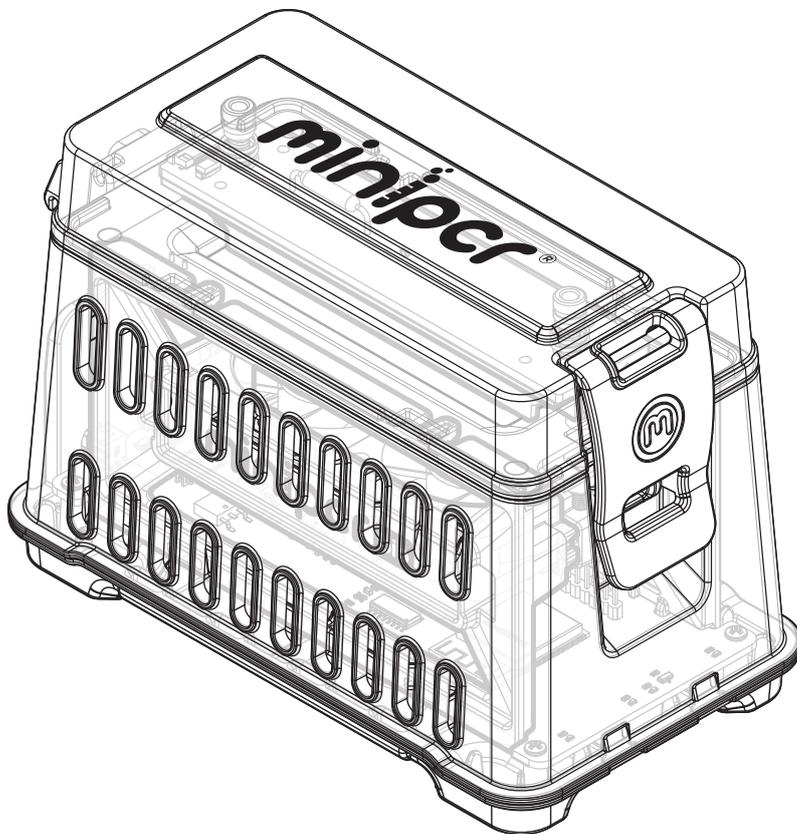




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QUICK START

- 1 – **Download** software from minipcr.com/downloads



- 2 – **Connect** miniPCR® to your device using USB or Bluetooth® in **Devices tab**
- 3 – **Create** a PCR, heat block, linear ramp or FLEX program in **Library tab**
- 4 – **Run** by clicking “Save and run” or the play symbol.
- 5 – **View status** in **Monitor tab**

Tip: If desired, you may unplug the USB cable or disconnect Bluetooth® once the protocol has started. Even if disconnected from your computer or mobile device, the protocol will continue to completion. The red, green and yellow LEDs will stay on when the program has completed. You may reconnect to the miniPCR® at any time to monitor progress. Reconnecting will not affect the protocol that is running.

MANUFACTURER

Ampliyus LLC, dba miniPCR bio™. 1770 Massachusetts Avenue, Suite 167, Cambridge, Massachusetts, 02140, United States of America.

INTENDED USE OF THE EQUIPMENT

This device is intended for heating and cooling of biological samples.

TECHNICAL SUPPORT

The miniPCRbio™ technical support department is open Monday through Friday, 9:00 AM to 5:00 PM, Eastern Time. Contact us by phone at +1-781-990-8727 or by email at support@minipcr.com.

TECHNICAL SPECIFICATIONS

MINI16X QP-1016-16

SAMPLE CAPACITY	2 X 8 X 0.2 ML PCR TUBES (STRIP COMPATIBLE)
MAX HEATING RAMP RATE	4 °C / SEC
MAX COOLING RAMP RATE	2 °C / SEC
TEMPERATURE RANGE	AMBIENT - 99 °C
TEMPERATURE ACCURACY	+ - 0.5 °C
HEATED LID	INDEPENDENT LID HEATER UP TO 120 °C
SELF-ADJUSTING LID	COMPATIBLE WITH FLAT OR DOMED CAPS
THERMAL ELEMENTS	RESISTIVE HEATING; ASSISTED COOLING
THERMAL CONTROL	EMBEDDED THERMISTORS, PID ALGORITHM
PROGRAMMING MODES	HEAT BLOCK, PCR, LINEAR RAMP, AND FLEX
PROGRAM SHARING AND BACKUP	UNLIMITED LIBRARIES, .PLF FILE
INTERFACE	WINDOWS, MAC, iOS, ANDROID, CHROME, AMAZON FIRE, LINUX COMPATIBLE
COMMUNICATION	BLUETOOTH LOW ENERGY AND USB-C
INTERNAL MEMORY	LAST UPLOADED PROGRAM AT POWER ON
DIMENSIONS	5.9" x 3.4" x 4.1" (15 cm x 8.5 cm x 10.5 cm)
WEIGHT	0.84 LB (380 G)
POWER SUPPLY	AC 100-240 V, 50-60 HZ, 72 W
BATTERY POWER	OPTIONAL LI-ION 20000 MAH MINIPCR® POWER PACK

MINI8X

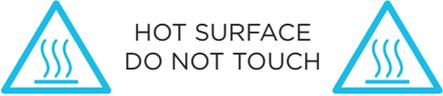
QP-1000-08

SAMPLE CAPACITY	8 X 0.2 ML PCR TUBES (STRIP COMPATIBLE)
MAX HEATING RAMP RATE	3.5 °C / SEC
MAX COOLING RAMP RATE	2.5 °C / SEC
TEMPERATURE RANGE	AMBIENT - 99 °C
TEMPERATURE ACCURACY	+/- 0.5 °C
HEATED LID	INDEPENDENT LID HEATER UP TO 120° C
SELF-ADJUSTING LID	COMPATIBLE WITH FLAT OR DOMED CAPS
THERMAL ELEMENTS	RESISTIVE HEATING; ASSISTED COOLING
THERMAL CONTROL	EMBEDDED THERMISTORS, PID ALGORITHM
PROGRAMMING MODES	HEAT BLOCK, PCR, LINEAR RAMP, AND FLEX
PROGRAM SHARING AND BACKUP	UNLIMITED LIBRARIES, .PLF FILE
INTERFACE	WINDOWS, MAC, iOS, ANDROID, CHROME, AMAZON FIRE, LINUX COMPATIBLE
COMMUNICATION	BLUETOOTH LOW ENERGY AND USB-C
INTERNAL MEMORY	RUNS LAST UPLOADED PROGRAM AT POWER ON
DIMENSIONS	5.9" x 3.4" x 4.1" (15 cm x 8.5 cm x 10.5 cm)
WEIGHT	0.84 LB (380 G)
POWER SUPPLY	AC 100-240 V, 50-60 HZ, 72 W
BATTERY POWER	OPTIONAL LI-ION 20000 MAH MINIPCR® POWER PACK

SAFETY AND COMPLIANCE

Warning Labels

Warning labels posted on the miniPCR® thermal cycler and in this manual inform you of sources of potential injury or harm.

Icon	Meaning
 	<p>The miniPCR® thermal cyclers operate at temperatures high enough to cause serious burns. Always allow the sample block to return to room temperature before opening the lid and removing samples. Even after the sample block has cooled, the surrounding areas as well as the heated lid can remain hot for several minutes.</p> <p>In situations when there is not sufficient time to allow the instrument to cool, the use of protective equipment such as thermal gloves is recommended.</p>

COMPLIANCE

The miniPCR® thermal cycler has been tested and found to be in compliance with all applicable requirements of the following safety standards:

EN 61010-1:2010/A1: 2019/AC: 2019, Safety Requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements.

ELECTROMAGNETIC COMPATIBILITY (EMC)

The miniPCR® thermal cycler has been tested and found to be in compliance with all applicable requirements of the following safety standards:

- EN 61326-1: 2013, Electrical Equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements. Tested as a class A device.
- ICES-003, Issue 7 (October 15, 2020), Information Technology Equipment (Including Digital Apparatus) – Limits and Methods of Measurement. Tested as a class A device.
- FCC Part 15, Subpart B. Tested as a class A device.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

Note regarding cables: This instrument was tested for EMC compliance with the USB cables supplied with the instrument. These cables must be used with the instrument to ensure continued compliance with the EMC emissions limits.

HAZARDS

- The miniPCR® thermal cycler is designed to operate safely when used in the manner specified by Amplyus LLC. If the thermal cycler or any of its associated components is used in a manner not specified by the manufacturer, the inherent protection provided by the instrument may be impaired. Amplyus LLC is not liable for any injury or damage caused by the use of this equipment in any unspecified manner, or by modifications to the instrument not performed by Amplyus LLC or an authorized agent.
- No consumable materials are used in the equipment and no poisonous or injurious substances are liberated.
- No uncommon electrical hazard is posed to operators if installed and operated properly without physical modification and connected to a power source of proper specification.
- If biohazardous samples are used, Biosafety Microbiological and Biomedical Laboratory (BMBL) practices published by the Centers for Disease Control should be followed.

OPERATING CONDITIONS

Environment	Indoor use only
Operating temperature	15-32 °C (54-90 °F)
Transport and storage temperature	-10-50 °C (14-122 °F)
Max. relative humidity	60%
Power supply Input	AC 100-240 V, 50-60 Hz, 72 W
Power supply Output	19 V, 3.79 A

EQUIPMENT INSTALLATION

Equipment shall be installed on a level, dry and flat surface that will support its weight and dimensions. At least 9 inches of unobstructed space around the unit are required for appropriate ventilation.

Note: the safety of any system incorporating the equipment is the responsibility of the assembler of the system.

CLEANING AND DECONTAMINATION

miniPCR® thermal cyclers can be cleaned using a cloth paper towel moist with water. The equipment should not come into contact with organic solvents or corrosive solutions. Ensure that no liquid enters the device. The device must be disconnected from the power supply before cleaning.

EQUIPMENT MAINTENANCE AND SERVICE

miniPCR® thermal cyclers do not require regular maintenance. Contact the manufacturer if any problems are encountered during use.



WARRANTY

This Limited Warranty covers defects in materials and workmanship for a period of 36 months from the date of purchase under the following conditions:

This 36-month warranty is valid from the date of purchase of miniPCR® model X thermal cyclers (the “Product”).

This Limited Warranty covers the original purchaser of the Product and shall not extend in its validity to third parties without the written agreement of Amplyus LLC (“Amplyus”).

This Limited Warranty covers only the Product and any original accessories provided with it. It excludes software, documentation, consumables, or related items.

This Limited Warranty will maintain its validity only as long as the Product is operated in the manner, conditions, and with the care described in its User’s Guide.

This Limited Warranty will be voided by improper or unauthorized maintenance of the Product, or by improper attachment of electrical adapters and power supplies not supplied by Amplyus or its authorized representatives.

This Limited Warranty will be voided by any failure to meet requirements for the operation of a thermal cycler in laboratory conditions as described in the User’s Guide.

Amplyus will repair or replace any defective items upon factory inspection of the item claimed. Amplyus will cover shipping charges if the claim is initiated within 30 days from purchase. After 30 days from the date of purchase, end users of the Product will be responsible for shipping charges to and from the Amplyus facility for assessment and repair under the terms of this Limited Warranty.

This Limited Warranty does not cover wear and tear to components resulting from normal use of the Product, nor does it cover failures caused by incorrect use, negligence, alterations, or damage caused by intentional or accidental misuse of equipment. This Limited Warranty also excludes damage caused during any shipment/transport/movement of the product following its initial receipt by the customer.

Amplyus’ sole liability, under this Limited Warranty, for failure to repair miniPCR® thermal cyclers after a reasonable number of attempts, is limited to the replacement of the Product or, at Amplyus’ sole discretion, the refund of the original purchase price of the Product.

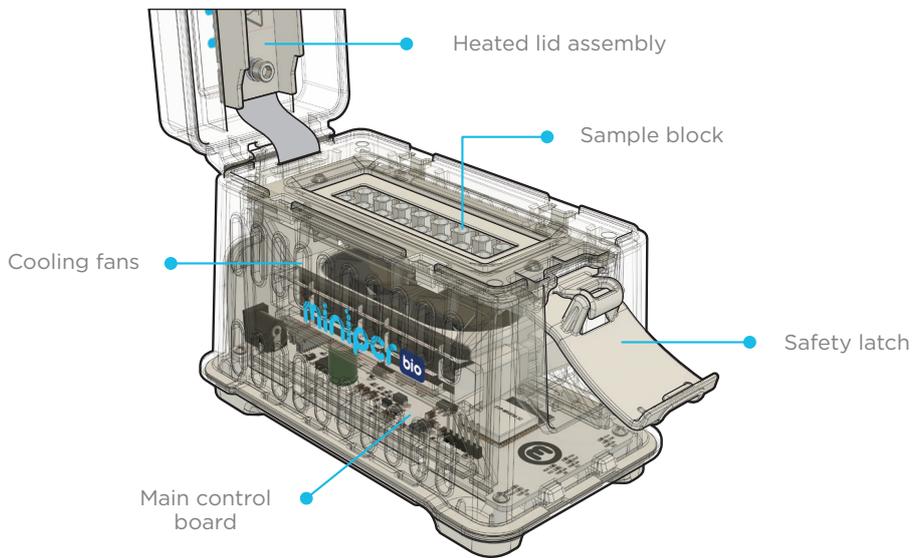


WHAT'S INCLUDED

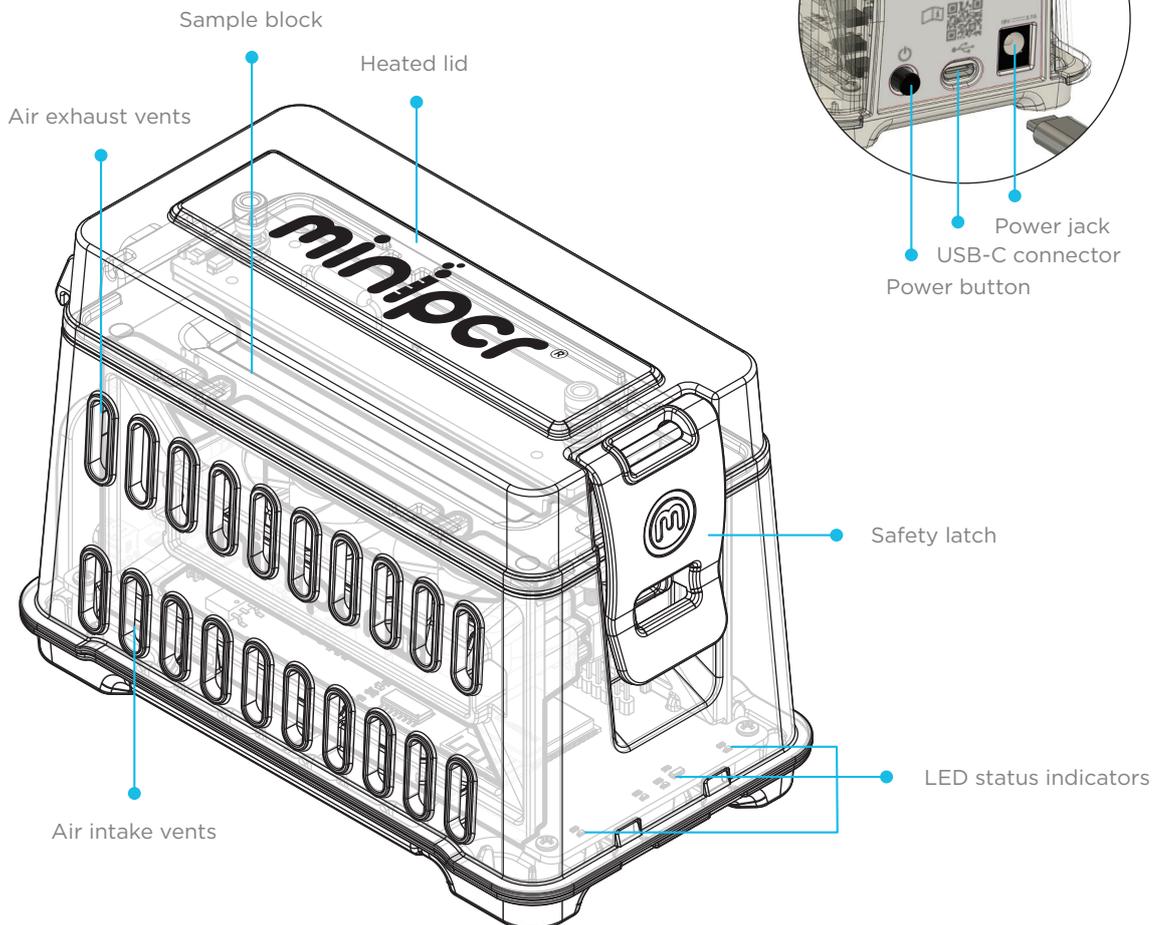
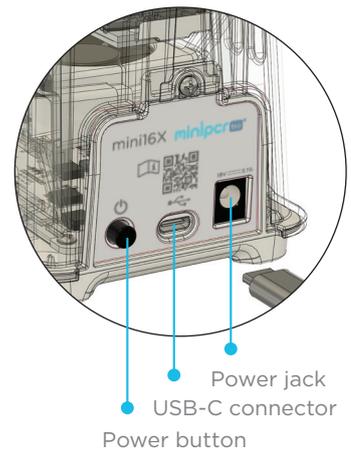
- miniPCR® thermal cycler
- Universal power supply
- US-style AC cord
- 6 ft USB-C cable
- Drawstring travel pouch

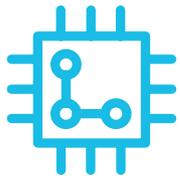


COMPONENTS



BACK VIEW

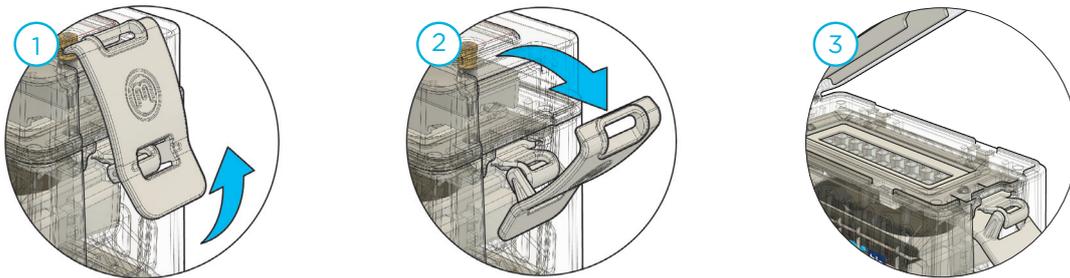




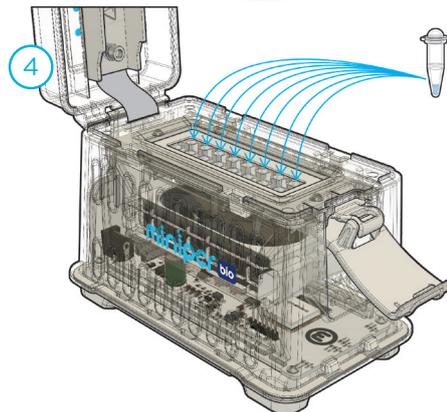
HARDWARE OPERATION

LOADING YOUR SAMPLES

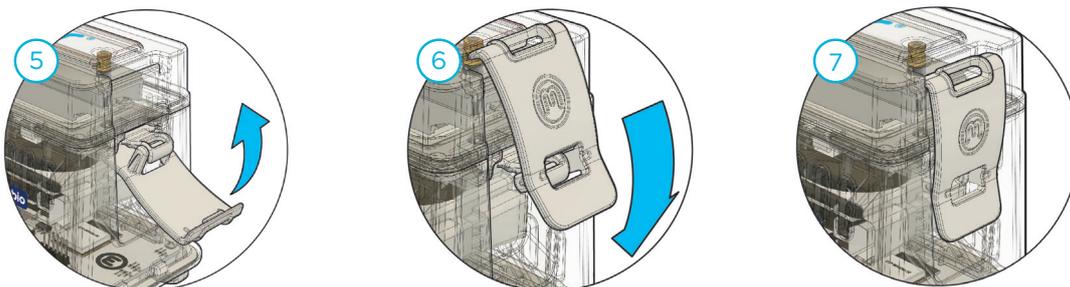
OPEN LID



LOAD SAMPLES



CLOSE LID



REMOVING YOUR SAMPLES

Follow steps above in reverse order to open the lid and remove your samples. Use caution, samples and instrument may be hot.

LED INTERFACE

LED	STATUS
 SCANNING	Standby
	Connected
	Program complete
	Block cooling
	Block heating
	No power
	Error. Contact support

Legend:

-  LED ON
-  LED OFF
-  LED BLINKING



SOFTWARE OPERATION

DOWNLOADING THE miniPCR® APP (FREE DOWNLOAD)

miniPCR® App v3.0 or higher is required to run miniPCR X models.

- 1 – Visit www.minipcr.com/downloads and select your platform of choice (Windows, Mac, iOS, Android, Amazon Fire, Chromebook). Minimum system requirements are listed on the website.



Windows: unzip the file and run the miniPCR® installer.

Mac OS: Double-click and move App to the folder of your choice. If the operating system will not let you open the software “miniPCR® can't be opened because it was not downloaded from the Mac App Store”, you will need to authorize installation in Security and Privacy setting in your system preferences.

iOS: visit Apple app store.

Android: visit the Android Play Store.

Amazon Fire: click on ‘Get app’ from the Amazon web store.

Chromebook: visit the Google Play store (available through Google Play only).

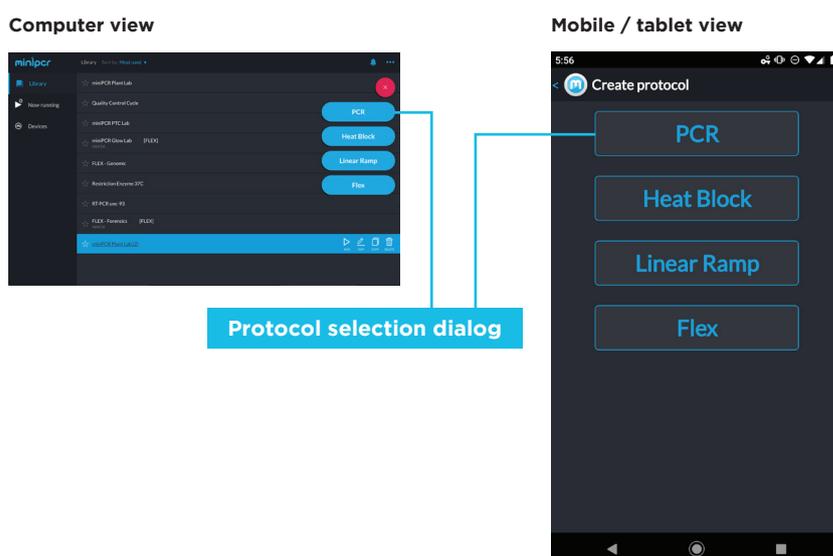
- 2 – Open the App by double-clicking or tapping on the miniPCR® icon .

miniPCR® App v3.0 or higher is required to run miniPCR® X models.

CREATING AND SAVING PROTOCOLS

You can program miniPCR® in four different modes: PCR, heat block, linear ramp, and Flex (includes touchdown PCR).

- 1 – Open the miniPCR® App in your device.
- 2 – Click on the  button on the top right corner.
- 3 – Select the protocol type from the menu on the top of the right corner (Win/Mac/Chromebook) or screen (Android/iOS/Amazon Fire).
 - PCR: for thermal cycling reactions
 - Heat Block: for incubations
 - Linear Ramp: for heating or cooling reactions at a steady rate
 - Flex: for touchdown PCR and any combination of the above



- 4 – Enter a protocol name.. The name can be up to 24 characters long.
- 5 – Enter the protocol parameters. Read below for details on programming the different modes.
- 6 – Click “Save” or “Save and Run” to store your new protocol in the Library.
 - Clicking “Save and Run” will save the protocol in the Library and immediately start the run. To view or edit your protocol, switch to the Library window.
 - If clicking “Save and Run”, you may unplug the USB cable or disconnect Bluetooth® once the protocol has started. Even if disconnected from your computer or mobile device, the protocol will continue to completion. You may reconnect to the miniPCR® at any time to monitor progress. Reconnecting will not affect the protocol that is running.
 - Tip: The end of a run will be signaled by the green, yellow and red LEDs staying ON.

CREATING AND SAVING PROTOCOLS (cont.)

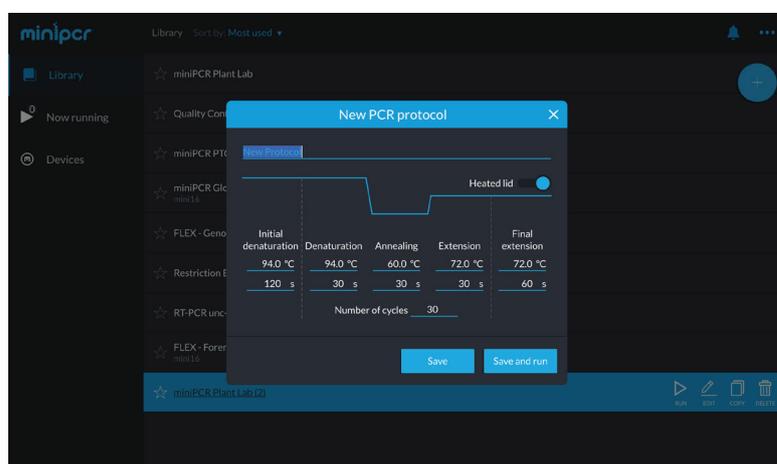
PCR mode

Input temperatures up to 99 °C, step times up to 9999 seconds and cycles up to 99.

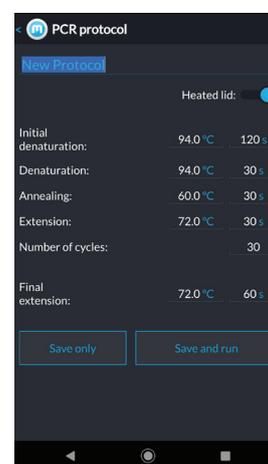
The heated lid option is turned on by default. This setting maintains the lid at approximately 105 °C to prevent condensation on the caps of the tubes, and can be turned off by toggling the slider.

The miniPCR® can cool down to about 5 °C above room temperature. Protocol steps that are set to less than 5 degrees above room temperature may not proceed to completion.

Computer view



Mobile / tablet view



CREATING AND SAVING PROTOCOLS (cont.)

Heat block mode

Input temperatures up to 99 °C and time up to 160 hours.

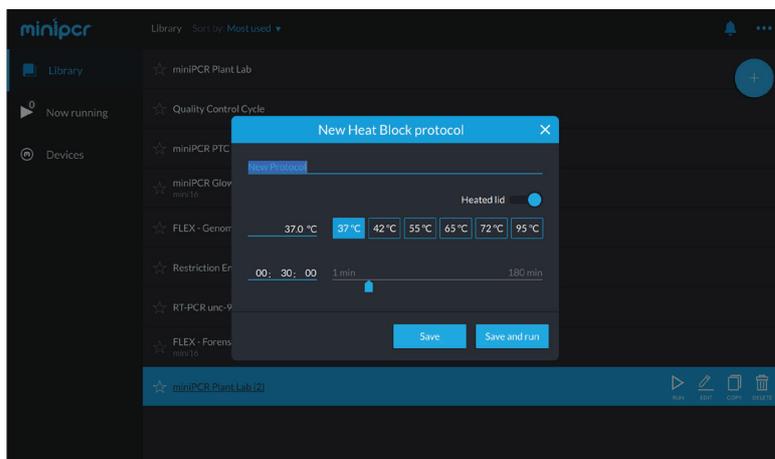
Select from preset temperatures (37 °C, 42 °C, 55 °C, 65 °C, 72 °C, 95 °C) or use the dialog box to enter any temperature between 27 °C and 99 °C.

Use the slider to select times between 1 and 180 minutes or the dialog box to input any number between 1 and 9999 minutes (mobile), or 160 hours, 59 minutes and 59 seconds (computer).

Heated lid is turned on by default. This setting maintains the lid at approximately 10 degrees above the target temperature to prevent condensation on the caps of the tubes, and can be turned off by toggling the slider.

The miniPCR® can cool down to about 5 °C above room temperature. Protocol steps that are set to less than 5 degrees above room temperature may not proceed to completion.

Computer view



Mobile / tablet view



CREATING AND SAVING PROTOCOLS (cont.)

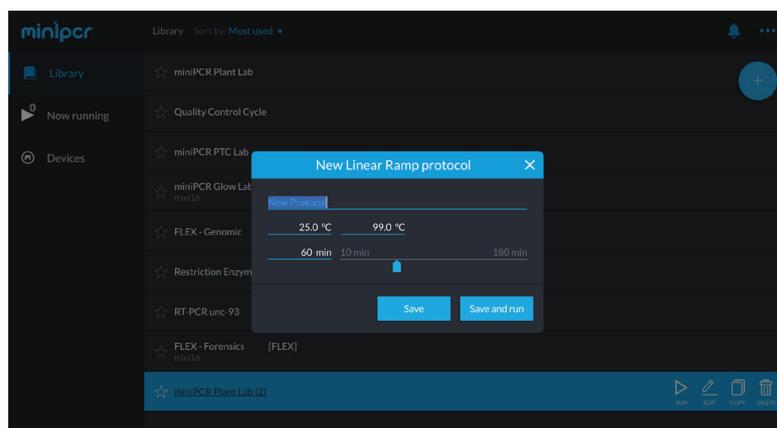
Linear ramp mode

Select the initial and final temperatures and the ramp time between the two. A heating or cooling ramp can be programmed. Heated lid is turned on by default. This setting maintains the lid at approximately 10 degrees above the current temperature, and can be turned off by toggling the slider.

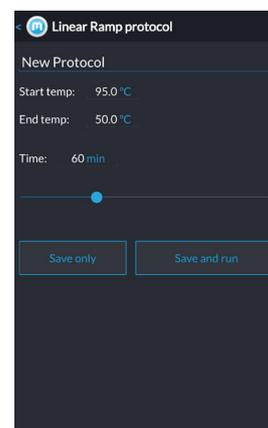
The minimum time a linear ramp can be set to is 10 minutes, and temperatures can be set to a minimum of 27 °C and a maximum of 99 °C.

The miniPCR® can cool down to about 5 °C above room temperature. Protocol steps that are set to less than 5 degrees above room temperature may not proceed to completion.

Computer view



Mobile / tablet view



CREATING AND SAVING PROTOCOLS (cont.)

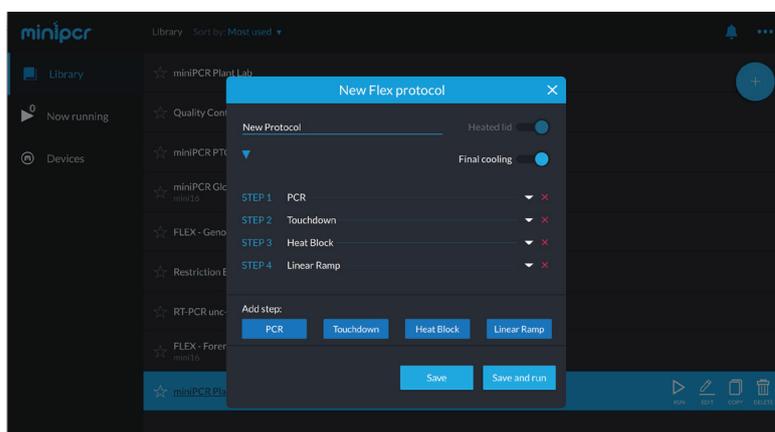
Flex mode

Use Flex mode to create a program containing any combination of PCR, heat block, linear ramp and touchdown PCR steps. Heated lid is turned on by default, and can be turned off by toggling the slider.

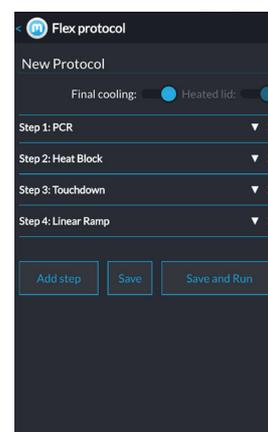
PCR, heat block and linear ramp protocols have a cool down step that brings the block to 37 °C. When creating a Flex program, the final cooling step can be toggled on and off.

The miniPCR® can cool down to about 5 °C above room temperature. Protocol steps that are set to less than 5 degrees above room temperature may not proceed to completion.

Computer view



Mobile / tablet view



PROTOCOL OPTIONS

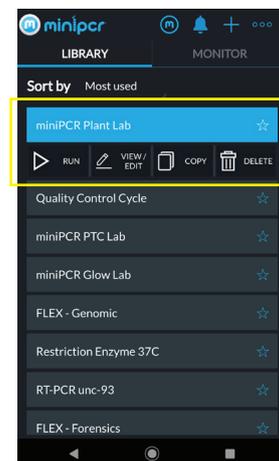
Editing protocols

- 1 – Click or tap on the desired protocol in the Library to show available options: Run , View/Edit , Copy , Delete . Click View/Edit .

Computer view



Mobile / tablet view



- 2 – Update protocol parameters (e.g. change the number of cycles, temperature, etc.)
- 3 – Click “Save Only” to store the updated protocol parameters or “Save and Run” to store changes and start the protocol.

Copying protocols

You can create a copy of an existing protocol by clicking “Copy”. A new protocol will be created (e.g. “Protocol Name (2)”). The original protocol will be preserved.

Deleting protocols

Press the  icon to delete the protocol.

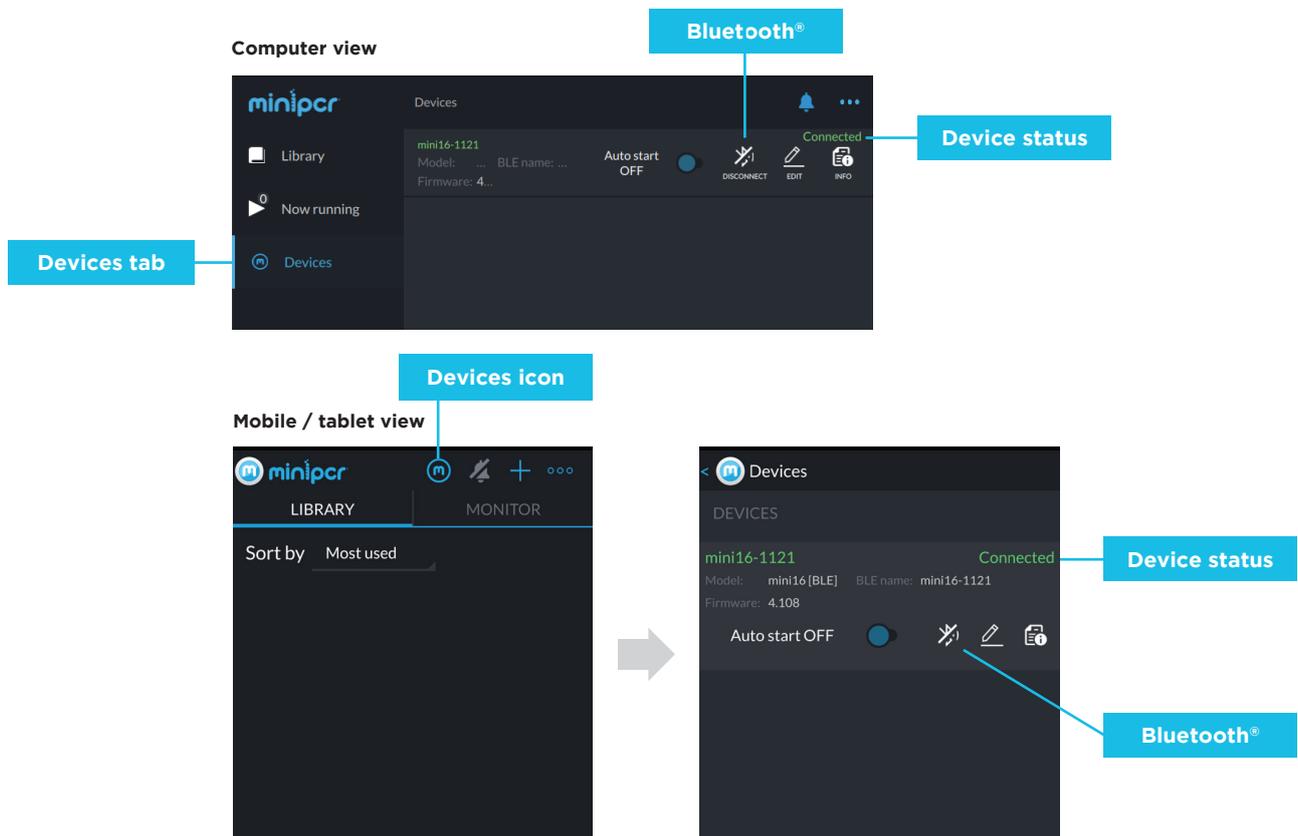
Warning: this action cannot be undone.



CONNECTING TO A MINIPCR®

CONNECTING VIA BLUETOOTH

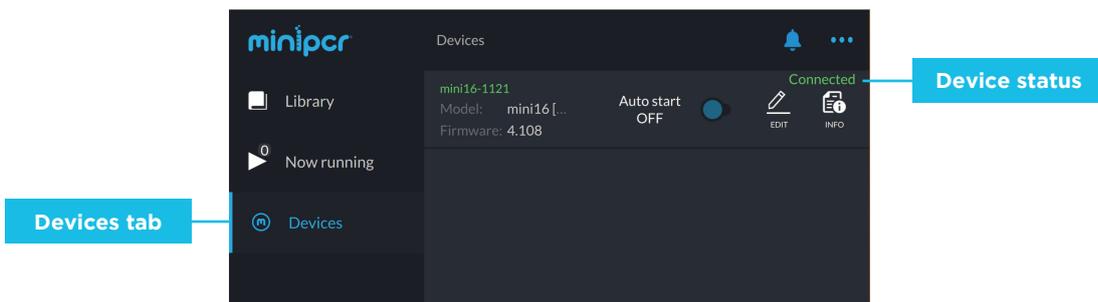
- 1 – Plug your miniPCR® into an outlet using the provided power supply and push the button on the back to turn the machine on. The red green and yellow LEDs will turn on and off sequentially in a scanning pattern, indicating the miniPCR® is in standby mode. The blue LED will flash while waiting for a USB or Bluetooth connection.
- 2 – Ensure Bluetooth® is enabled on your computer or mobile device and open the miniPCR® app.
- 3 – Select the Devices tab (computer) or the  icon (mobile, top center of the screen). miniPCR® units within Bluetooth® range will be listed.
- 4 – Click or tap the Bluetooth® symbol  next to the miniPCR® you would like to connect to.
- 5 – Successful pairing is indicated in the Devices tab (computer) or the  icon (mobile) by green text “Connected.” The blue LED on your miniPCR® will stop flashing and stay on.



CONNECTING VIA USB

- mini8X and mini16X machines have a USB-C port and come with a USB-C to USB-C cable.
 - If your device does not have a USB-C port, USB-A to USB-C and USB-micro to USB-C adapters can be used (not included).
- 1 – Plug your miniPCR® into an outlet using the provided power supply and push the button on the back to turn the machine on.
 - 2 – Connect the miniPCR® to your computer or mobile device with the supplied USB cable.
 - 3 – Successful pairing is indicated in the Devices tab (computer) or the  icon (mobile) by green text “Connected.” The blue LED on your miniPCR® will stop flashing and stay on.

Computer view



Devices icon

Mobile / tablet view



ADDITIONAL OPTIONS

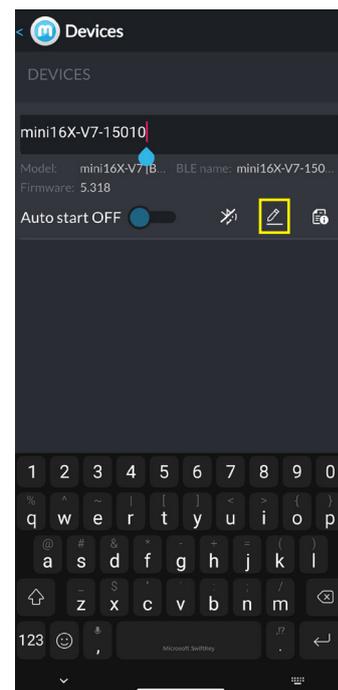
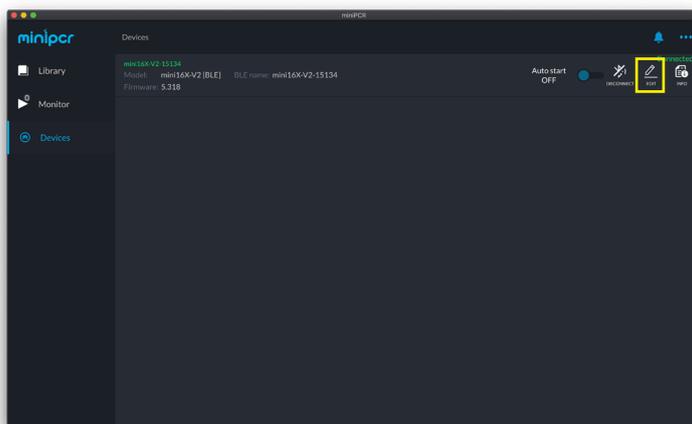
Establishing connections to multiple miniPCR units

This procedure works for both Bluetooth® and USB connections.

- 1 – Go to Devices to see the list of available miniPCR® units. Note: it is possible to connect mini8 and mini16 units simultaneously.
- 2 – All units connected through USB will automatically appear as 'Connected' and be ready to program.
- 3 – To connect multiple units over Bluetooth® follow the steps in the [CONNECTING TO A miniPCR® VIA BLUETOOTH®](#) section.

Changing device name

- 1 – Navigate to the Devices tab or  screen and click on the  icon of the device's name to edit. Click or tap Save.



Auto Start feature

The Auto Start feature controls whether a run will start automatically when the power switch is pushed to the IN position or when the user starts it from software. Auto Start is disabled by default. The Auto Start selection remains in memory until it is changed from the software.

Auto Start OFF (default)

- A program will only start once RUN is clicked in the Library tab or “Save and run” is clicked after programming a protocol. Connection to a device is required. This is the suggested setting for routine laboratory use.

Auto Start ON

The run will start immediately after the power switch is pushed to the IN position. This is the suggested setting for field use or when a programming device is not readily available. Note that connection to software is necessary to set Auto Start to ON for the first time.

- From power OFF position: Connect to AC power, turn the power switch ON. The last protocol that was programmed in the miniPCR® will immediately start. Connection to software is not required.
- From power ON position: Cycle the power switch OFF, then ON. Your last protocol will begin automatically.

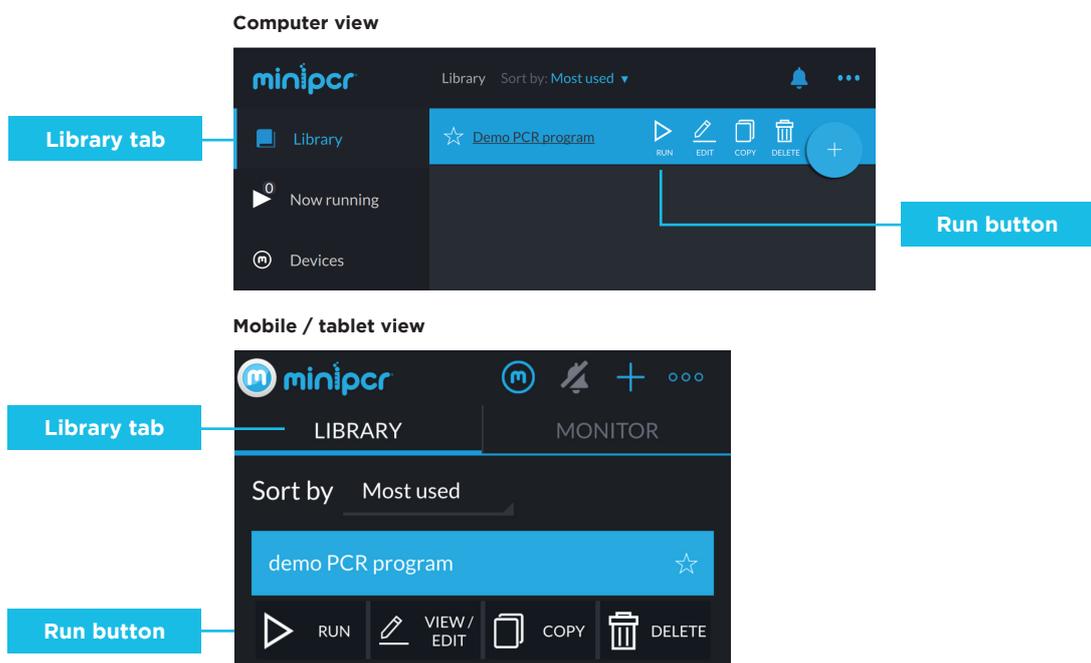


RUNNING AND MONITORING

Running a PCR protocol

- 1 – Create and save your PCR protocol (see [CREATING AND SAVING PROTOCOLS](#) section).
- 2 – Connect your computer or mobile device to your miniPCR® (see [CONNECTING TO A MINIPCR®](#) section).
- 3 – Plug in the miniPCR® using the power supply.
- 4 – Open the lid on your miniPCR®.
- 5 – Place your PCR tubes in the metal block.
- 6 – Close the lid.
- 7 – In the miniPCR® app, select the Library tab.
- 8 – Select the protocol you want to use, then click or tap the Run button.

Tip: If desired, you may unplug the USB cable or disconnect Bluetooth® once the protocol has started. Even if disconnected from your computer or mobile device, the protocol will continue to completion. The red, green and yellow LEDs will stay on when the program has completed. You may reconnect to the miniPCR® at any time to monitor progress. Reconnecting will not affect the protocol that is running.



Monitoring the run

Click on “[miniPCR® name]” tab (Windows/Mac) or the highlighted active protocol in the Library tab (iOS, Android, Amazon Fire) to monitor run status.

Status section

- Possible states are Running, Stopped, Paused, Cool down, Finished, No power, and error codes.
- You can Pause , Stop  or Restart  your protocol at any time
- Error codes may be shown in the Status box. See [Error codes](#) section for details.
- If status ‘No power’ is indicated please ensure the switch on the back is in the IN position and make sure that the LED indicator on the power supply is turned on. See the [Troubleshooting](#) section for details.
- Remaining time is shown below the progress bar.

Progress section

- Cycle: In PCR mode, the current cycle number and the total cycle number are displayed.
- Step: In PCR mode, possible steps are denaturation, annealing and extension. These correspond to the steps entered when creating the protocol.
- Step time: number of seconds in a given step.
- Total time: time since the beginning of the run.

Protocol name and parameters section

- Displays the name and the conditions set for the protocol currently running.

Alarm section

- When on, the software will ding upon program completion.

Temperature vs. time plot section

- Shows real-time temperature of the sample block and is updated once per second
- A warning “LID HOT” icon appears on the top right when the lid temperature is above 60 °C.

Animation section

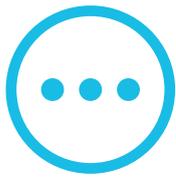
- When in PCR mode, animations representing the denaturing, annealing and extension steps of protocol are shown according to the step currently underway.

Theoretical number of DNA copies section

- Shows the number of DNA copies that should be produced given the number of cycles completed. For example, 2^{30} copies (1,073,741,824) should have been produced after 30 cycles.

Computer view

Mobile / tablet view



MENU OPTIONS

Import / export library

The protocol library includes all saved protocols and can be shared between users and devices by exporting and importing it. The libraries are stored with extension '.plf'.

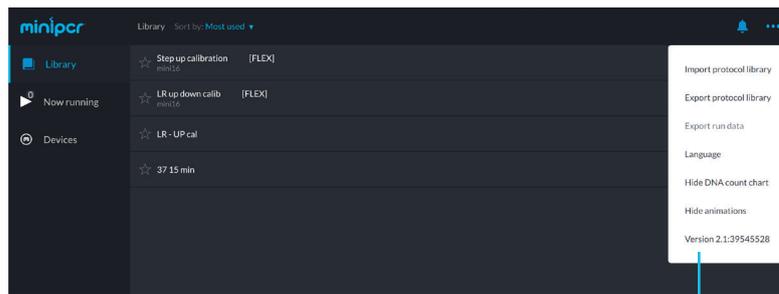
Export data

Run data (temperatures and times) can be exported to a CSV file.

Language

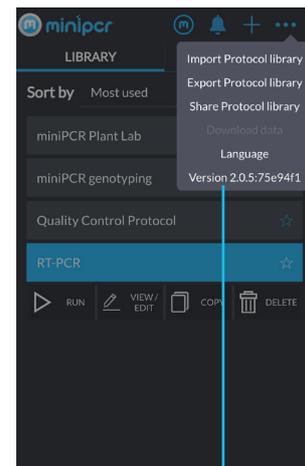
The language dialog presents the available languages. Restarting the application is required for the change to go into effect.

Computer view



Options

Mobile / tablet view



Options



FAQs AND TROUBLESHOOTING

FREQUENTLY ASKED QUESTIONS

- **What operating systems and versions is the software compatible with?**
Check the software downloads page for latest information <https://www.minipcr.com/downloads/>.
- **I left my samples in the miniPCR[®] overnight after a run, will the sample be ok?**
PCR product is stable at room temperature for at least one week. There's no need to refrigerate samples immediately after a run.
- **Can I use a USB-C to USB-A cable or adapter?**
Yes. miniX machines require a USB-C connection. If your device only has a USB-A port, you can use a USB-A to USB-C adapter.
- **Are all USB-C cables compatible with miniPCR[®]?**
We recommend using the USB-C cable provided with the miniPCR[®]. If not available, ensure that you are using a USB-C data cable. Most are only charging cables and won't work to connect a miniX to your device.

Note regarding cables: This instrument was tested for EMC compliance with the USB cables supplied with the instrument. These cables must be used with the instrument to ensure continued compliance with the EMC emissions limits.
- **Can I use a third-party power supply?**
Using a third-party power supply may result in malfunction. We strongly recommend using the power supply or Power Pack supplied by miniPCR bio[®]. Replacement power supplies are available on our website.
- **Can I use an external battery to run my miniPCR[®]?**
Yes, you can use the miniPCR[®] Power Pack (QP-1000-13) available on our website or other batteries with similar specifications. Thoroughly test your battery in conjunction with the miniPCR[®] before use in areas without grid electricity.
- **Can I use a solar panel to run my miniPCR[®]?**
You can use a solar panel to charge a miniPCR Power Pack, then use the Power Pack to run the miniPCR[®].
- **Do you have a script for silent installation and uninstallation?**
Yes, please contact support@minipcr.com for instructions.

TROUBLESHOOTING

Error codes

The following error codes may be shown in the Status section of the software during operation. Contact support@minipcr.com or call +1-781-990-8727 for help.

Error code	Potential cause	Action
SL, 6 SL	Faulty power supply or lid malfunction	Use the 19 V power supply supplied with the product. The indicator light on the power supply should be solid on. Contact support if error persists.
SB	Faulty power supply or sample block malfunction	Use the 19 V power supply supplied with the product. The indicator light on the power supply should be solid on. Contact support if error persists.
LL, 2LL, HL	Heated lid assembly malfunction	Contact support
LB, HB	Sample block malfunction	Contact support
No power	Multiple causes	See below for troubleshooting steps

■ The software displays “No power”

“No power” status can be displayed for several reasons. Follow these steps to troubleshoot. Any of these actions may resolve the issue.

1. Restart the software.
2. Ensure that the switch on the back of the miniPCR® is in the IN position.
3. Ensure that the wall or battery outlet has power.
4. Ensure you are using the original miniPCR® power supply. It should have the miniPCR® logo on it and the output should be 19 volts.
5. If the small indicator light on the power supply does not light up when plugged in, the power supply may need to be replaced. Contact support.
6. If you have another miniPCR® that operates normally, use the power supply that powers that miniPCR®. If the unit works as expected, contact miniPCR bio™ for a replacement power supply.
7. Contact support if the software is still showing “No power”.

■ The program starts as soon as the machine is powered

The miniPCR® is set to Auto Start. Turn off this setting from the Devices tab of your software. Refer to the Auto Start section of this guide for details.

■ **LEDs don't turn on**

Follow steps in the “No power” troubleshooting section.

■ **Can't connect to miniPCR® using Bluetooth**

Follow these steps to troubleshoot

1. Check that the miniPCR app is version 3.0 or higher.
2. Follow instructions in the [Connecting to a miniPCR®](#) section of this manual.
3. Ensure that your device's Bluetooth function is enabled from system settings.
4. The blue LED on the miniPCR® must be flashing in order to connect. If the blue LED is solid on, the miniPCR® is connected to another device via Bluetooth or USB. Unplug the USB cable and turn the miniPCR® off and on to reset the connection.

■ **Can't connect to miniPCR® using USB**

The miniPCR® will be automatically recognized by the software and visible in the Devices section when plugged in through a USB cable. No additional steps are needed. If the miniPCR® is not listed in the Devices section, try a different USB cable. Ensure that you are using a USB-C data cable. Most are, but some are only charging cables.

Note regarding cables: This instrument was tested for EMC compliance with the USB cables supplied with the instrument. These cables must be used with the instrument to ensure continued compliance with the EMC emissions limits.

■ **Program gets stuck and never finishes or takes a very long time to finish**

The miniPCR® can cool down to about 5 °C above room temperature. Protocol steps that are set to less than 5 degrees above room temperature will not proceed to completion or will take a very long time to complete, leading to longer total run times. If possible, move to a cooler room or increase the temperature of the problematic step so that it is at least 5 degrees higher than room temperature. For example, set temperatures to no less than 42 °C if you are in a room at 37 °C.

Document	Date	Description
miniX - Users Guide Rev 0	08/01/2023	Initial release