



Release Notes for PTC Tempo 96 and PTC Tempo Deepwell Thermal Cyclers

PTC Tempo Thermal Cycler Software Version 1.0.0.4

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Introduction

PTC Tempo is the newest generation of thermal cyclers from Bio-Rad™. Thermal cyclers are essential laboratory equipment for laboratories that run polymerase chain reaction (PCR) for sequencing, cloning, mutagenesis, and many other applications. The fully adjustable heated lid supports a wide range of vessels and sealers, including low-profile and standard-height PCR plates.

Bio-Rad's newest thermal cyclers include:

- PTC Tempo 96 Thermal Cycler
- PTC Tempo Deepwell Thermal Cycler

Main Features

The main features of the PTC Tempo thermal cyclers include:

- Connectivity to Bio-Rad's BR.io app to manage PCR protocol files and view run status

Using the BR.io app, you can create PCR protocols in the app, download and run them on your linked PTC Tempo thermal cycler, view run status remotely, and then upload the run report to the BR.io app.

For more information about Bio-Rad's BR.io app, go to www.BR.io. From the BR.io Home page, you can

- Create a BR.io account
- Explore the BR.io app via video
- Access helpful BR.io guides
- Wireless and WLAN Ethernet network compatibility enables connectivity to your internal network for unlimited data access and storage on shared network drives as well connectivity to your BR.io cloud account
- USB drive compatibility provides an optional medium for protocol transfer and storage
- Programmable temperature gradient to quickly and easily identify optimal annealing temperatures

[PTC Tempo 96 and PTC Tempo Deepwell Thermal Cyclers Documentation](#)

Bio-Rad's PTC Tempo Thermal Cyclers web site provides access to:

- PTC Tempo Thermal Cyclers Release Notes (this document)
- PTC Tempo 96 and PTC Tempo Deepwell Thermal Cyclers Instrument Guide
- Training videos to guide you through basic conventional PCR experiments

Important: The PTC Tempo 96 and PTC Tempo Deepwell Thermal Cyclers Instrument Guide provides specific information about installing, setting up, and using the thermal cyclers.

To access PTC Tempo Thermal Cyclers documentation

1. In a web browser, log in to Bio-Rad.com and navigate to bio-rad.com/ptctempo.
2. Scroll to the Documents section and select the PDF icon for document of choice.

The PDF opens in your web browser. You can then download the document to your computer.

PTC Tempo Thermal Cyclers Additional Information

Cybersecurity and PTC Tempo Thermal Cyclers

Important: Cybersecurity is the protection of assets in cyberspace from cyberattacks. Cybersecurity is Bio-Rad's ability to secure its people, information, systems, and reputation in cyberspace. Cyberspace is the always-on, technologically interconnected world; it consists of people, organizations, information, and technology.

Fast reaction is important with cybersecurity issues! If you suspect that there may be a cybersecurity issue concerning your instrument or that cybersecurity has been breached at your site, contact your Bio-Rad representative for technical support immediately.

Running PTC Tempo Protocols on C1000 Thermal Cyclers

You can run PTC Tempo protocols on C1000 thermal cyclers as well as C1000Touch and CFX Opus real-time PCR instruments.

To run PTC Tempo protocols on C1000 thermal cyclers

1. On the PTC Tempo thermal cycler, ensure the file name meets the requirements for C1000 thermal cyclers. See the C1000 Operation Manual for specific information.
2. Export the protocol file to an attached USB drive.
3. On a Windows computer, move the protocol to a subfolder on the USB drive.
4. Insert the USB drive into a USB port on the C1000 thermal cycler and navigate to that subfolder.

Using Write-Protected (Read-Only) USB Drives with PTC Tempo Thermal Cyclers

PTC Tempo thermal cyclers do not recognize USB drives that are set as read-only through a computer's operating system.

That is, USB drives that a user has inserted into a computer and used the computer's operating system to set the properties of the USB drive to Read-only are not recognized as read-only when inserted into the PTC Thermal cycler. Users can copy and save protocols to, and delete protocols from, such USB drives.

PTC Tempo thermal cyclers recognize only those USB drives that have an exterior manual switch as write-protected.

Running BR.io Protocols with Long Protocol Names or Names that Contain Single Quotes in the Name

The PTC Tempo thermal cycler considers single quote marks (') as invalid characters. If your protocol name contains a single quote mark, it will be substituted with an underscore (_). The PTC Tempo thermal cycler does not support protocols names greater than 32 characters in length. If your protocol name contains more than 32 characters, the PTC Tempo thermal cycler truncates all characters after the 32nd.

Running Legacy Protocols with Long Protocol Names or that Contain Single Quotes in the Name

The PTC Tempo thermal cycler considers single quote marks (') as invalid characters. As well, the PTC Tempo thermal cycler does not support protocols names greater than 32 characters in length. If you are running a protocol from an attached USB drive or a shared network drive that contains a single quote mark and/or more than 32 characters in its name, you must return to the location of the original protocol and rename it before starting the run.

Note: In the case of running from a USB drive:

1. Remove the USB drive from the PTC Tempo thermal cycler.
2. Insert the USB drive into the computer from which you copied the original protocol.
3. Copy the renamed protocol onto the USB drive.
4. Reinsert the USB drive into the PTC Tempo thermal cycler and start your run again.

The PTC Tempo Thermal Cycler Continues a Run In Progress after Power is Restored Though Plate Has Been Removed

The PTC Tempo thermal cycler continues the run that was in progress when power is restored after a power failure. This is as designed.

If the user manually opens the lid and removes the plate during the power failure and does not close the lid, the instrument does not detect that the lid is open and attempts to continue the run.

In this case, when power is restored to the instrument tap Run Status on the Home screen. On the Run Status screen tap Stop to stop the run.

PTC Tempo Thermal Cyclers Known Issues

PTC Tempo Does Not Resume a BR.io Protocol Run if a Power Failure Occurs while the Run Is In Progress

- If a power failure occurs while the PTC Tempo thermal cycler is running a protocol from BR.io, the thermal cycler does not resume the run when power is restored. The Run Report and the System log both indicate that a power failure occurred.

When power returns, the user can rerun the protocol.

PTC Tempo Does Not Display an Error Message when Copying to a Write-Protected USB Drive

- No error message appears when a user attempts to copy a protocol to a write-protected USB drive. An error message does appear when the user attempts to Save to a write-protected USB drive.

Note: Users can copy and save to, and delete protocols from, USB drives whose Properties are set to Read-only. To ensure the write-protection of your USB drive, use only USB drives that have an exterior write-protection switch.

Run Status Screen and Run Report Generated after a Lid Error Are Incorrect

- If a lid error occurs during a run, the thermal cycler stops the run. This is as designed.

However, the Run Status screen does not indicate that the run was stopped because an error occurred. Instead, the Run Status screen indicates that the run was stopped.

The associated run report does not indicate that an error occurred during the run. Instead, the run report indicates that the run completed with no errors and was stopped by the user.

Run Reports Do Not Upload to BR.io if a Power Failure Occurs During the Run

- If a user is connected to BR.io and a power failure occurs during a protocol run, the run report is not uploaded to BR.io. When power is restored, the run will continue. When the run completes the Run Status screen displays that a power failure occurred.

Note: The run report is saved on the instrument and can be exported to an attached USB drive.

Protocols Are Not Deleted from NTFS or exFAT Formatted USB Drives

- The PTC Tempo thermal cyclers enables users to copy protocols to and delete protocols on attached USB drives. However, when reinserted into the PTC Tempo instrument, protocols that the user attempted to delete on NTFS or exFAT formatted USB drives appear in the Protocol Browser when USB is selected.

Workaround: To delete protocols on NTFS or exFAT formatted USB drives, insert the drive into a compatible computer and follow its file-deletion process.

System Log Entry when Admin User Exports Run Reports Is Incorrect

- When an Admin user exports run reports for protocols run by other users, the System Log entry displays that the run reports were exported by the user who ran the protocols rather than the Admin user.

Note: The System Log entry for the logged in user is correct. That is, the System Log displays that the logged in user is the Admin user, indicating that the Admin user performed the export.

After Connecting to a Shared Network Folder, the User Cannot Clear the Folder Path or Connection Fields

- The Folder Path and Connection fields on the User Profile screen cannot be empty if a user chooses to disconnect from a shared network folder.

Users can click Reset to disconnect from the shared network folder and then connect to different shared folder.

If the user chooses not to connect to a different shared network folder, Network does not appear in the left pane in the Protocol Browser. However, the Folder Path and Connection fields on the User Profile screen remain populated with the connection information.

The Gateway Details Do Not Appear on the Network Settings Screen when Connected by Both a WiFi Dongle and Ethernet Cable

- The PTC Tempo can connect to the Internet by a Bio-Rad-supplied WiFi dongle or by Ethernet cable. If you have connected to the Internet by WiFi dongle and then inserted an Ethernet cable into your PTC Tempo thermal cyclers, the instrument defaults to Ethernet connection. However, the Gateway details do not appear on the Network Settings screen.

Workaround: Remove the WiFi dongle to view the Gateway details.

PTC Tempo Displays an Incorrect Message after Successfully Connecting to WiFi

- After connecting to a WiFi network, the PTC Tempo thermal cycler displays a message indicating that the system failed to connect to the network.

After tapping OK on the incorrect message, a successful connection message appears.

The Lid Heater Tray Extends out of the Lid when Close Lid is Tapped and the Lid Is Not Completely Closed

- If a user manually closes the lid after powering off the instrument and does not close the lid completely, the lid heater tray extends out of the lid when the user powers on the instrument and taps Close Lid on the Run Setup screen.

Workaround: Manually lift the lid to its fully open position and then tap Close Lid.

Important: Bio-Rad *strongly* recommends that users always use the Open Lid and Close Lid buttons on the Home, Run Setup and Run Status screens to open and close the automated lid on the PTC Tempo 96 and PTC Tempo Deepwell thermal cyclers.

Bio-Rad *does not recommend* manually opening and closing the automated lids.

PTC Tempo Appears to Hang when Opening Very Large Run Reports

- The PTC Tempo thermal cycler software appears to hang when opening run reports that might be longer than 35 pages.

Workaround: If your run report might be longer than 35 pages, export the protocol to an attached USB drive and open the report on a compatible computer.

Exported Run Reports More Than Several Pages in Length Display Formatting Issues

- The top margin on the PDF of exported run reports that are greater than several pages in length gets smaller with each successive page. If the report is very long (greater than 10 pages) the rows in the Run Details table are cut off.

PTC Tempo Appears to Hang if the User Attempts to Load BR.io Protocols and the System Is Not Connected to the Network

- The PTC Tempo thermal cycler appears unresponsive if the user taps BR.io on the Protocol Browser when it is not connected to the network. The system does not display a message to the user regarding its status for approximately 2 min.

After approximately 2 min the PTC Tempo thermal cycler displays an error message to the user. Tap OK to clear the message and then connect the instrument to the network. When successfully connected, return to the Protocol Browser and tap BR.io again.

Export Dialog Box Does Not Display All Characters of Some Exported Run Report PDFs

- PTC Tempo exports run reports in PDF format. The default naming convention of the run report .pdf file is <ProtocolName>_<DateAndTimeOfExport>_<NameOfUserWhoRanTheProtocol>. If the protocol name and the name of the user who ran the protocol are both close to or are 32 characters in length, the Export dialog box does not wrap the protocol name efficiently and might not display all characters on the screen.

Note: This does not affect the exported .pdf file. The .pdf filename is complete, and the file opens correctly.

PTC Tempo Appears to Hang after Tapping the Back Button on the Edit Protocol Screen

- If a user selects a network protocol to edit and taps the Back button on the Edit Protocol screen, the PTC Tempo thermal cycler appears to hang. The Back button appears disabled, and the screen is unresponsive.

After a period of time, the thermal cycler displays the Protocol Browser and the screen responds to touch commands.

An Error Message Appears after Clearing a Failure to Connect Message and then Tapping the Back Button

- The PTC Tempo thermal cycler displays a Failure to Connect error message when the user attempts to save a protocol from the Save Protocol screen after network connection is lost. When the user taps OK to clear the error message and then taps Back on the Save Protocol screen to return to the Protocol Browser, the same error message appears again.

Workaround: Tapping OK on the second error message returns the user to the Protocol Browser correctly.

Contacting Technical Support

Bio-Rad Technical Support in the United States is open Monday–Friday, 5:00 AM to 5:00 PM, Pacific Time.

Phone: 1-800-424-6723, option 2

E-mail: Support@bio-rad.com (U.S./Canada Only)

For technical assistance outside the U.S. and Canada, contact your local technical support office or click the Contact us link at [bio-rad.com](https://www.bio-rad.com).

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