

1 Release Date

August 2019

2 New Features and Improvements

2.1 Technology

ALPHA is available

The software version 3.0 supports PerkinElmer's Alpha technology (ALPHA) if the necessary hardware, an Alpha laser, is present. This includes two ALPHA preset protocols.

Customer upgrade for Time-Resolved Fluorescence (TRF) and Fluorescence Polarization (FP)

To unlock the TRF and FP technologies, customers can now request an upgrade code and activate these technologies themselves within the software with the upgrade code. This customer upgrade is available from serial number HH35Lxx18001. Please read the user manual for further information (see chapter 12.5 "Manage Features").

Dispenser upgrade

A subsequent dispenser upgrade is now possible. The dispenser upgrade is available from serial number HH35Lxx19300 and needs to be performed by a Service engineer. For further information, please contact:

- Service & Support Contact PerkinElmer
<http://www.perkinelmer.com/corporate/contactus>

2.2 Manual

The manual is available in the user interface

You can open the VICTOR Nivo User Manual (PDF) using the **Manual** button in the bottom right corner of the user interface.

2.3 Protocols

User name, date and technology are shown in the list of available protocols

The user name, date and technology used in a protocol are now visible in the list of available protocols. The protocols are arranged according to the selected sort option. This allows a better overview and an improved findability of the protocols.

Scan option for Absorbance with spectrometer (ABS)

The XY-scanning of the well area is enabled for ABS. You can define the dimensions of the scanning area and the number of measurement positions per well.

2.4 Measurement Settings

Additional dispensing speeds

Apart from the three dispensing speeds **Gentle (33 µl/s)**, **Slow (67 µl/s)** and **Medium (100 ml/s)**, two additional speeds are available for dispensing: **Fast (300 µl/s)** and **Maximum (500 µl/s)**.

Plate map adjustments

After selecting a protocol and clicking on the **Start** button, you can adjust the plate map for the current protocol run by clicking on the **Edit plate map** button. Optionally, it is possible to set the new selected plate map as default map for the current protocol by clicking on the **Set default map** button.

2.5 Results

The live results during a measurement can be paused

You can pause the live results using the **Pause live results** button in the user interface. This will allow you to view the results in one particular well during a measurement.

Switch from plate view to well view by double click

To enter the well view, double click on a particular well in the plate view. This option is available during a measurement and after the results have been saved and reopened.

Copy function of measured data

It is possible to copy the result values directly from the user interface, if the results are shown in “only result data” format. This allows you to copy and paste data directly from the VICTOR Nivo software to a different data analysis software, e.g. MyAssays Desktop.

Saturation warning

There is a saturation warning for Fluorescence Intensity (FI), which notifies the user that the measurement results are not in the linear range anymore. The threshold is 1 million RFU per flash. This notification appears during the live results. Corresponding wells are marked in red with an exclamation mark and with a warning sign "W" in the export files.

2.6 Export

Export only result data

Results can be exported with the export type “only result data” for plate and list format. This export type contains only the measured data in matrix format without any metadata.

Export full data with times

For kinetic measurements, the export of the results as **List format – full data with times** is available. This export type contains all measured data with time stamps for each measured well as list format.

Export files are now in UTF-8

In order to support special characters, all export files (even the results files produced in automation mode) are changed from ASCII to UTF-8 format. Please note, that the graphic representation is dependent on the tool, which is used to open the file.

2.7 Shaker

Continue shaking after log out

Due to safety reasons, the option **Continue shaking after log out** on the **SHAKER** screen was removed. If you log out, shaking will be stopped automatically now.

Shaking outside the reader

To shake a plate outside the reader: On the **SHAKER** screen, select the shaking parameters and click **Start shaking outside**. The plate will be moved outside the reader before starting to shake (e.g. for testing the parameters). The shaking time is limited to 1 minute.

2.8 Settings

Automatic log out after one hour

The software automatically logs out a user, if the reader was not in use for one hour. This allows another user to use the software.

Plate wizard

The **Plate wizard** has new functions. It is possible to copy existing plates, and different plate formats can be set as default plate format.

3 Bug Fixes

3.1 Measurements

Improved time indication for *Delay outside of the reader*

The starting time for a **Delay outside** during a measurement starts exactly after the plate was moved outside of the reader.

3.2 Export

Solved issue in the export type *Plate format – full data for Filter ABS in kinetic measurements*

The issue that the same values occurred for different repeats in the export type **Plate format – full data** for Filter ABS in kinetic measurements has been fixed. All values displayed in the different export types represent the measured data.

3.3 Automation Mode

Remote Control Interface (RCI) connection cannot be interrupted by user interface

An existing connection between the RCI and the reader cannot be interrupted by a refresh of the browser trying to access the user interface. This ensures a stable connection between the RCI and the reader.

Z-Focus scans are supported in RCI

Protocols containing a **Z-Focus Scan** can be performed using the RCI.

4 Known Issues

This list covers known issues with the VICTOR Nivo software version 3.0. Please read this before you report new bugs.

Limited Apple iOS compatibility

Controlling the VICTOR Nivo via Wi-Fi with an Apple iPad or iPhone is still limited. The following limitations are known using iOS 11.4.1:

Known Issue	Workaround
If a user edits the plate map, only one well can be selected.	Keep the plate map to all wells selected as per default. Or edit plate maps using a PC keyboard and only start the protocol without editing using an iOS device.
The START button in the upper right is not displayed correctly and inconvenient to use.	Use the protocol specific Start buttons next to the info tab of each protocol.
Excel export button produces unknown .dms file.	Use the Export CSV data button to open a separate browser window, select all content and share it with the Files app on your iOS device. This will create a .txt file that can be used for further analysis.

Time-Resolved Fluorescence Energy Transfer (TR-FRET) results can be overestimated for short emission times

Known Issue	Workaround
Using emission times (windows times) shorter than 160 μ s in TR-FRET experiments can result in an overestimation of measurement signals by a factor of approximately 10. This particularly affects samples showing low TR-FRET signals.	Use emission times higher than 160 μ s or change the order of how the two channels are measured from "per well" to "per plate". For this, adjust the measurement protocol from one TRF operation with the measurement type Dual emission to two TRF operations (one for each channel) using the measurement type Single emission .

Alpha default protocols

Known Issue	Workaround
If the Alpha optics (575/110 nm filter and ALPHA light blocker) were unloaded, it can occur that both default ALPHA protocols request not only the Alpha optics, but also an additional <i>Empty</i> filter.	The <i>Empty</i> filter is not needed. Load the 575/110 nm filter and the ALPHA light blocker and the request of the <i>Empty</i> filter as missing disappears.

MyAssays Desktop compatible import files

Known Issue	Workaround
The check box option in MyAssays Desktop to <i>Automatically import measurement data</i> is not available yet for the default ALPHA protocols.	During the import process in MyAssays Desktop, clear the check box <i>Automatically import measurement data</i> and select the data matrix manually in the Excel file.

Warming function after log out

Known Issue	Workaround
If you activate the warming function, log out (warming not switched off) and log in again, the temperature control in the upper left corner displays 0.0 °C.	The Warming On function still works until the selected target temperature is reached. Only the display of the temperature control in the upper left corner is not correct, but on the TEMPERATURE screen the target temperature is correctly displayed as a green line in the diagram.

Automation Mode

Known Issue	Workaround
Special characters in barcodes are not supported in full extent using the RCI.	Avoid special characters in barcodes, especially \$ since this is used as a command in RCI. If the error message "Unhandled exception" occurs in RCI, restart the reader by unplugging the power cord for at least 10 seconds.
The special character \$ in protocol names leads to error messages in RCI.	Avoid the special character \$ in protocol names since this is used as a command in RCI. If the error message "Unhandled exception" occurs in RCI, restart the reader by unplugging the power cord for at least 10 seconds.

Known Issue	Workaround
Data storage and reloading of results containing high amounts of data may take several minutes.	Leave the software untouched until results have been saved or reloaded. This is also influenced by the used PC and network connection.

Dispenser

Known Issue	Workaround
The dispenser initializes only with its first operation, not at the beginning of the protocol. This can lead to irregular timing during a kinetic measurement, because more time is needed for that well, which contains a dispenser operation for the first time. In addition, the warning window telling you that the dispenser tip is not in the reader only appears instantly when a dispenser operation occurs for the first time, not before starting a measurement.	Be aware that the time measurement in the new result format List format – full data with times for kinetic measurements is correct and only the dispenser initialization takes more time for its first operation. Furthermore, the user should always check if the dispenser tip is not missing inside the reader before starting a measurement that contains dispenser operations.
Priming is needed for dispenser operations every time the connection to the user interface is interrupted. This happens e.g. if you log out and then log in again.	<ul style="list-style-type: none"> • Make sure that the connection to the user interface is not interrupted after priming the dispenser. • Note that logging out from the user interface and re-logging in will again require priming.
It is possible to run a protocol via the automation interface (RCI) which contains a dispensing operation although the dispenser has not been primed.	Make sure that the dispenser has been primed before you run a protocol via the RCI which contains a dispensing operation. There are two ways to do this: <ul style="list-style-type: none"> • Prime the dispenser via the user interface. Do not forget to log out afterwards. • Prime the dispenser using the buttons on the dispenser unit.
If the dispenser tip is still inside the reader during priming of the dispenser, the warning pop-up window in Google Chrome contains cryptic information for the user: <i>"Instrument error message - !80B4C 00000080"</i> .	If this warning pop-up windows occurs, simply remove the dispenser tip before priming the dispenser.
For dispenser operation inside a kinetic measurement it is possible to set a Delay after reagent 1/2 in seconds. <ul style="list-style-type: none"> • For all <i>bottom</i> measurements the minimum delay time is 0.0 s although this may lead to a wrong warning pop-up window that says that the minimum delay time is 0.7 s. Nevertheless, the protocol can be saved and executed. • For all <i>top</i> measurements the minimum delay time is 0.7 s. If the value 0.0 s is entered, the same, in this case correct, pop-up warning window appears. However, the protocol can be saved and executed with the delay time of 0.0 s although this delay time is not feasible for the reader, due to plate movements from the dispenser to the measurement position. 	<ul style="list-style-type: none"> • For all <i>bottom</i> measurements inside kinetics operations, ignore the warning pop-up window if the Delay time after reagent 1/2 is set to 0.0 s. The protocol can be executed correctly. • For all <i>top</i> measurements inside kinetics operations, be aware that the minimum Delay time after reagent 1/2 cannot be less than 0.7 s because this is technically not feasible for the reader.

Results with high data volume

Known Issue	Workaround
The data volume of Excel export files of kinetic measurements with many operations and/or a high number of kinetic cycles can be too high for a successful download.	If the Excel export does not work due to high data volume, please use the CSV export.
If high amounts of data are quickly produced by a fast kinetic measurement, it can occur that the software does not respond anymore. Nevertheless, the data can be saved.	Leave the software untouched until it recovers. This may take quite a while and may even exceed the measurement time, but the data will be saved.

Malfunction after stopping a measurement in Microsoft Edge

Known Issue	Workaround
<p>If you abort a measurement and you click somewhere else on the user interface while the stopping and data saving procedure is still running, the pop-up window Abort measurement is displayed. You will be asked if you want to exit without saving the latest result. If you click Yes, it leads to a malfunction of the software:</p> <ul style="list-style-type: none"> • Results can no longer be saved, although it initially appears that the measurement process is running normally. • Protocols can be started but live results are no longer displayed. • The OPEN TRAY button and the Warming On function are not working anymore. • Only a renewed login leads to full functionality again. 	<p>This issue does not occur in Google Chrome.</p> <p>If using Microsoft Edge:</p> <p>Avoiding the issue:</p> <ul style="list-style-type: none"> • Do not interrupt the stopping and saving procedure after stopping a measurement by clicking somewhere on the user interface. Wait until the window disappears, even if this may take long. • If you did click somewhere else and see the Abort measurement window: Click No. You will return to the stopping and saving window. <p>If you have confirmed the Abort measurement window with Yes this leads to the described malfunction of the software and no further results are saved. In this case you have to renew the login to regain full functionality:</p> <ul style="list-style-type: none"> • Click on the LOG OUT button. • Reconnect and log in again.

Save graphs as images from the user interface

Known Issue	Workaround
The option to save graphs as images directly from the user interface is only possible in Google Chrome. Only plate views cannot be saved as images.	Use Google Chrome to save images directly from the user interface.

5 Software Update

Important before updating the software

Check whether a custom filter "620/10" is present in the filter list of your reader. If so, follow the steps below **before** updating the software:

1. Unload the "620/10" filter and remove it from the VICTOR Nivo.
2. Delete the "620/10" filter from the filter list.

1. Download and unzip the setup package **SetupVICTORNivo3-0-X.zip**.
2. Copy the setup file **SetupVICTORNivo3-0-X.exe** to the PC connected to the VICTOR Nivo.
3. Make sure that the VICTOR Nivo is switched on and connected to the PC (via LAN or WiFi).
4. Close the user interface (web browser).
5. Double-click the setup file and follow the VICTOR Nivo Setup Wizard.

The update process is started.

Do not switch off or disconnect the VICTOR Nivo while the update is running.

Wait until the update is complete before proceeding.

6. Clear the cache of your web browser:
 - a. While in your browser, press **Ctrl + Shift + Delete** simultaneously to open the appropriate window.
 - b. Select the check boxes **Cookies and other site data** and **Cached images and files** and click the **Clear Data** button.
7. Restart the VICTOR Nivo:
 - a. Press and hold down the power button on the reader for at least 3 seconds until the light of the button goes out.
 - b. Unplug the power cord for **at least 10 seconds**.
 - c. Reconnect the power supply and switch on the reader.
8. Return to the PC and complete the VICTOR Nivo Setup Wizard.
 - a. Confirm that you have cleared the browser cache and restarted the reader (select check boxes).
 - b. Complete and finish the wizard.
9. Open the VICTOR Nivo software in your browser.

Notice

Please check regularly for software updates on the PerkinElmer website:

<http://www.perkinelmer.com/lab-products-and-services/resources/software-downloads.html>