



Release Notes – v3.2.0

PBS Vertical Wheel™ Bioreactor Control Software

Overview/Summary of Changes

This release adds support for the new sbRIO-9603 and CFX-727 control hardware used in all PBS-3, PBS-15, and PBS-80 bioreactor models. The software is backward compatible with sbRIO-9641/42 systems but requires full system reinstallation.

This release primarily consists of firmware-level changes with no impact on users.

Bug Fixes

- Fixed an issue when rebooting the RIO (from the System > Tools menu) would cause a Recipe to restart from the beginning.
- Fixed an issue where wait steps could complete instantly if the wait duration coincided with an integer overflow of the RIO's internal tick counter.
- Fixed an issue where an external keyboard can be used to Stop the Desktop UI application.

UI Changes

- **Load Bag:** Renamed Expiration Date field ("Exp. Date") to Gamma Date and adjusted calendar range. This field is now intended for entry of the "Gamma Date" indicated on vessel packaging. No changes have been made to functionality.
- **About Menu:** Added RIO Model field. In addition, several fields showing version numbers now include a build version.
- **Hello UI:** Buttons in Control Pumps, Sample, and Select Sensors menus now switch on touch instead of release. This should make the controls feel more responsive and reduce errors associated with attempting to "slide" the switches.

Alarms

- Introduced new hardware fault alarms for new hardware support.

Alarm Name
12 Vdc Supply Fuse
24 Vdc Supply Fuse
Pump Supply Fuse
24 Vdc Ctrl Main Fuse

- Renamed Recipe Restarted Alarm to Sequence Resumed.
- Renamed Alarm Notification Setting Name for MFC mismatch to indicate the cause of failure.

Old Name	New Name
Air MFC Mismatch	Air Source Pressure Error
CO2 MFC Mismatch	CO2 Source Pressure Error
N2 MFC Mismatch	N2 Source Pressure Error
O2 MFC Mismatch	O2 Source Pressure Error



System Variables

Minor changes were made to the default system variables to support the new hardware configurations.

- **All RIO models:**
 - 3L systems: Agitation Lookup Factor (%/RPM) set to 1.82.
 - 15L systems: Filter Oven Heat Auto Max (%) set to 80.0%.
- **9603 RIO models:**
 - Pumps Aux Low Duty set to 30000.
 - Pumps Aux Med Duty set to 52000.

Recipes

- Recipe Steps reports now include “Start” and “Stop” events.
- Bioreactors are now shipped with a “PumpTest” recipe.