ModusToolbox™ Motor Suite GUI Release notes

About this document

Scope and purpose

The scope of this Release Notes document is to provide an overview of the new features, enhancements, and bug fixes included in the latest version (v2.10.0) of the Motor Suite GUI application. This document is intended to inform users about the changes and improvements made to the application, and to provide guidance on how to effectively utilize the new features and functionality.

The purpose of this Release Notes document is to:

- **Inform Users of Changes:** To notify users of the new features, enhancements, and bug fixes included in the latest version of the Motor Suite GUI application.
- **Provide Guidance and Support:** To provide users with the information and resources needed to effectively utilize the new features and functionality, and to troubleshoot any issues that may arise.
- **Document Application History:** To maintain a record of the changes and improvements made to the Motor Suite GUI application over time, allowing users to track the evolution of the application and its features.
- **Facilitate Smooth Transition:** To ensure a smooth transition for users upgrading to the new version of the Motor Suite GUI application, by providing clear and concise information about the changes and improvements made.

Intended audience

This Release Notes document is intended for:

- **Motor Suite GUI Application Users:** Users of the Motor Suite GUI application, including developers, engineers, and technicians who use the application to develop, test, and optimize motor control systems.
- **Support Teams:** Support teams and technical staff who provide support and guidance to users of the Motor Suite GUI application.

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1 Overview

The Motor Suite GUI application is a software solution designed to support the development, testing, and optimization of motor control systems. This application provides a comprehensive set of features and tools for configuring, monitoring, and analyzing motor control parameters, allowing users to efficiently develop and fine-tune their motor control applications.

Classification

The Motor Suite GUI application is classified as a software development tool, specifically designed for use in the development and testing of motor control systems.

Features

The Motor Suite GUI application includes the following key features:

- **Motor Control Configuration:** An intuitive interface for configuring motor control parameters, including settings for motor configuration, control modes, and feedback mechanisms.
- **Real-time Monitoring and Analysis:** Real-time monitoring and analysis of motor control performance, including visualization of motor currents, voltages, and other relevant parameters.
- **Testing and Validation:** Support for testing and validation of motor control systems, including tools for verifying the performance and functionality of motor control designs.
- **Optimization and Tuning:** Tools and features for optimizing and tuning motor control parameters, enabling users to achieve optimal performance and efficiency.

Characteristics

The Motor Suite GUI application is characterized by its:

- **User-friendly Interface:** An intuitive and easy-to-use interface that simplifies the process of developing and configuring motor control systems.
- **High-performance Capabilities:** High-performance capabilities that enable real-time monitoring and analysis of motor control performance.
- **Flexibility and Customizability:** Flexibility and customizability, allowing users to tailor the application to their specific needs and requirements.

Purpose

The purpose of the Motor Suite GUI application is to provide a comprehensive and user-friendly tool for motor control system development, testing, and optimization. The application is designed to support the development of high-performance motor control systems, and to enable users to achieve optimal performance and efficiency.

Supported Devices

The Motor Suite GUI application is designed to support a range of devices, including:

- KIT_PSC3M5_2GO
- KIT_PSC3M5_CC2
- KIT_PSC3M5_CC2 Dual Motor

Overview

- KIT_XMC7200_MOTOR_CTRL
- KIT_TRAVEO_T2G_B_H_MC1
- REF_48V_2X1KW_ASFOC Dual Motor
- REF_80VDC_3.5kW_OPE2
- REF_HUMA_MTR_48V_25A
- RaK-GAN
- REF_MTR_48V30A_PSC3_GaN
- EVAL_6EDL7141_TRAP_1SH
- EVAL_6EDL7151_36V_1kW
- EVAL_IMD700A_FOC_3SH
- EVAL_6EDL7141_FOC_3SH

Major Use Case

The Motor Suite GUI application is primarily used in the development and testing of motor control systems for a range of applications, including but not limited to industrial automation, robotics, home appliances and defense.

2 Release artifacts

This section provides a detailed overview of the components included in the delivery of the new version (v2.10.0) of the Motor Suite GUI application.

Type of Release

This release is a Production Release, intended for use in production environments. The purpose of this release is to provide a stable and feature-rich version of the Motor Suite GUI application for users to develop, test, and optimize motor control systems.

Released Software

The following software components are included in this release:

Motor Suite GUI Application: The latest version of the Motor Suite GUI application, including all new features, enhancements, and bug fixes.

Platform: The application is built on the Windows platform.

Released Hardware

Compatibility with the following new hardware components is added to this version:

- **REF_80VDC_3.5kW_OPE2:** 3.5 kW BLDC motor drive system solution for outdoor power equipment (OPE) and LEVs operating from a 72-80 V battery pack.
- **REF_HUMA_MTR_48V_25A:** System reference solution for a single humanoid motor joint.
- **RaK-GAN:** PSOC™ Control C3M5 Complete System Motor Control Kit.
- **REF_MTR_48V30A_PSC3_GaN:** 48 V motor-drive reference board based on CoolGaN™ and PSOC™ Control for high power density and faster design cycles.

Delivery State of the System

The application is delivered in a Ready-to-Use state, with all necessary configuration and settings pre-configured for immediate use.

Available Services

The following services are available with this release:

- **User Documentation:** Comprehensive user documentation, including user guide and training material, is available for download from the https://www.infineon.com/design-resources/development-tools/sdk/modustoolbox-software/modustoolbox-motor-control website.
- **Code Examples:** Code examples are provided through the https://github.com/infineon repository.
- **Technical Support:** Technical support is available through the https://www.infineon.com/support website or by contacting our support team.

Released Documentation

The following documentation is included with this release:

- **User Guide:** A comprehensive user guide that provides detailed instructions on how to use the Motor Suite GUI application.

Release artifacts

- **Motor Control Library Tuning Guide:** This document describes how to measure/identify the motor and load parameter required for the Motor Control Library and how to configure/tune the control loop parameters.
- **Motor Control Firmware Reference Manual:** This document is a reference manual for Infineon's advanced motor control firmware solution.
- **Release Notes:** This document provides an overview of the new features, enhancements, and bug fixes included in this release.

3 Changes

This release (v2.10.0) introduces new features and enhancements to improve the overall user experience and performance of our application.

- **Motor control library support (motor-ctrl-lib v3.3.0)**
  This release adds full support for motor-ctrl-lib v3.3.0 across PSOC Control C3, XMC7000, and TRAVEO T2G BH projects.

  The update ensures the application recognizes, configures, and interoperates correctly with v3.3.0-based firmware on these device families, providing a consistent workflow for project creation, configuration, and runtime interaction. As a result, teams adopting the newer motor control library can transition with confidence while maintaining expected tooling behavior and compatibility across supported targets.

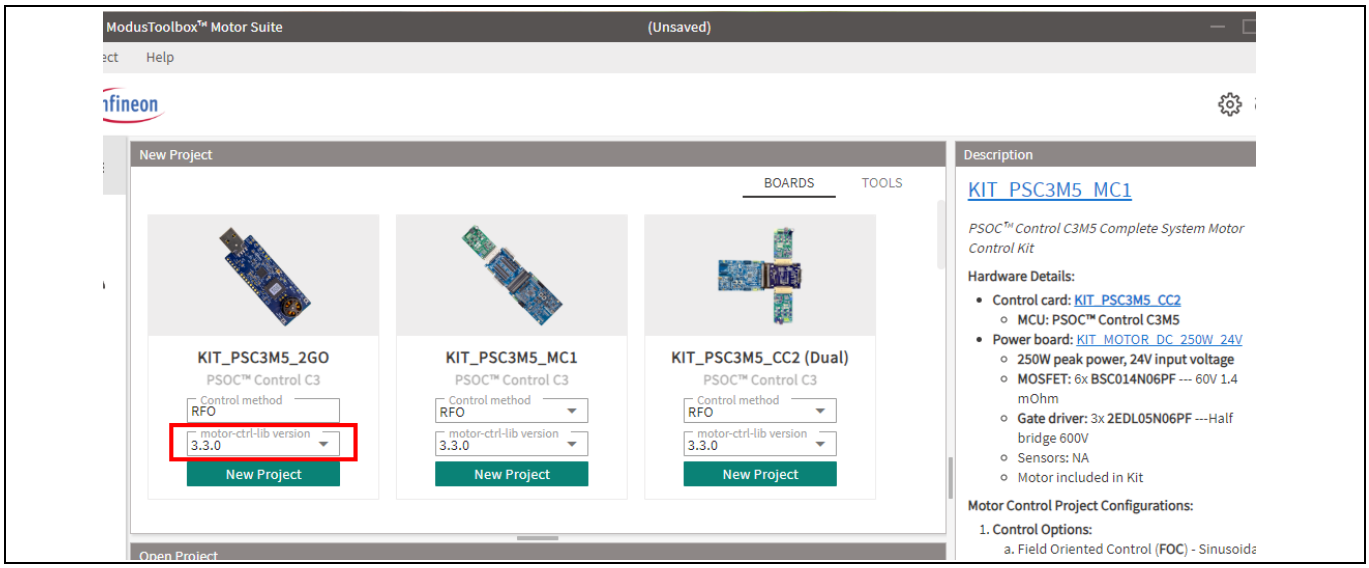

Figure 1 motor-ctrl-lib 3.3.0 support

- **New reference projects**
  Added support for REF_80VDC_3.5kW_OPE2, REF_HUMA_MTR_48V_25A, RaK-GAN and REF_MTR_48V30A_PSC3_GaN projects. These four reference designs are now recognized project targets. Support includes the corresponding project configuration and the application workflows associated with supported PSOC C3 hardware and reference boards.

  Users no longer need to force a project into a similar but inaccurate board definition. Correct project identity improves the relevance of parameters, board detection, and firmware/ELF handling. Select the exact reference project when starting work. Do not substitute a visually similar board merely to get past project selection.

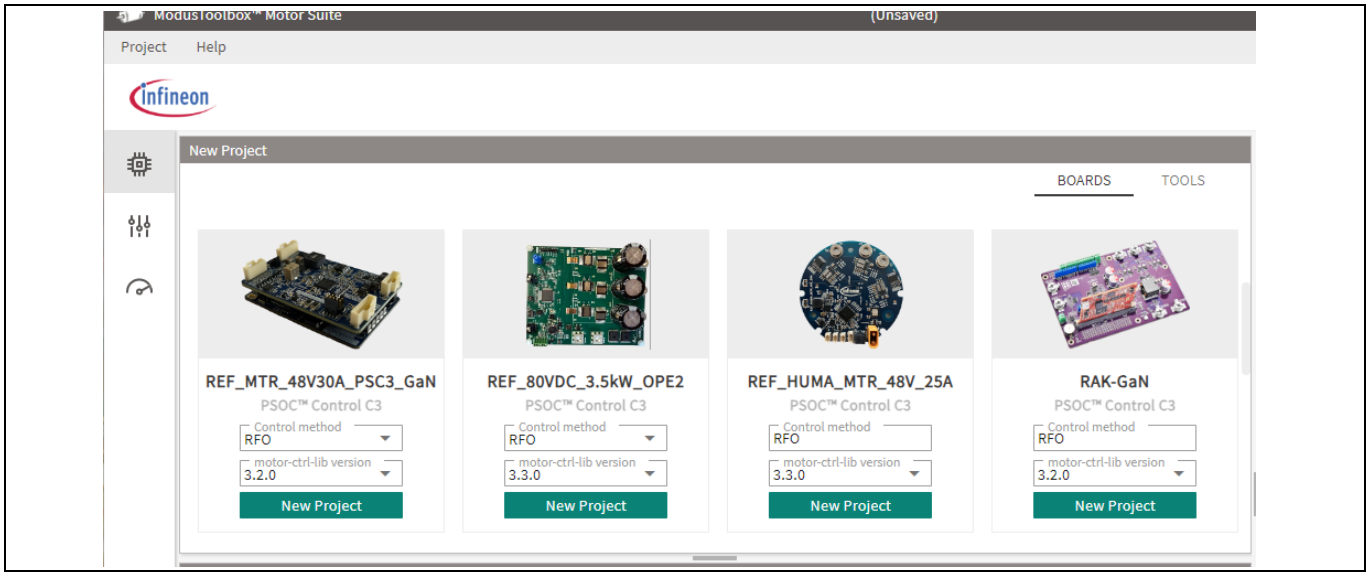

Figure 2 New projects

- **LiveMonitor replaces GUI Builder**
  Replaced GUI Builder with ModusToolbox™ LiveMonitor. Documentation or habits that refer to GUI Builder should be interpreted in the context of LiveMonitor in v2.10.0.

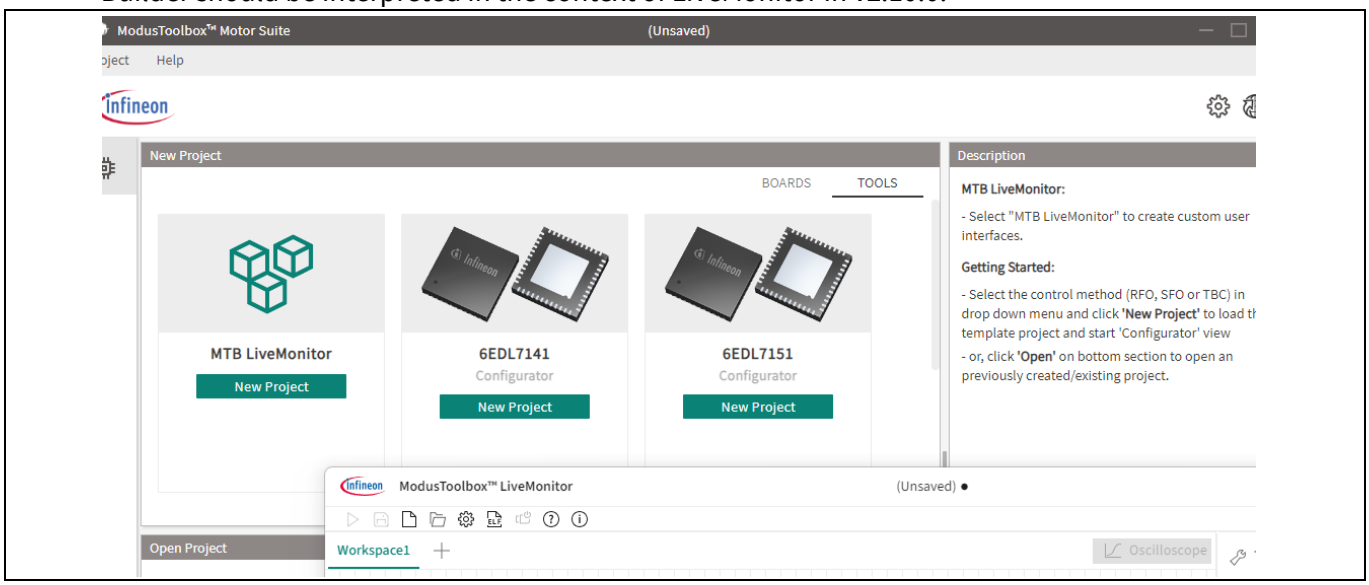

Figure 3 ModusToolbox™ LiveMonitor

LiveMonitor needs to be installed separately. Users will see an error message if it has not been installed. You can install LiveMonitor using IDC Launcher or MTB Setup tool.

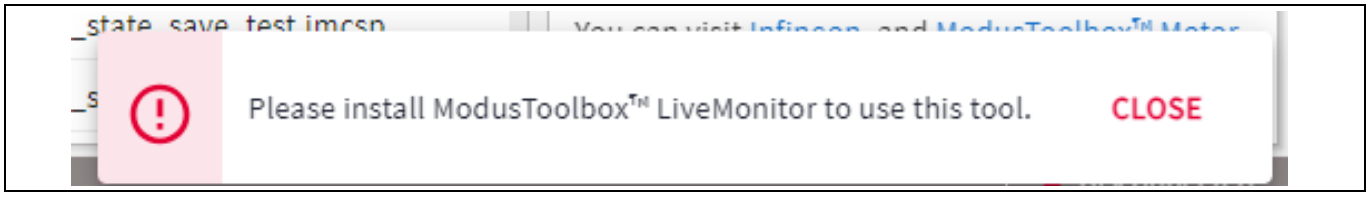

Figure 4 Users will see an error message if LiveMonitor has not been installed.

Changes

- **Debugger firmware age check**
  Added a debugger firmware update dialog if the debugger firmware is too old. The application now detects when connected debugger firmware is below the version needed for reliable operation and presents an update dialog. The prerequisite is visible at the point where it matters, rather than appearing only as a vague connection or flashing failure.
  Current debugger firmware helps prevent incompatibilities between the application, JLink SDK, target device, and debugger probe. It also gives support teams some concrete first diagnostic step. If the dialog appears, complete the update and reconnect the debugger before retrying flash or debug operations.

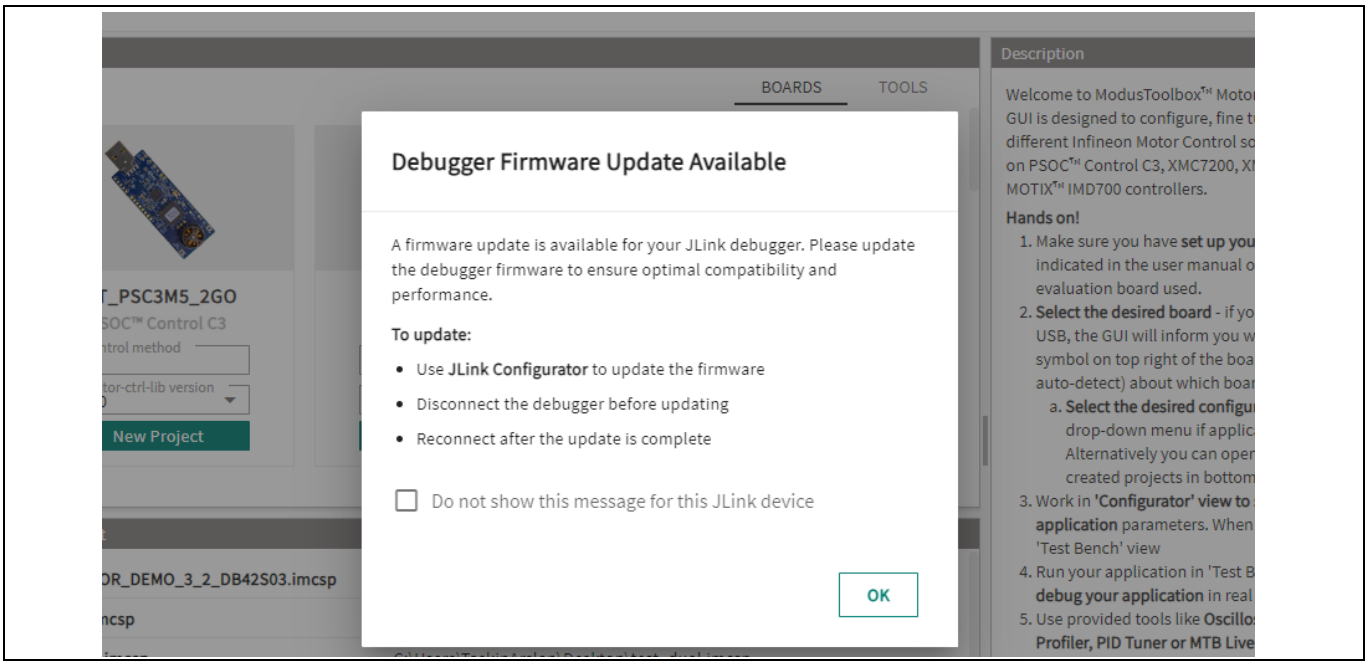

Figure 5 Outdated debugger firmware dialog

- **PWM and fast-loop frequency displays**
  Added PWM frequency parameter. The interface now exposes PWM frequency as a parameter of its own for motor-ctrl-lib based projects. Direct display reduces the need to infer timing from low-level parameters or source code.

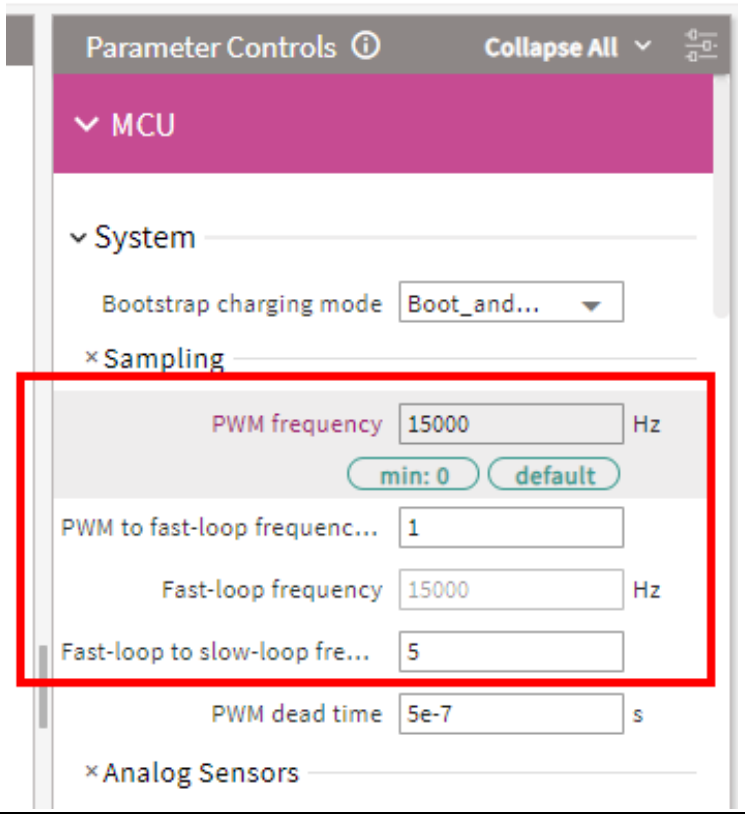

Figure 6 New PWM frequency parameter

- **Profiler fault control block and window behavior**
  Enhanced the profiler with a fault control block and a draggable window. The profiler now includes a dedicated fault control block and can be repositioned by dragging its window. The fault block makes fault-related information or control distinct, while the draggable window helps users arrange the workspace around other tools.

  Faults are central to diagnosing motor-control behavior. Easier access and movable layout improve investigation flow when a graphical display, parameter view, and profiler must be visible together. Place the profiler where it does not cover any useful display.

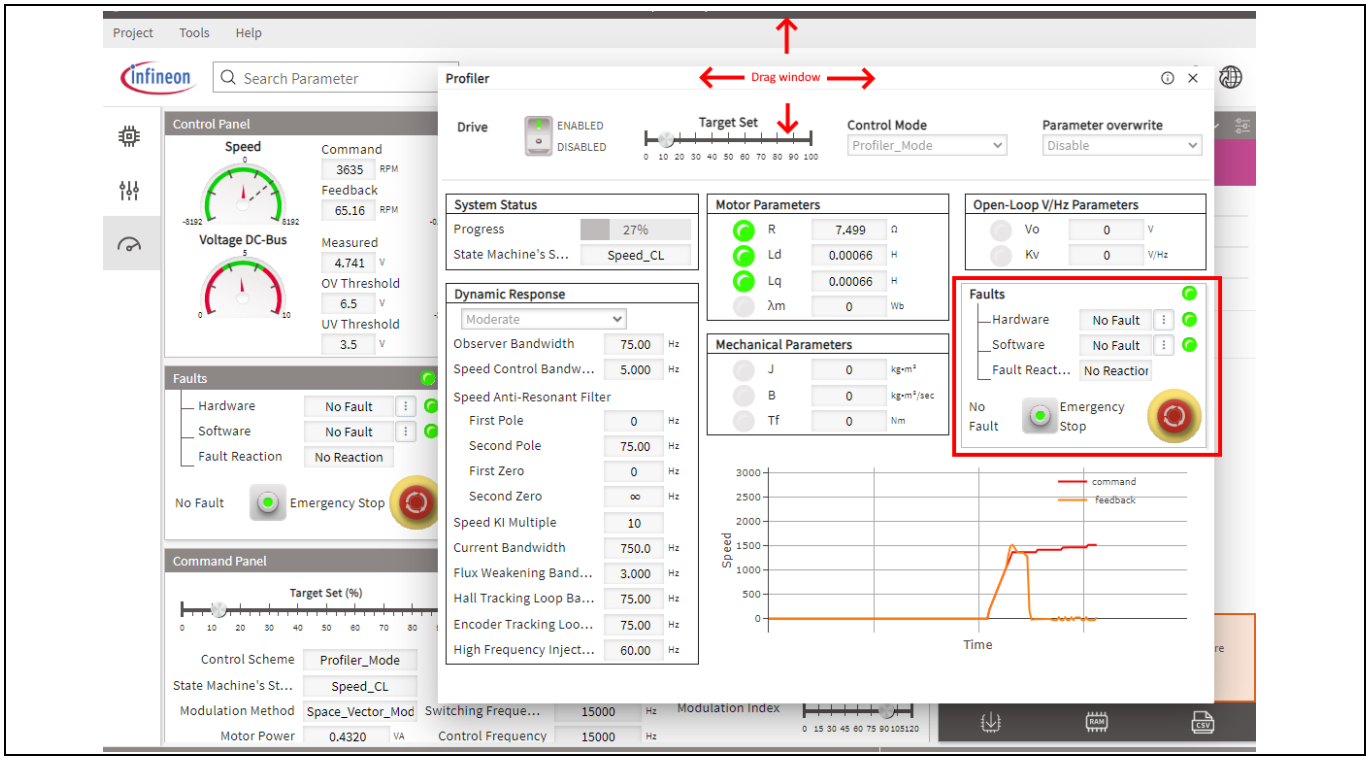

Figure 7 Profiler improvements

- **Revolution counter in the testbench position gauge**
  Added a revolution counter to the testbench position gauge. The position gauge now reports completed revolutions in addition to position. This distinguishes repeated full rotations from single-cycle position value and gives the testbench more useful context for sustained motion. A revolution count provides cumulative context and makes position easier to correlate with speed and duration.

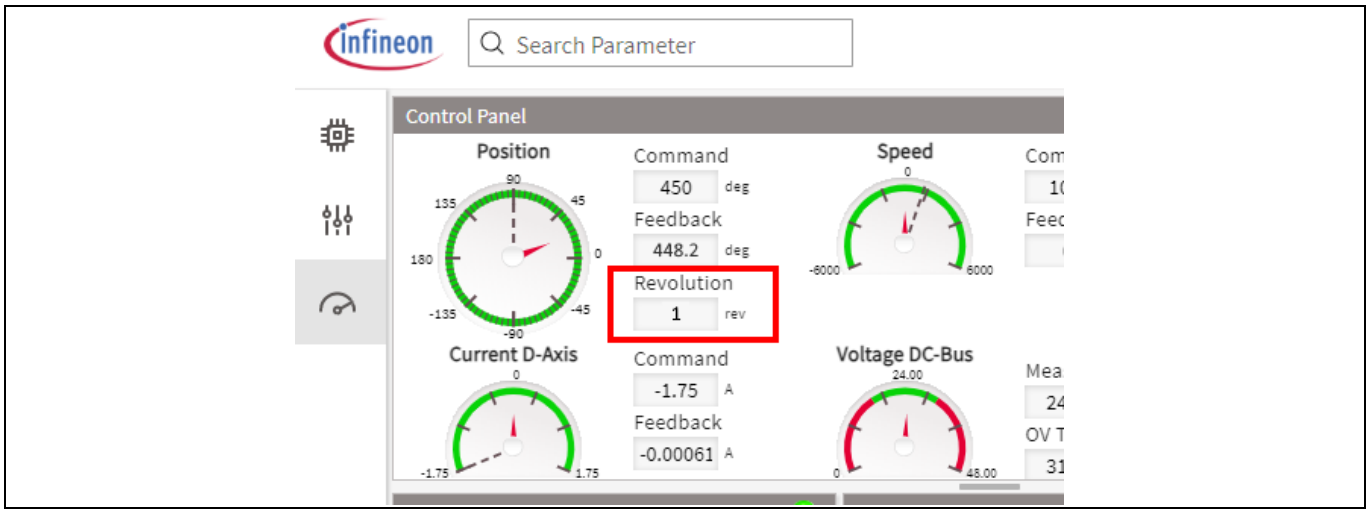

Figure 8 Revolution counter

- **Parameter precision, units, and search**
  Improved parameter display and export precision, unit conversion, and advanced-parameter search behavior. This group improves how values are shown and exported, how values are converted between supported units, and how users find advanced parameters even when they are not visible. The intent is

to preserve more meaningful numeric details, clarify units, and make fewer common controls easier to locate.

Rounding can conceal a meaningful tuning change, and unclear units can lead to incorrect values being entered or compared.

Better search behavior reduces the chance that an advanced setting is overlooked.

Prefer v2.10.0 exports when exact settings matter. Check the displayed unit before entering a value, include the unit in engineering notes, and use advanced search when a known parameter is not visible.

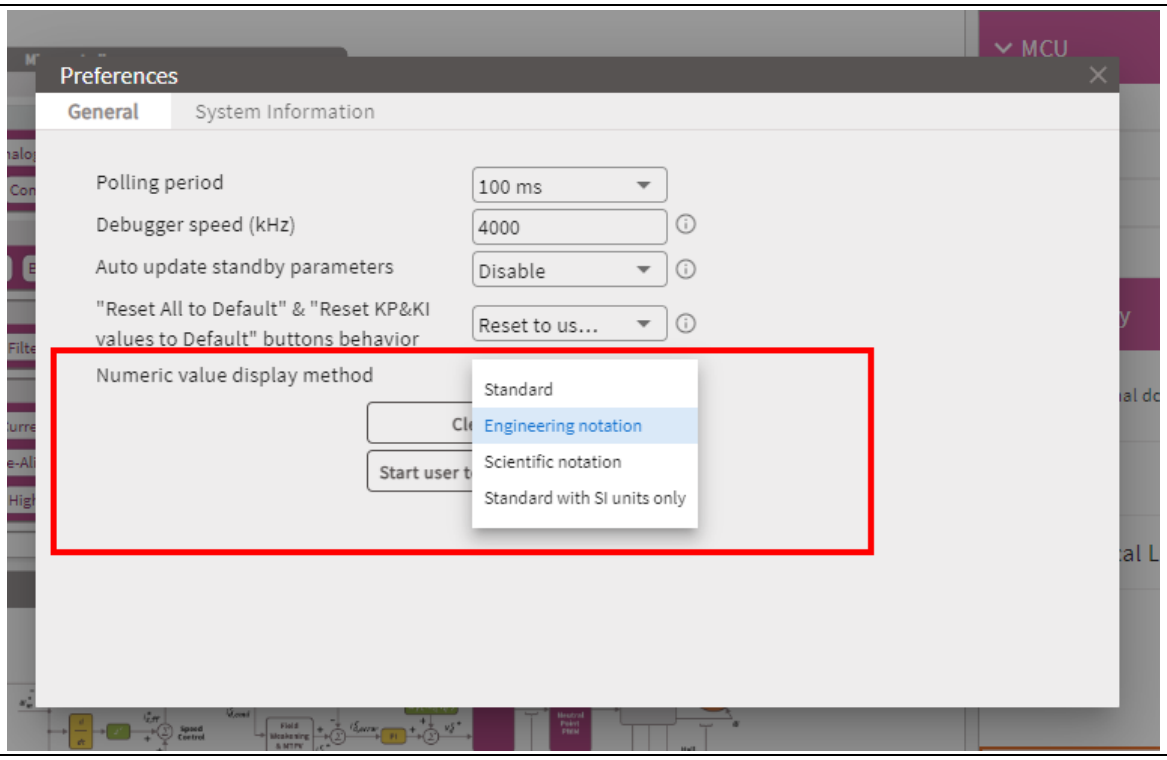

Figure 9 Configuring numeric display preference

- **Board detection and ELF handling**
  Improved board detection and ELF handling. The application is more robust when identifying the connected board and loading or interpreting the associated ELF.

  Correct board and ELF identification are foundational. An incorrect board can select the wrong configuration, while a mismatched ELF can make symbols unavailable or misleading. Verify the detected board and active ELF before writing parameters or flashing. If values appear incomplete, check the ELF path and build artifact before changing hardware or tuning settings.

- **JLink SDK 9.74.0**
  Updated JLink SDK to version 9.74.0. The release bundles the newer JLink software development kit used for debugger communication and related target operations. When troubleshooting, record the Motor Suite version, JLink SDK version, debugger model, and debugger firmware version.

- **Minor fixes and interface enhancements**
  Additional minor bug fixes, and user interface enhancements. The release includes smaller corrections and refinements beyond the named features.

Changes

- **Known Issue and Workaround**

  Oscilloscope channel assignment after flashing
  After flashing, opening LiveMonitor and then opening the Oscilloscope from LiveMonitor may assign channels to random symbols. This can occur the first time after flashing. The documented workaround is procedural: after flashing, open the Oscilloscope window from the main GUI first. Once that initial oscilloscope window has been opened, the LiveMonitor Oscilloscope window can be used afterward.

  Recommended sequence:

  1. Flash the target with the intended firmware.
  2. Open the Oscilloscope from the main GUI, not from LiveMonitor.
  3. Verify channel names and symbols before interpreting traces.
  4. After this first oscilloscope opening, use the LiveMonitor Oscilloscope entry as needed.

With these updates, we're committed to providing a robust and feature-rich platform for your development needs. We encourage all users to update to this latest version to take advantage of the new features and improvements. Thank you for your continued support!

4 Revision history

Document revision	Date	Description of changes
**	2025-08-07	Initial release
*A	2025-10-01	Changes section is updated with the new GUI version (v2.7.0) changes.
*B	2025-12-12	Changes section is updated with the new GUI version (v2.8.0) changes.
*C	2026-03-10	Changes section is updated with the new GUI version (v2.8.1) changes.
*D	2026-04-21	Changes section is updated with the new GUI version (v2.9.0) changes.
*E	2026-09-15	Changes section is updated with the new GUI version (v2.10.0) changes.

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