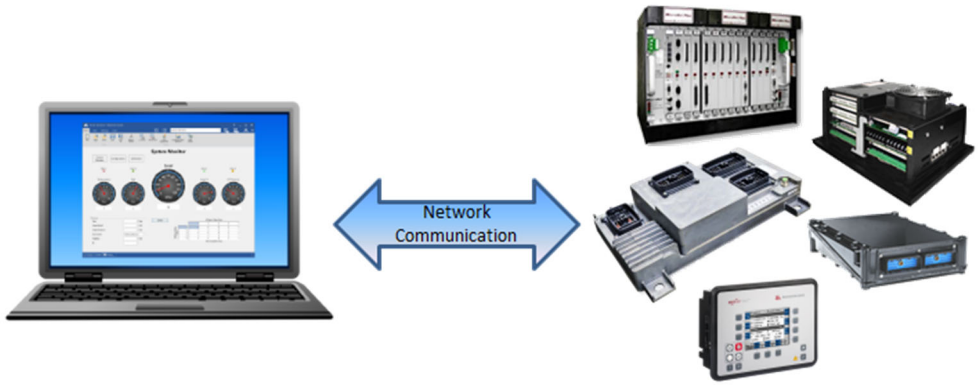
WOODWARD

Product Specification **03366**
(Revision D, 12/2022)

ToolKit

Interface Tool Development Software



- Designed for Woodward electronic controls
- Hosts prebuilt interface tools
- View and change control values in real time
- Manage editable values (settings) offline
- Real-time trending/data logging
- Load application programs
- Create custom service tools and operator interfaces
- No programming skills needed

Description

ToolKit is a Windows® desktop program that supports the rapid development and hosting of user-friendly interface tools for Woodward electronic products. Interface tools can be created for many different functions such as service, configuration, commissioning, calibration, testing, or operation. These interfaces allow viewing/editing of control values using many different visual components such as text boxes, gauges, bar charts, trend charts, etc.

ToolKit is designed to specifically interface with Woodward products, including programmable (GAP™ / MotoHawk) and non-programmable controls. It supports communications via RS-232/-422/-485 serial, CAN, or Ethernet TCP/IP networks.

ToolKit is ideal for Woodward electronic product users that need cost-effective and easy-to-use software interface tools or operator control panels.

Functional Details

ToolKit has two modes of functionality.

Run Mode – Hosts a pre-built interface tool, provides connectivity, trending, offline settings management, and loading control programs.

Design Mode – Allows rapid creation and editing of interface tools.

Run Mode

In run mode, interface tools can connect to the control system and can be used to view/edit control values, view events, and invoke commands and actions.

Offline values can be managed, uploaded, and downloaded to/from the control.

Real-time and historical values can be plotted on a trend graph and application programs can be loaded to the control.

CONNECTIVITY: ToolKit communicates with Woodward control systems over several standard networks and communication protocols. The following networks/protocols are supported:

- Ethernet (ServlinkTCP, XCP)
- CAN (CANopen, XCP)
- Serial/USB (Servlink)

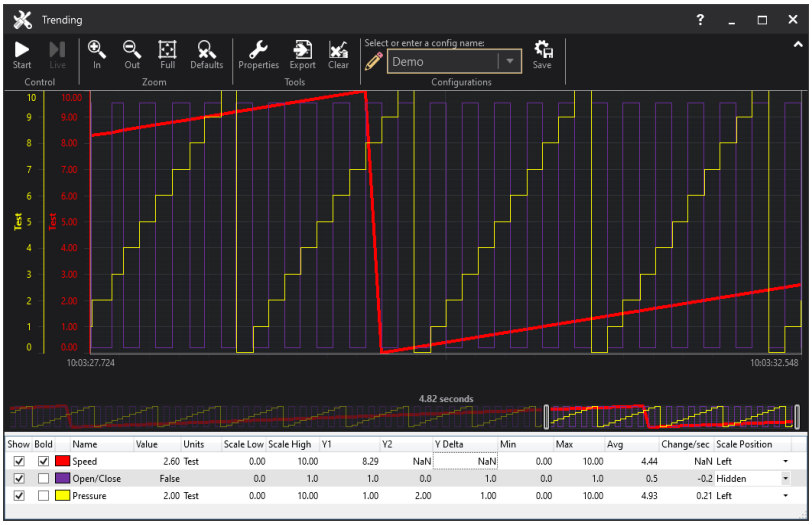
SECURITY: ToolKit supports the security mechanisms that may be employed by Woodward products. If a Woodward control requires a secure connection, ToolKit will prompt the user for the appropriate credential information before completing the connection.

VIEW/EDIT CONTROL VALUES: A ToolKit tool may contain one or more pages of visual components. These components allow for viewing and editing the control's parameter values and are used for various troubleshooting or tuning procedures.

SETTINGS MANAGEMENT: ToolKit allows the user to edit control settings while offline (not connected to the control). These settings can be saved to a file and later uploaded to the control. Settings can also be downloaded from the control and saved to a file for later editing.

Using the built-in settings tools, users can compare settings files and see the value and name differences between the files.

TRENDING/DATA LOGGING: Run mode includes a "trend on the fly" feature that allows the user to display a trend chart showing one or more values being logged over time. The trend chart can be configured to log to memory or to a data log file with a specified time scale and sample rate. Each pen in the trend chart can be configured for color, value range, interpolation, etc.



The trend chart supports multiple zooming and panning capabilities over the horizontal and vertical axis. Saved data log files can be viewed in the data log viewer or exported to a spread sheet program for further analysis. A ToolKit advanced license must be purchased to allow trend on the fly and data logging of more than three plots at once.

APPLICATION PROGRAM LOADING: ToolKit provides services to load a new application program onto Woodward control hardware.

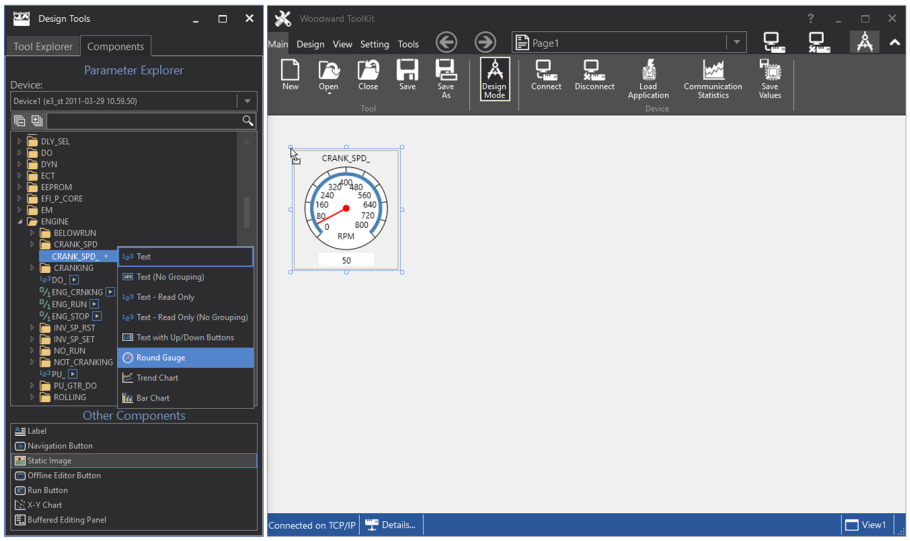
AUTOMATION INTERFACE: ToolKit provides a programming interface that allows ToolKit functionality to be used by other programs to automate tasks, without starting or showing ToolKit. Tasks such as loading or saving settings, loading application programs, and reading and writing parameters can all be accomplished through the automation interface.

Design Mode

ToolKit allows the user to rapidly create multi-page tools and does not require any software development experience.

ToolKit's drag and drop interface allows application experts to build tools without any software coding skills, avoiding the need for knowledge transfer between application experts and software developers.

A ToolKit developer license must be purchased to attain this functionality.



GRAPHICAL COMPONENT SELECTION: In design mode, tool developers can select from a tree-view list of parameters in the control system and drag them onto a page. The type of component used to visualize the value can also be selected. ToolKit only allows compatible visualizations for the type of control parameter. Many pages can be created in the tool using this method.

CUSTOM VISUALIZATIONS: Many types of visualizations can be used in a tool including text boxes, drop down lists, gauges, buttons, charts, etc. There are several properties available on each visualization to customize it to the tool developer's liking such as identifier text, units, colors, etc. These visualizations can also be sized and positioned on a page using the mouse.

DYNAMIC CONTENT: ToolKit provides the ability to dynamically show or hide content to the user based on configuration settings. This reduces confusion for users, as they will only see content that is relevant to their configuration.

WIZARD SEQUENCING: Using page visibility functions and page step buttons, programmers can create step-by-step wizards to assist users with certain routines (start sequences, calibration sequences, testing sequences, etc.).

BUFFERED EDITING: Some visualizations can be used to delay writing parameter value changes to the connected device. These visualizations can be used in cases where you would like to be able to temporarily store changes to parameter values and then write all of the changes at one time to the device.

LOCALIZATION: ToolKit has built-in support for designing a tool with multiple languages. Tool developers can create a custom localization add-in to allow language resources to be created and referenced by the tool.

License Levels

ToolKit has three license levels:

- Basic license is included free of charge in the ToolKit download. Depending on the level of security designed, it allows users the ability to work with existing ToolKit-created tools to configure, calibrate, monitor, and troubleshoot their Woodward-based product.
- Advanced license (part number 8447-5002) includes the following:
    - All features of the basic license
    - Unlimited plots per trend chart and trend on the fly windows
    - Unlimited data log view plots
    - Unlimited calculated plots
    - Export all data logged parameters to a text file even if not charted
- Developer license (part number 8928-5016) includes all features of the advanced license as well as the ability to create and edit custom ToolKit tools.

Specifications

Minimum PC requirements include:

- Microsoft Windows® 11, 10, 8, 7
- Microsoft .NET Framework version 4.7.2
- 1 GHz or faster x86 or x64 CPU
- 1 GB of RAM
- Minimum 1024 by 768 pixel screen
- Appropriate communication hardware (e.g. Serial Port, CAN adapter, Ethernet)
- IXXAT or Kvaser CAN adapter and driver as appropriate

WOODWARD

PO Box 1519, Fort Collins CO, USA 80522-1519
1041 Woodward Way, Fort Collins CO 80524
Tel.: +1 (970) 482-5811 ◆ Fax: +1 (970) 498-3058
www.woodward.com

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