Automation1 HMI Builder
for Windows PCs
MachineApps

Turn Your HMI Dreams Into Reality

Quickly develop custom, effective HMI screens for your precision machine or motion system. The Automation1 MachineApps HMI builder develops and deploys custom HMIs for machines and motion systems controlled by the Automation1 iSMC controller – bringing your brand to your machine or motion system in minutes.

Each controller can have one or several MachineApps, with each customized to a unique process or user. Use the Automation1 Studio MachineApps Workspace to develop each custom MachineApp, then save them on the appropriate Automation1 iSMC controller. Access each controller's MachineApps via the MachineApps Launchpad.

Automation1

MachineApps is a part of the user-friendly Automation1 motion control platform, which includes the following:

- **Development Software**

- **Controls**

- **Motor Drives**

- **Fiber-Optic HyperWire® Communication Bus**

KEY FEATURES:

- Quickly build a **CUSTOM HMI** for any machine or system controlled by the Automation1 iSMC controller

- Use predefined layouts & modules with the **GRAPHICAL DESIGN** tool

- Deploy flexible capabilities to each MachineApp with **CUSTOMIZABLE MODULES**

- Spent more time **FOCUSED ON YOUR PROCESS** by simplifying your HMI developmente

MACHINEAPPS WORKSPACE	
Summary	**Description**
MachineApps Builder	The MachineApps builder is a module for creating a new MachineApp, editing an existing MachineApp and managing exisitng MachineApps. The builder enables MachineApps to be built with the settings and modules specified in the "Design Settings & Modules" section below. This module also has a "Manage" section for managing all MachineApps for the connected controller (when connected) or for an MCD file (when not connected to a controller). From the "Manage" screen you can: * Create a new MachineApp (launches the builder) * Edit an existing MachineApp (launches the builder) * Delete an existing MachineApp * Manage the status of a MachineApp (Active or Inactive) * View the name, layout, modules being used, the version number and last mofified date for each MachineApp
New MachineApp Creator	Module for quickly creating a new MachineApp for configuration, including specifying the primary and secondary module layout. * Primary Module Layouts: A set of predefined arrangements for the placement of primary MachineApps modules * Secondary Module Layouts: Independently select left, right, top and bottom locations for secondary MachineApp modules
How to Order	Order the MachineApps Workspace development tool as part of your Automation1-MDK configuration.

MACHINEAPPS APPLICATION	
Summary	**Description**
Connection Screen	The connection screen presents a list of controllers to which you may connect. The connection screen is the first screen presented when you open the MachineApps application. If the controller you are connecting to has access control enabled, you must enter your username and password to connect to the controller. If Automation1 Studio is configured to connect automatically to a specific controller, the MachineApps application automatically connects to that controller.
MachineApps Launchpad	When connected to a controller, the MachineApps application displays the Launchpad screen for that controller. The Lauchpad screen contains the complete set of active MachineApps for that controller. An active MachineApp can be opened. When opened, it will display the MachineApp as configured in the MachineApps workspace. This includes all settings, modules, modules settings and branding elements of the MachineApp.
How to Order	Order the MachineApps Workspace development tool as part of your Automation1-iSMC configuration.

MACHINEAPP SETTINGS & MODULES

Summary	Description
Setttings	The following settings can be specified for a MachineApp: * Name the MachineApp * The layout * Specify a custom icon * Specify a primary color and primary hover color * Configure the Controller Status Bar * Configure Application Settings
Jog Pad Module	The Jog Pad module provides a customizable user interface for jogging a selected group of axes. Additionally, several jog groups can be configured. For each jog group, you can customize: * The jog group name * Number of joggable axes (from one to four axes) * The jog pad position of each axis — horizontal, vertical and two diagonals * A low speed, high speed and jog distance setting for each axis When using the jog pad module in a MachineApp, based on the configuration, you can control: * Which jog group is displayed * Positive and negative jogging of each displayed axis * Jog speed as low speed or high speed * Jog mode as freerun, distance and distance hold * Whether or not jogging is active
Data Visualizer Module	The Data Visualizer module provides a customizable user interface for collecting and visualizing data. The data visualizer can be configured to: * Collect 1D and/or 2D data streams and display this data in 1D and/or 2D plots * Open and save these data plots * Allow a user to compute a fast Fourier transfrom (FFT) of collected data * Allow a user to change plot options When using the data visualizer module in a MachineApp, based on the configuration you can control: * Data collection items * Zoom level * Dual cursor placement * Panning * Data views including 1D, 2D, combined 1D/2D and FFT
Programming Module	The Programming module provides a customizable user interface for developing and executing real-time application code for machine and motion control. The Programming module can be configured to allow a user to: * Create new files * Edit and build files * Load programs * Run programs * Debug programs When using the Programming module in a MachineApp, based on the configuration you can use or access: * AeroScript syntax highlighting * Intelligent autocomplete in the text editor * Task assignments including assign programs to new tasks * Code snippets * Real-time build error checking * Program editing and building * Loading programs on the controller * Running programs on the controller * Debugging tools such as Run, Stop, Step Over, Step Into, Step Out and breakpoint.

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MACHINEAPP SETTINGS & MODULES	
Summary	**Description**
Task Status Module	The Task Status module provides a user interface for seeing the status of the controller tasks.
Variables & I/O Module	The Variables & I/O module shows the current value of all global variables and drive I/O on the controller and also on the drive electronics connected to the controller. It allows for adding any global variable or drive I/O item to a list of "favorites," which can help in debugging and optimizing programs.
Axis Dashboard Module	The Axis Dashboard module provides a customizable user interface for controlling axes of motion and seeing status and data items associated axes of motion. The Axis Dashboard can be configured to allow the user axes to: * Enable and disable axes * Home axes * Jog axes * Configure two data signals When using the Axis Dashboard module in a MachineApp, based on the configuration you can: * Enable/Disable axes * Home axes * Jog axes * View status items and data
Customizable Buttons Module	The Customizable Buttons module provides a customizable user interface for custom software pushbuttons. These pushbuttons enable custom functionality to be accessed from any MachineApp. They are organized into pages so that they can be arranged into sensible groups. Each page can hold a maximum of 12 buttons that will fill one or two rows/columns depending on available space for the module. Each page can be named. Customizable buttons are enabled by the power of the AeroScript programming language, including AeroScript library files, Program Automation and Application Message functions. For each button, you can define a name and also define one or several states for the button, including a default state and states defined by a conditional logic editor. For each unique stage of each button, you can define: * The display text * The color * The AeroScript function to execute on a specified task When using the Customizable Buttons module in a MachineApp, based on the configuration, you can: * Access the specified functionality associated with each programmed pushbutton * Page through multiple pages of pushbuttons, when they are available

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