AEROTECH AUTOMATION1

Custom Application Development

.NET, C, Python & LabVIEW APIs

Powerful Programming Capabilities

Automation1's .NET, C and Python APIs and LabVIEW instrument drivers provide powerful programming capabilities for machine builders and system integrators who develop their own custom applications. With Automation1's .NET API, you'll have access to the same capabilities used by our software development team. The C and Python APIs include many common features, so a system configured using Automation1 Studio can be fully controlled using each API. Even more functionality comes from our most fully featured LabVIEW instrument driver.

The Automation1 controller enables different approaches to incorporating vision systems, robotics, laser control, sensors and more. Automation1 APIs sit side by side with other APIs to build complex control architectures and custom user interfaces. The Automation1 controller includes the AeroScript program language, which runs on a deterministic real-time operating system.

Automation1

The Automation1 .NET, C and Python APIs plus LabVIEW device drivers are 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:

- **CONNECT TO & CONTROL** the Automation1 controller from .NET, C, Python or LabVIEW

- Deploy applications to **WINDOWS OR LINUX** operating systems

- Execute commands & collect data on the controller

- **RETRIEVE STATUS** from the controller

- Change controller variables

- Compile, run & control AeroScript programs

- **CONFIGURE** your system & **COMPILE** programs using the .NET API

APIs				
API Functionality	**.NET**	**C**	**Python**	**LabVIEW**
Connect to a local or remote controller	✓	✓	✓	✓
Start, stop and reset the controller	✓	✓	✓	✓
Execute commands	✓	✓	✓	✓
Retrieve one-off status	✓	✓	✓	✓
Perform real-time, deterministic data collection	✓	✓	✓	✓
Change controller variables	✓	✓	✓	✓
Compile, run, and control AeroScript programs	✓	✓	✓	✓
Compile AeroScript in-memory	✓	-	-	-
Change active controller parameters	✓	✓	✓	✓
Configure your system	✓	-	-	-
Run under 32-bit or 64-bit Windows 10	✓	✓	✓	✓
Run under 64-bit Linux	✓	✓	✓	-

CROSS PLATFORM SUPPORT

The .NET API is built on .NET Core, making the applications deployable on both Windows and Linux operating systems. The C and Python APIs also enjoy cross-platform support. When using Automation1 APIs with drive-based controllers, you can completely remove the Windows operating system from your controls architecture.

MOTION PLUS MORE

From programming simple motion to coordinating and synchronizing the motion of multiple axes in your machine, the iSMC provides the flexibility and power you need to tackle today's automation challenges.

CONTINUOUS IMPROVEMENT

The APIs and device drivers improve as the Automation1 platform improves. As we engineer new controller features and capabilities, they are made accessible via the APIs and device drivers.

APIs ORDERING INFORMATION

.NET, C, and Python APIs

The Automation1 .NET, C, and Python APIs are supplied at no cost with the Automation1 Motion Development Kit (MDK).

LabVIEW Instrument Driver

The Automation1 LabVIEW instrument driver is available through the -LV1 ordering option, which is a part of the configuration of the Automation1 Motion Development Kit (MDK).

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