

Kinetix® 6500 EtherNet/IP™ Servo Drive

Bringing Together the Powerful Performance of Integrated Motion and EtherNet/IP

Kinetix 6500 Benefits

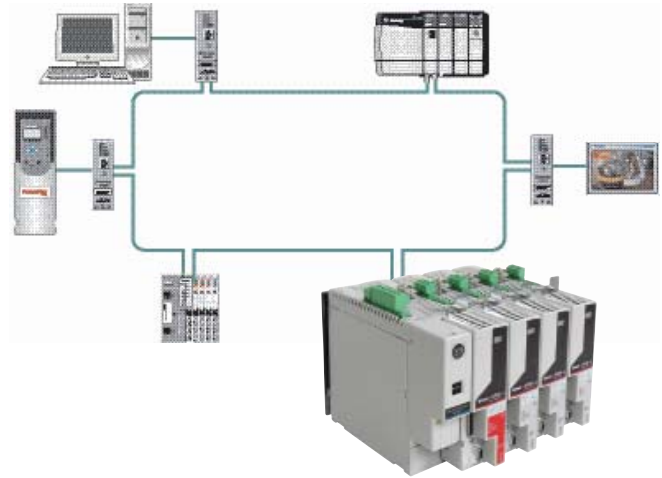
Integrated Motion on EtherNet/IP™

- Enjoy all the benefits and simplicity of Rockwell Automation® Integrated Motion on EtherNet/IP. Get complete machine support on a single, flexible EtherNet/IP network architecture
- Rockwell Automation Integrated Motion on EtherNet/IP uses CIP Motion™ and CIP Sync™ technology from ODVA, all built on the Common Industrial Protocol (CIP). Global standards help ensure consistency and interoperability
- EtherNet/IP uses standard, unmodified Ethernet, and allows you to effectively manage real-time control and information flow for improved plant-wide optimization, more informed decision-making and better business performance
- Time synchronization of drives, I/O and other EtherNet/IP compliant devices provides the performance to help solve the most challenging applications
- A single software package, RSLogix 5000, provides complete system support including motion configuration, programming, commissioning, diagnostics and drive maintenance
- Easy-to-use catalog number-based automatic configuration of Kinetix 6500 drive/motor/actuator
- Use of standard Ethernet allows you to connect to a large number of business, commercial and industrial devices; there's no need for proprietary hardware or software

Embedded Safety

Safety integrated directly into the servo drive helps to:

- Lower Total System Cost – fewer components and wire terminations
- Enhance operator safety
- Improve machine availability through reduced downtime
- Simplify installation and commissioning
- Capture excellent machine information and diagnostics



You knew there must be a more efficient way to integrate motion control into your machine – and now it's here. By combining high performance Integrated Motion with an open, widely adopted EtherNet/IP network, the Kinetix 6500 can help you achieve a new level of machine flexibility and functionality. Add in safety options and an easily adapted modular design, and you have a servo drive that can make a difference in your machine – both now and in the future.

When you move to Integrated Motion on EtherNet/IP, you benefit from complete machine support on a single, flexible network, eliminating the need for a dedicated motion network and the associated control module.

The Kinetix 6500 also offers safety options which not only help protect personnel but can actually improve productivity by increasing machine uptime. Both Safe Speed Monitoring and Safe Torque-Off are designed to help reduce accidents as well as get a line up in production faster than a full restart.

In addition, the innovative modular design of the Kinetix 6500 gives you greater design adaptability by providing a platform for future machine enhancements such as a new control type or increased power ranges. The interchangeable control modules on the Kinetix 6500 allow you to easily make design modifications and react quickly to the constantly changing world of automation.

With the Kinetix 6500, both machine builders and end users can leverage the proven performance of the established Kinetix 6000 family, while gaining the benefits of a single plant-wide network.

LISTEN.
THINK.
SOLVE.®

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The Kinetix 6500 builds on the proven performance of the Kinetix 6000 family of servo drives.

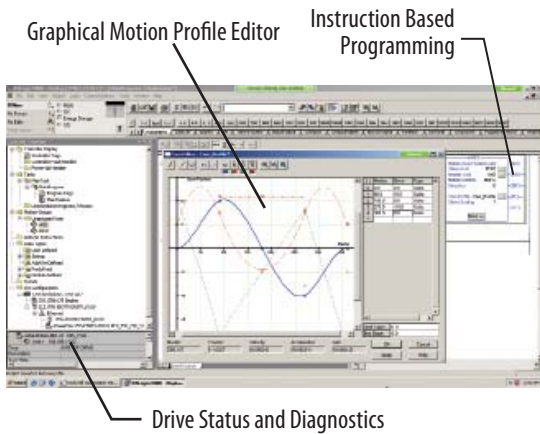
Kinetix 6500 Benefits

For nearly a decade, our customers have been enjoying the time and cost savings provided by Rockwell Automation Integrated Motion. Servo drives in the Kinetix 6000 family have earned a place on factory floors around the globe by providing a precise, user-friendly motion control solution that simplifies both machine design and use. And now, EtherNet/IP provides an innovative new solution that builds on this established technology. Integrated Motion on EtherNet/IP is now available using the Kinetix 6500 Servo Drive and PowerFlex® 755 AC Drive – and the benefits are significant enough to cause you to rethink your current network strategy.

Unlike other Ethernet-based solutions, EtherNet/IP does not require use of non-standard infrastructure components and can be integrated into your plant-wide Ethernet network without the use of gateways or routers. The use of standard Ethernet allows you to protect your investment by using established technology that is being advanced throughout global industries.

EtherNet/IP is Established

- Real-time control since 2001
- More than 2 million nodes installed
- More than 250 vendors with support for more than 850 devices
- Used in more than 80 countries



RSLogix 5000 software provides complete motion support for the Kinetix 6500 servo drive and PowerFlex 755 VFD drive for standardized operation and consistent behavior of the drives. The common user experience simplifies drive use.

Kinetix 6500 System

Use these high performance products when putting together an Integrated Motion system using the Kinetix 6500:

RSLogix 5000 Software, Version 18 or higher – Provides complete configuration, programming, commissioning, diagnostics and drive maintenance support

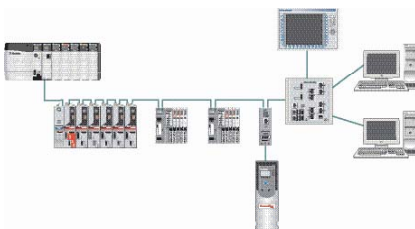
ControlLogix® L6X or L7X Controller with a 1756-ENxT EtherNet/IP module – Supports as many as 100 axes per controller

Managed or unmanaged Stratix switches – Based on your application and topology

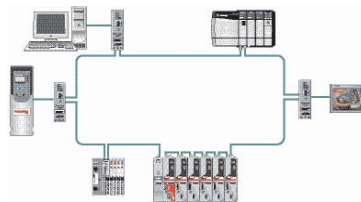
Any of several hundred industrial devices using EtherNet/IP – Including I/O, robots, smart actuators, torque tools, etc.

The Right Topology Option for Your Machine

- Get machine flexibility with support for any Ethernet topology
- Dual Ethernet port helps enable flexibility for network topology options
- Mix drives and any other EtherNet/IP device on a common subnet



A hybrid topology is cost-effective for a broad range of devices with varying connectivity.



Device Level Ring is an ODVA standard and requires no additional hardware to implement. This single fault tolerant network provides resiliency.



Linear Ethernet segments greatly extend the length of the application. There's no need to run cables from each device back to a centralized switch.

Kinetix 6500



Control Module Benefits

- Options for Safe Torque-Off or Safe Speed Monitoring. Select the level of safety your application requires
- Embedded switch technology eliminates the need for external switches for linear and Device Level Ring topologies.
- Modular design provides system flexibility
- Scrolling diagnostics display provides complete status information

Dual Ethernet port enables a variety of topologies.

Interchangeable control modules allow you to easily move an axis to new functionality.

Modular Design Benefits

- Interchangeable control modules reduce system level migration costs
- Modular design reduces spare parts inventory
- Diagnose and correct a problem faster, without the need to change out the entire drive
- Easily transition to future technology advancements as they become available in new modules



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Kinetix 6500 Safety Benefits

Safe Speed (S1)

- When necessary, monitor the speed of your application. If in excess of the safe speed you have defined, initiate Safe Stop
- SIL CL3, Cat. 4, PL e safety performance
- Configuration over web server and Internet Explorer
- Offers complete flexibility for input and output device selection
- Provides support for multiple built-in safety functions for the Kinetix 6500 servo drives, including:
 - Safe Stop
 - Zero speed monitoring
 - Safe limited speed
 - Safe maximum speed
 - Safe direction monitoring
 - Door monitoring and control
 - Enabling switch control
 - Safe Max Accel monitoring

The Kinetix 6500 with the 2094-EN02D-M01-S1 control option, provides a TUV certified safety solution that meets IEC 61508 SIL 3, and ISO 13849 PL.

Safe Torque Off (S0)

- Drive output is safely disabled to eliminate motor torque without removing power from the entire machine
- SIL CL3, Cat. 4, PL e safety performance
- Provides substantial wiring simplification and excellent safety performance
- Low Total Cost of Ownership (TCO) compared with competitive alternatives



The Kinetix 6500 requires Shielded Twisted Pair (STP) cables. Rockwell Automation recommends Allen-Bradley® shielded Ethernet cables for use with this drive.

- Available in lengths of 0.3 to 78 meters. Part Number: 1585J-M8CBJM-
- Use 1585J-M8CBJM-0M3 and 1585J-M8CBJM-0M4 for drive to drive connectivity



A wide variety of rotary and linear motors and actuators are available to meet the demands of most applications.

Compatible Motors and Actuators

Rotary Motors:

- MP-Series Low Inertia
- MP-Series Medium Inertia
- MP-Series Food Grade
- MP-Series Stainless Steel
- RDD-Series Direct Drive

Linear Motors:

- LDC-Series Iron Core

Linear Actuators:

- MP-Series Linear Stages
- MP-Series Multi-axis Stages
- MP-Series Electric Cylinders

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