ControlLogix Integrated Motion

The Logix architecture supports motion control components that work in a wide variety of machine architectures:

- Integrated Motion on the EtherNet/IP network supports a connection to Ethernet drives.
- The Kinetix integrated-motion solution uses a SERCOS or EtherNet/IP interface to perform multi-axis, synchronized motion.
- Logix integrated motion supports the analog family of servo modules for controlling drives/actuators.
- Networked motion provides connection via the DeviceNet network to one axis drive to perform point-to-point indexing.

For detailed specifications on motion interface modules, see the 1756 ControlLogix Integrated Motion Specifications Technical Data, publication 1756-TD004.

For more information, see these publications:

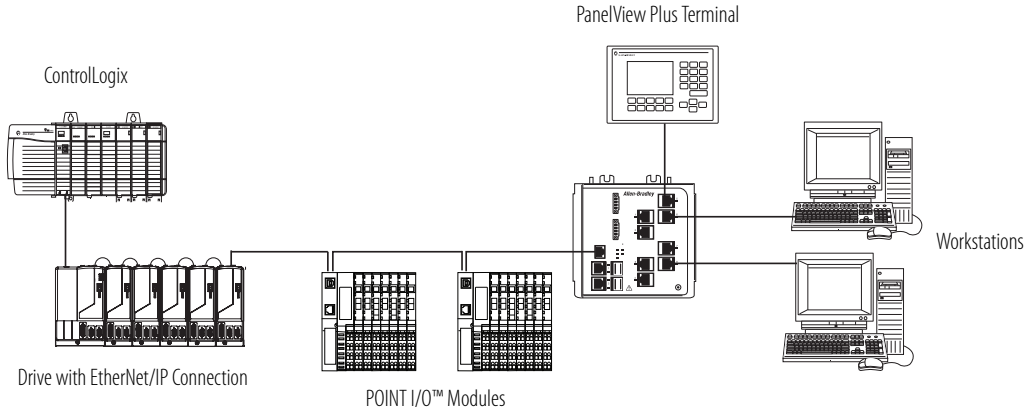
- Motion Analyzer CD to size your motion application and to make final component selection

  Download the software from http://www.ab.com/motion/software/analyzer.html

- Kinetix Motion Control Selection Guide, publication GMC-SG001, to verify drive, motor, and accessory specifications

Integrated Motion on an EtherNet/IP Network

Product	Consideration
Drive that supports EtherNet/IP connections	Unlimited velocity, torque, and VHz configured drives: • Kinetix 6500 drives • Kinetix 5500 drives • Kinetix 350 drives • PowerFlex 755 drives
ControlLogix controller	As many as 100 drives per controller
ControlLogix EtherNet/IP communication module	• 1…8 position loop axes configured with the 1756-EN2T or 1756-EN2TR modules • 1…128 position loop axes configured with the 1756-EN3TR module



ControlLogix Communication Modules

Separate communication modules are available for different networks. Install multiple communication modules into the ControlLogix backplane to bridge or route control and information data between different networks. You can route a message through a maximum of four chassis (eight communication hops). You do not need a ControlLogix controller in the chassis.

Application	Network	Page
• Plant management (material handling) • Configuration, data collection, and control on one high-speed network • Time-critical applications with no established schedule • Inclusion of commercial technologies (such as video over IP) • Internet/Intranet connection • High-speed transfer of time-critical data between controllers and I/O devices • Integrated Motion on the EtherNet/IP network and safety • Redundant controller systems	EtherNet/IP	19
• High-speed transfer of time-critical data between controllers and I/O devices • Deterministic and repeatable data delivery • Media redundancy • Intrinsic safety • Redundant controller systems	ControlNet	21
• Connections of low-level devices directly to plant floor controllers, without interfacing them through I/O modules • Data sent as needed • More diagnostics for improved data collection and fault detection • Less wiring and reduced start-up time than a traditional, hard-wired system	DeviceNet	22
• Plant-wide and cell-level data sharing with program maintenance • Data sent regularly • Transfer of information between controllers	Data Highway Plus	23
• Connections between controllers and I/O adapters • Data sent regularly • Distributed control so that each controller has its own I/O and communicates with a supervisory controller	Remote I/O	23
• Fieldbus transmitters and actuators • Closed-loop control • Process automation	Foundation Fieldbus	25

For detailed specifications, see the 1756 ControlLogix Network Specifications Technical Data, publication 1756-TD003.

EtherNet/IP Communication Modules

EtherNet/IP (Ethernet Industrial Protocol) is an open industrial-networking standard that supports real time I/O messaging and message exchange. The EtherNet/IP network uses off-the-shelf Ethernet communication chips and physical media.

Cat. No.	Description	Media	Communication Rate	Integrated Motion on the EtherNet/IP network Axes, max	TCP/IP Connections	Logix Connections
1756-EN2F	EtherNet/IP bridge, fiber	Fiber	100 Mbps	8	128	256
1756-EN2T	EtherNet/IP bridge, copper	Copper	10/100 Mbps	8	128	256
1756-EN2TR	EtherNet/IP bridge, embedded switch, copper	Dual copper	10/100 Mbps	8	128	256
1756-EN3TR	EtherNet/IP bridge, embedded switch, copper	Dual copper	10/100 Mbps	128	128	256
1756-EN2TXT	ControlLogix-XT, extended temperature EtherNet/IP bridge, copper for extreme environments	Copper	10/100 Mbps	8	128	256

1756 System Software

If you have	You need	Order
1756 ControlLogix controller 1756 SERCOS or analog motion module	Studio 5000 Logix Designer application	9324 series [1]
1756-CN2, 1756-CN2R 1756-CN2RXT 1756-CNB, 1756-CNBR ControlNet communication module	RSNetWorx™ for ControlNet software	9324 series[1] (RSNetWorx option) or 9357-CNETL3 (RSNetWorx for ControlNet)
1756-DNB DeviceNet communication module	RSNetWorx for DeviceNet software	9324 series[1] (RSNetWorx option) or 9357-DNETL3 (RSNetWorx for DeviceNet)
1756-EN2F, 1756-EN2T 1756-EN2TX 1756-EN2TR, 1756-EN3TR 1756-ENBT, 1756-EWEB EtherNet/IP communication module (set the IP address)	RSLinx software or BOOTP/DHCP server utility to set IP addresses Optional RSNetWorx for EtherNet/IP software	9324 series[1] Optional 9357-ENETL3 (RSNetWorx for EtherNet/IP)
1756-DHRIO, 1756-DHRIOXT communication module 1756-DH485 communication module	RSLinx software	9324 series[1]
1757-FFLD2, 1757-FFLD4 1757-FFLDC2, 1757-FFLDC4 Foundation Fieldbus linking device	RSFieldbus configuration software	9308 series
Communication card in a workstation	RSLinx software	9324 series[1]

(1) All 9324 packages include RSLinx Classic Light.