



Select a Controller

This quick reference assists in the selection of a controller for your application.

Communication and I/O Considerations

Controller	Built-in communication ports	Networks through additional modules	Local I/O	Total I/O (local and distributed)
CompactLogix: <ul style="list-style-type: none"> • 1769-L31 • 1769-L32C, 1769-L32E • 1769-L35CR, 1769-L35E 	<ul style="list-style-type: none"> • RS-232 (1769-L31 has 2 ports) • 1 EtherNet/IP (1769-L32E, -L35E) • 1 ControlNet (1769-L32C, -L35CR) • DH-485 (via RS-232) • Modbus via ladder routine (via RS-232) 	<ul style="list-style-type: none"> • DeviceNet 	960 digital	9000 digital <i>or</i> 256 analog additional I/O capacity with DeviceNet I/O
ControlLogix: <ul style="list-style-type: none"> • 1756-L55 • 1756-L61, 1756-L62, 1756-L63 • 1756-L60M03SE 	<ul style="list-style-type: none"> • RS-232 • DH-485 (via RS-232) • Modbus via ladder routine (via RS-232) 	<ul style="list-style-type: none"> • DeviceNet • ControlNet • EtherNet/IP • DH+ • Universal Remote I/O 	512	128,000 digital <i>or</i> 4,000 analog additional I/O capacity with DeviceNet I/O
FlexLogix: <ul style="list-style-type: none"> • 1794-L34 	<ul style="list-style-type: none"> • RS-232 • DH-485 (via RS-232) • Modbus via ladder routine (via RS-232) 	<ul style="list-style-type: none"> • DeviceNet • ControlNet • EtherNet/IP 	512 digital 128 analog	distributed I/O via DeviceNet, ControlNet, and EtherNet/IP
MicroLogix 1000 <ul style="list-style-type: none"> • 1761-Lx 	<ul style="list-style-type: none"> • RS-232 • DH-485 (via RS-232) 	<ul style="list-style-type: none"> • DeviceNet • EtherNet/IP 	32	local only
MicroLogix 1200 <ul style="list-style-type: none"> • 1762-Lx, 1762-LxR 	<ul style="list-style-type: none"> • RS-232 (1762-LxR has 2 ports) • DH-485 (via RS-232) • Modbus RTU master/slave (via RS-232) 	Each interface uses an RS-232 port.	136	local only
MicroLogix 1500 <ul style="list-style-type: none"> • 1764-LRP, 1764-LSP 	<ul style="list-style-type: none"> • RS-232 (1762-LRP has 2 ports) • DH-485 (via RS-232) • Modbus RTU master/slave (via RS-232) 		540	additional I/O capacity with DeviceNet I/O
SLC 5/03 <ul style="list-style-type: none"> • 1747-L53x 	<ul style="list-style-type: none"> • RS-232 • 1 DH-485 (1747-L53x) • 1 DH+ (1747-L54x) • 1 EtherNet/IP (1747-L55x) • DH-485 (via RS-232 port) 	<ul style="list-style-type: none"> • DeviceNet • ControlNet • EtherNet/IP (via RS-232 port and 1761-NET-ENI) • Universal Remote I/O 	960	4,096 additional I/O capacity with DeviceNet, ControlNet, and Universal Remote I/O
SLC 5/04 <ul style="list-style-type: none"> • 1747-L54x 				
SLC 5/05 <ul style="list-style-type: none"> • 1747-L55x 				
EtherNet/IP PLC-5 <ul style="list-style-type: none"> • 1785-LxxE 	<ul style="list-style-type: none"> • RS-232 • 1 EtherNet/IP • up to 2 DH+/Universal Remote I/O 	<ul style="list-style-type: none"> • DeviceNet • EtherNet/IP 	512	3,072 additional I/O capacity with DeviceNet, ControlNet and Universal Remote I/O
ControlNet PLC-5 <ul style="list-style-type: none"> • 1785-LxxC15 	<ul style="list-style-type: none"> • RS-232 • 1 ControlNet • up to 2 DH+/Universal Remote I/O 			
DH+ PLC-5 <ul style="list-style-type: none"> • 1785-LxxB 	<ul style="list-style-type: none"> • RS-232 • up to 4 DH+/Universal Remote I/O 			

Additional Considerations

Controller	Programming Language				Integrated Motion Support	User Memory ⁽¹⁾		Nonvolatile User Memory	
	Ladder	Function Block	SFC	Structured Text					
CompactLogix	✓	✓	✓	✓		1769-L31 1769-L32C, -L32E 1769-L35CR, -L35E	512 Kbytes 750 Kbytes 1.5 Mbytes	CompactFlash	
ControlLogix	✓	✓	✓	✓	as many as 32 axis interfaces: • SERCOS • analog • hydraulic	1756-L55M12 1756-L55M13 1756-L55M15 1756-L55M16 1756-L55M22 1756-L55M23 1756-L55M24 1756-L61 1756-L62 1756-L63	750 Kbytes 1.5 Mbytes 3.5 Mbytes 7.5 Mbytes 750 Kbytes 1.5 Mbytes 3.5 Mbytes 2 Mbytes 4 Mbytes 8 Mbytes	1756-L55M12 1756-L55M13 1756-L55M15 1756-L55M16 1756-L55M22 1756-L55M23 1756-L55M24 1756-L61 1756-L62 1756-L63	no no no no yes yes yes CompactFlash CompactFlash CompactFlash
FlexLogix	✓	✓	✓	✓		1794-L34	512 Kbytes	yes	
MicroLogix 1000	✓					1 K word		built-in EEPROM	
MicroLogix 1200	✓				simple, uncoordinated motion to stepper motors or servos through these high-speed outputs: • pulse train (PTO) • pulse width modulated (PWM)	6 K words		<ul style="list-style-type: none"> • built-in FLASH • backup memory module 	
MicroLogix 1500	✓					1764-LSP 1764-LRP	7 K words 14 K words		<ul style="list-style-type: none"> • battery-backed RAM • backup memory module
SLC 5/03 SLC 5/04 SLC 5/05	✓				requires a separate motion controller	8 K words 16 K words 32 K words 64 K words		backup memory module	
PLC-5	✓		✓	✓	requires a separate motion controller	8 K words 16 K words 32 K words 48 K words 64 K words 100 K words		EEPROM module	

⁽¹⁾ 1 PLC/SLC word = 10 Logix5000 bytes

Logix5000 Controllers Connections Considerations

A Logix5000 controller uses a connection to establish a communication link between two devices. Connections can be:

- controller to local I/O modules or local communication modules
- controller to remote I/O (direct or rack-optimized) or remote communication modules
- produced and consumed tags
- messages
- access to RSLogix 5000 programming software
- RSLinx software access for HMI or other software applications

The Logix5000 controllers support:

Controller:	Number of Connections:
ControlLogix	250
CompactLogix FlexLogix and DriveLogix	100

The limit of connections may ultimately reside in the communication module for the connection.

For this controller:	This communication device:	Supports this number of connections:
ControlLogix	1756-CNB	64 connections depending on RPI, recommend using only 48 connections (any combination of scheduled and message connections)
	1756-ENBT	128 connections (all connections are message connections)
CompactLogix	1769-L32C, -L35CR	32 connections depending on RPI, as many as 22 connections can be scheduled The remaining connections (or all 32, if you have no scheduled connections) can be used for message connections
	1769-L32E, -L35E	32 connections
FlexLogix	1788-CNx, -CNxR	32 connections depending on RPI, as many as 22 connections can be scheduled The remaining connections (or all 32, if you have no scheduled connections) can be used for message connections
	1788-ENBT	32 connections (all 32 connections are message connections)

AB Parts

References

IMPORTANT

After you use this quick reference to select a controller, use the product literature for that controller to make sure it meets *all* the requirements of your application.

For additional information about a specific controller, see the following publication:

For this controller:	See this publication:
MicroLogix	MicroLogix Programmable Controllers Family Selection Guide, publication 1761-SG001
CompactLogix	CompactLogix Selection Guide, 1769-SG001
ControlLogix	ControlLogix Selection Guide, publication 1756-SG001
FlexLogix	FlexLogix Selection Guide, publication 1794-SG001
SLC 500	SLC 500 Systems Selection Guide, publication 1747-SG001
PLC-5	PLC-5 Programmable Controllers System Selection Guide, publication 1785-SG001

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