

Logix Controllers Comparison

Characteristic	1756 ControlLogix® 1756-L71, 1756-L72, 1756-L73, 1756-L73XT, 1756-L74, 1756-L75 1756 GuardLogix® 1756-L71S, 1756-L72S, 1756-L73S	CompactLogix™ 1769-L30ER, 1769-L30ER-NSE, 1769-L30ERM, 1769-L33ER, 1769-L33ERM, 1769-L36ERM	CompactLogix 1769-L24ER-BB1B, 1769-L24ER-QBFC1B, 1769-L27ERM-QBFC1B	CompactLogix 1769-L16ER-BB1B, 1769-L18ER-BB1B, 1769-L18ERM-BB1B
Controller tasks:	32; 100 programs/task	32; 100 programs/task	32; 100 programs/task	32; 100 programs/task
Event tasks	Consumed tag, EVENT instruction triggers, Module Input Data changes, and motion events	Consumed tag, EVENT instruction triggers and motion events	Consumed tag, EVENT instruction triggers and motion events	Consumed tag, EVENT instruction triggers and motion events
User memory	1756-L71: 2 MB 1756-L72: 4 MB 1756-L73: 8 MB 1756-L73XT: 8 MB 1756-L74: 16 MB 1756-L75: 32 MB 1756-L71S: 2 MB + 1 MB safety 1756-L72S: 4 MB + 2 MB safety 1756-L73S: 8 MB + 4 MB safety	1769-L30ER, 1769-L30ER-NSE, 1769-L30ERM: 1 MB 1769-L33ER, 1769-L33ERM: 2 MB 1769-L36ERM: 3 MB	1769-L24ER: 750 KB 1769-L27ERM: 1 MB	1769-L16ER: 384 KB 1769-L18ER, 1769-L18ERM: 512 KB
Memory card	Secure Digital	Secure Digital	Secure Digital	Secure Digital
Built-in ports	1 port USB Client	- Dual-port EtherNet/IP 1 port USB Client	- Dual-port EtherNet/IP 1 port USB Client	- Dual-port EtherNet/IP 1 port USB Client
Communication options	- EtherNet/IP - ControlNet - DeviceNet - Data Highway Plus - Remote I/O - SynchLink - USB Client	- EtherNet/IP - Embedded switch - Single IP address - DeviceNet - USB Client	- EtherNet/IP - Embedded switch - Single IP address - DeviceNet - USB Client	- EtherNet/IP - Embedded switch - Single IP address - USB Client
Controller connections	500	256	256	256
Network connections	Per network module: 40 ControlNet (CNB) 100 ControlNet (CN2/A) 128 ControlNet (CN2/B) 128 EtherNet/IP; 64 TCP (ENBT) 256 EtherNet/IP; 128 TCP (EN2x) 256 Ethernet (ENxT(R))	1769-L30ER, 1769-L30ER-NSE, 1769-L30ERM: 16 EtherNet/IP; 120 TCP 1769-L33ER, 1769-L33ERM: 32 EtherNet/IP; 120 TCP 1769-L36ERM: 48 EtherNet/IP; 120 TCP	1769-L24ER-QB1B: 8 EtherNet/IP; 120 TCP 1769-L24ER-QBFC1B: 8 EtherNet/IP; 120 TCP 1769-L27ERM-QBFC1B: 16 EtherNet/IP; 120 TCP	1769-L16ER-BB1B: 4 EtherNet/IP; 120 TCP 1769-L18ER-BB1B: 8 EtherNet/IP; 120 TCP 1769-L18ERM-BB1B: 8 EtherNet/IP; 120 TCP
Controller redundancy	Full support	Backup via DeviceNet	Backup via DeviceNet	None
Simple motion	- Stepper - Servo via DeviceNet - Analog or networked AC drive	- Servo via DeviceNet - Analog or Networked AC drive	- Servo via DeviceNet - Analog or Networked AC drive	Analog or Networked AC drive
Integrated motion	- EtherNet/IP - SERCOS interface - Analog options: - Encoder input - LDT input - SSI input	EtherNet/IP: 1769-L30ERM, 1769-L33ERM, 1769-L36ERM	EtherNet/IP: 1769-L27-ERM-QBFC1B	EtherNet/IP: 1769-L18ERM-BB1B
Programming languages	- Relay ladder - Structured text - Function block - Sequential function chart - Safety task: relay ladder, safety application instructions	- Relay ladder - Structured text - Function block - Sequential function chart	- Relay ladder - Structured text - Function block - Sequential function chart	- Relay ladder - Structured text - Function block - Sequential function chart

ControlLogix Controllers

The ControlLogix controller provides a scalable controller solution capable of addressing a large number of I/O points.

The controller can be placed into any slot of a ControlLogix chassis and multiple controllers can be installed in the same chassis. Multiple controllers in the same chassis communicate with each other over the backplane (just as controllers can communicate over networks) but operate independently.

ControlLogix controllers can monitor and control I/O across the ControlLogix backplane, and over I/O links. ControlLogix controllers can communicate over EtherNet/IP, ControlNet, DeviceNet, DH+, Remote I/O, and RS-232-C (DF1/DH-485 protocol) networks and many third-party process and device networks. To provide communication for a ControlLogix controller, install the appropriate communication interface module into the chassis.

Cat. No.	Description	User Memory
1756-L71	ControlLogix controller, 1 built-in USB port ⁽¹⁾	2 MB
1756-L72		4 MB
1756-L73		8 MB
1756-L74		16 MB
1756-L75		32 MB
1756-L73XT	ControlLogix-XT controller, extreme environment	8 MB
1756-L71S	GuardLogix safety controllers	2 MB standard 1 MB safety
1756-L72S		4 MB standard 2 MB safety
1756-L73S		8 MB standard 4 MB safety
1756-L7SP	GuardLogix safety partner (one is required for each GuardLogix L7 controller)	—

(1) The USB port is intended only for temporary local programming purposes and not intended for permanent connection. Do not use the USB port in hazardous locations.

For detailed specifications, see the 1756 ControlLogix Controllers Specifications Technical Data, publication [1756-TD001](#).

Standard ControlLogix Controllers

The ControlLogix controller is part of the Logix5000 family of controllers. A ControlLogix system includes the following:

- The ControlLogix controller, available in different combinations of user memory
- Studio 5000 environment
- 1756 ControlLogix I/O modules that reside in a 1756 chassis
- Separate communication modules for network communication



Feature	1756-L71, 1756-L72, 1756-L73, 1756-L74, 1756-L75
Controller tasks	• 32 tasks • 100 programs/task • Event tasks: all event triggers
Built-in communication ports	1 port USB Client
Communication options	• EtherNet/IP • ControlNet • DeviceNet • Data Highway Plus • Remote I/O • SynchLink • Third-party process and device networks
Built-in port	USB Client
Controller connections supported, max	500
Network connections, per network module	• 256 EtherNet/IP; 128 TCP (1756-EN2x, 1756-EN3x) • 128 EtherNet/IP; 64 TCP (1756-ENBT) • 128 ControlNet (1756-CN2/B, 1756-CN2R/B) • 64 DeviceNet (1756-DNB)
Controller redundancy	Full support
Integrated motion	• EtherNet/IP connection • SERCOS interface • Analog options (encoder input, LDT input, SSI input)
Programming languages	• Relay ladder • Structured text • Function block • Sequential function chart (SFC)