Table 5 - Technical Specifications - 1756-L6*x* ControlLogix Controllers

Attribute	1756-L61	1756-L62	1756-L63	1756-L64	1756-L65
User memory	2 MB	4 MB	8 MB	16 MB	32 MB
I/O memory	478 KB				
Optional nonvolatile memory storage	128 MB (1784-CF128)				
Digital I/O, max	128,000				
Analog I/O, max	4000				
Total I/O, max	128,000				
Replacement battery[1]	Series A: 1756-BA1, 1756-BATM, 1756-BATA Series B: 1756-BA2			1756-BA2 (0.50 g Lithium)	
Current draw @ 5.1V DC	1200 mA				
Current draw @ 24V DC	14 mA				
Power dissipation	3.5 W				
Thermal dissipation	11.9 BTU/hr				
Isolation voltage	30V (continuous), basic insulation type, RS-232 to system Type tested at 720V DC for 60 s				
Serial cables	1756-CP3 or 1747-CP3, right angle connector to controller, straight to serial port, 3 m (9.84 ft)				
Weight, approx	Series A: 0.32 kg, (0.71 lb) Series B: 0.35 kg, (0.78 lb)				
Slot width	1				
Module location	Chassis-based, any slot				
Chassis	1756-A4, 1756-A7, 1756-A10, 1756-A13, 1756-A17				
Power supply, standard	1756-PA72, 1756-PA75, 1756-PB72, 1756-PB75				
Power supply, redundant	1756-PA75R, 1756-PB75R, 1756-PSCA2				
Wire category[2]	2 - on RS-232 port				
North American temperature code	T4A				
Enclosure type rating	None (open-style)				

(1) For Australian Mining certification applications, only a series A controller and a 1756-BA1 battery can be used. For more information, contact your local distributor or sales office.

(2) Use this conductor category information for planning conductor routing as described in the system level installation manual. See the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

1756-L63XT ControlLogix Controller Specifications

Table 11 - Technical Specifications - 1756-L63XT Controller

Attribute	1756-L63XT
User memory	8 MB
I/O memory	478 KB
Optional nonvolatile memory storage	128 MB (1784-CF128)
Digital I/O, max	128,000
Analog I/O, max	4000
Total I/O, max	128,000
Replacement battery	1756-BA2
Current draw @ 5.1V DC	1200 mA
Current draw @ 24V DC	14 mA
Power dissipation	3.5 W
Thermal dissipation	11.9 BTU/hr
Isolation voltage	30V (continuous), basic insulation type, RS-232 port to system Type tested at 720V DC for 60 s
Serial cables	1756-CP3 or 1747-CP3, right angle connector to controller, straight to serial port, 3 m (9.84 ft)
Weight, approx	0.35 kg (0.78 lb)
Slot width	1
Module location	Chassis-based, any slot
Chassis	1756-A4LXT, 1756-A5XT, 1756-A7LXT, 1756-A7XT
Power supply, standard	1756-PBXT, 1756-PAXT
Power supply, redundant	None
Wire category[1]	2 - on RS-232 port
North American temperature code	T4A
IEC temperature code	T4
Enclosure type rating	None (open-style)

(1)   Use this conductor category information for planning conductor routing as described in the system level installation manual. See the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

1756-L6xS GuardLogix Controllers Specifications

Table 18 - Technical Specifications - 1756-L6xS GuardLogix Controllers

Attribute	1756-L61S	1756-L62S	1756-L63S	1756-LSP
User memory	2 MB	4 MB	8 MB	—
Safety memory	1 MB	1 MB	3.75 MB	Same as corresponding primary controller
I/O memory	478 KB			—
Optional nonvolatile memory storage	128 MB (1784-CF128)[2] 1 GB (1784-SD1, ships with every controller) 2 GB (1784-SD2)			—
Digital I/O, max	128,000			—
Analog I/O, max	4000			—
Total I/O, max	128,000			—
Replacement battery	1756-BA2 (0.50 g lithium)			
Energy storage modules	—			
Current draw @ 1.2V DC	—			
Current draw @ 5.1V DC	1200 mA			
Current draw @ 24V DC	14 mA			
Power dissipation	3.5 W			
Thermal dissipation	11.9 BTU/hr			
Isolation voltage	30V (continuous), Basic Insulation Type, RS-232 to system Type tested at 720V DC for 60 s			
Serial cables	1756-CP3 or 1747-CP3, right angle connector to controller, straight to serial port, 3 m (9.84 ft)			
Weight, approx	0.32 kg (0.70 lb)			
Slot width	2, (both modules needed; each is one slot)			
Module location	Chassis-based, any slot (the safety partner must be installed in the slot to the immediate right of the primary controller)			
Chassis	1756-A4, 1756-A7, 1756-A10, 1756-A13, 1756-A17			
Power supply standard	1756-PA72, 1756-PA75, 1756-PB72, 1756-PB75			
Wire category[1]	2 - on RS-232 port			
North American temperature code	T4A			
Enclosure type rating	None (open-style)			

(1) Use this conductor category information for planning conductor routing as described in the system level installation manual. See the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

(2) RSLogix™ 5000 programming software, version 18 or later.

Regardless of how you configure local I/O modules (rack-optimized or direct connect), the controller establishes a direct connection for each local I/O module. Remote connections depend on the communication module. The number of connections the module supports determines how many connections the controller can access through that module. Use this table to figure remote connections for the controller.

Table 32 - Figure Remote Connections

Connection Type	Device Quantity	Connections per Device	Total Connections

Remote ControlNet communication module
    Configured as a direct connection
    Configured as a rack-optimized connection
		0
		1	

Remote I/O module over a ControlNet network (direct connection)		1	

Remote Ethernet communication module
    Configured as a direct connection
    Configured as a rack-optimized connection
		0
		1	

Remote I/O module over an EtherNet/IP network (direct connection)		1	
Remote device over a DeviceNet network (accounted for in rack-optimized connection for local 1756-DNB module)		0	
Other remote communication adapter		1	
Safety input module		1	
Safety output module		2	
Produced tag Each consumer		1	
		1	
Consumed tag		1	
Connected message		1	
Block-transfer message		1	
Total			

ControlLogix Controller Accessories

You can use the following accessories with ControlLogix controllers.

Memory Cards

Memory cards offer nonvolatile memory to permanently store a user program and tag data on a controller. The 1756-L7x ControlLogix controller comes with the 1784-SD1 Secure Digital (SD) card already installed in every controller. The 1756-L6x controllers support optional CompactFlash cards purchased separately. The memory cards are installed in a socket on the controller. Through the programming software, you can manually trigger the controller to save to, or load from, nonvolatile memory or configure the controller to load from nonvolatile memory on powerup.

Table 33 - Technical Specifications - 1784 Memory Cards

Attribute	1784-CF128	1784-SD1	1784-SD2
Memory	128 MB	1 GB	2 GB
Supported controllers	1756-L6x, 1756-L6xS[1]	1756-L7x, 1756-L7xS	
Weight, approx	14.20 g (0.50 oz)	1.76 g (0.06 oz)	

(1)   For safety controllers using RSLogix 5000 programming software version 18 or later.

Table 34 - Environmental Specifications - 1784 Memory Cards

Attribute	1784-CF128	1784-SD1, 1784-SD2
Temperature, operating IEC 60068-2-1 (Test Ad, Operating Cold), IEC 60068-2-2 (Test Bd, Operating Dry Heat), IEC 60068-2-14 (Test Nb, Operating Thermal Shock)	-25…70 °C (-13…158 °F)	
Temperature, storage IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold), IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat), IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock)	-40…85 °C (-40…185 °F)	
Relative humidity IEC 60068-2-30 (Test Db, Unpackaged Damp Heat)	5…95% noncondensing	
Vibration IEC 60068-2-6 (Test Fc, Operating)	2 g @ 10…500 Hz	
Shock, operating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	30 g	
Shock, nonoperating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	50 g	
Emissions CISPR 11	Group 1, Class A	
ESD immunity IEC 61000-4-2	6 kV contact discharges 8 kV air discharges	
Radiated RF immunity IEC 61000-4-3	10V/m with 1 kHz sine-wave 80% AM from 80…2000 MHz 10V/m with 200 Hz 50% Pulse 100% AM @ 900 MHz 10V/m with 200 Hz 50% Pulse 100% AM @ 1890 MHz 3V/m with 1 kHz sine-wave 80% AM from 2000…2700 MHz	

Table 35 - Certifications - 1784 Memory Cards

Certification[1]	1784-CF128, 1784-SD1, 1784-SD2
CE	European Union 2004/108/EC EMC Directive, compliant with: • EN 61000-6-4; Industrial Emissions • EN 61326-1; Meas./Control/Lab., Industrial Requirements • EN 61000-6-2; Industrial Immunity • EN 61131-2; Programmable Controllers (Clause 8, Zone A & B)
C-Tick	Australian Radio communications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3

(1)   See the Product Certification link at http://www.ab.com for Declarations of Conformity, Certificates, and other certification details.

1756 ControlLogix Batteries

Each ControlLogix controller ships with a battery. The 1756-L6*x* controllers have nonvolatile memory if you install a 1784-CF128 industrial CompactFlash card. With nonvolatile memory, the controller can be used without a battery. If you do not use a battery, current tag data will remain in the state it was when the nonvolatile memory was saved.

These tables summarize battery life, replacement battery compatibility, and recommendations for use of an externally-mounted battery assembly.

Table 48 - Technical Specifications - 1756 ControlLogix Batteries

Attribute	1756-BA1	1756-BA2	1756-BATM[2]	1756-BATA
Description	Lithium battery (0.59 g)	Lithium battery (0.59 g)	Externally-mounted battery assembly	Replacement lithium battery for 1756-BATM (5 g max lithium per each D cell; contains 2 D cells)
ControlLogix controllers	1756-L61, 1756-L62, 1756-L63 controllers, series A	1756-L61, 1756-L62, 1756-L63 controllers, series B 1756-L64, 1756-L65 controllers	1756-L61, 1756-L62, 1756-L63 controllers, series A	1756-BATM battery module
GuardLogix controllers	—	1756-L61S, 1756-L62S, 1756-L63S	—	—
Supported legacy controllers	1756-L55M*x* controllers[1] 1756-L60M03SE controller	—	1756-L55M*x* controllers[2] 1756-L60M03SE controller	1756-BATM battery module

(1)   The 1756-L55M22, 1756-L55M23, and 1756-L55M24 controllers have nonvolatile memory and can be used without a battery.

(2)   The 1756-BATM externally-mounted battery assembly is recommended for use with all 1756-L55*x* controllers, and is highly recommended for use with all series A 1756-L6*x* controllers, and provides longer battery life than the 1756-BA1 battery. The 1756-BATM assembly includes one 1756-BATA lithium battery assembly and a 1 m (3.28 ft) cable to connect housing to the controller.

Serial Communication Cables

The 1756-L6*x* and 1756-L6*x*S controllers have a built-in serial port.

Table 49 - Technical Specifications - 1756 Serial Cables

Attribute	1756-CP3	1747-CP3
Connector type	Female 9-pin D-shell	
Connector angle	Right angle connector to controller, straight to serial port	
Length	3 m (9.84 ft)	