Allen-Bradley 1756-L63

ControlLogix 8 MB Controller

The 1756-L63 is a ControlLogix 5560 programmable controller for modular industrial control systems. It executes application logic and exchanges control data with local and distributed I/O through the ControlLogix architecture.



Technical Specifications

Product Identity	
Manufacturer	Allen-Bradley
Complete part number	1756-L63
Controller family	ControlLogix 5560
Module width	1 chassis slot
Approximate weight	0.35 kg (Series B)
Functional Configuration	
Built-in communication port	1 × RS-232 serial
Optional nonvolatile storage	1784-CF128, 128 MB CompactFlash
Programming languages	Relay ladder, structured text, function block diagram and SFC
Replacement battery	1756-BA2 (Series B photographed unit)
Performance & Power	
User memory	8 MB
I/O memory	478 KB
Maximum controller connections	250
Controller tasks	32; up to 100 programs per task
Backplane current at 5.1V DC	1200 mA
Backplane current at 24V DC	14 mA
Power dissipation	3.5 W
Environment	
Operating temperature	0…60 °C

Selected original manufacturer pages follow on pages 3–8.

Compatibility & Selection Guide

System and software compatibility. Series B requires firmware revision 13.40 or later and a compatible RSLogix 5000 software version. Select the controller firmware for the installed project and use the appropriate ControlLogix communication modules for the required industrial networks.

Wiring & Installation Reference

Interfaces and connections

A 1756-CP3 cable is suitable for workstation connection. The alternative 1747-CP3 cable can prevent the controller door from closing.

Confirm controller hardware series and firmware compatibility before loading a saved project.

Mounting and connection

Prepare the chassis. Install and ground the specified chassis and power supply before fitting the controller.

Seat the controller. Set the key to PROG, align the circuit board with both chassis guides, and slide the controller in until both latches engage.

Connect and verify. Confirm the module is flush with adjacent modules, connect the serial cable as required, and inspect the controller status indicators.

Installation precautions. Remove power or establish that the location is nonhazardous before inserting or removing the controller, memory card, battery or serial connection. Use ESD controls and avoid touching the circuit board contacts. Use an appropriate enclosure that prevents access to live parts; enclosure access must require a tool.

View serial connection diagram (PDF) · PDF page 7 | View chassis installation · PDF page 6

Manufacturer sources: 1756 ControlLogix Controllers Technical Data / ControlLogix Controller and Memory Board Installation Instructions.

Technical Specifications - ControlLogix 5560 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 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	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-PA50, 1756-PA72, 1756-PA75, 1756-PB50, 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				
IEC temperature code	T4				
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 to plan conductor routing as described in the system level installation manual. See the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

Explosion Hazards

WARNING



An electrical arc can occur if you:

- insert or remove the CompactFlash card.
- insert or remove the controller while backplane power is on.
- connect or disconnect the battery.
- connect or disconnect the serial cable with power applied to this module or the serial device on the other end of the cable.

This could cause an explosion in hazardous location installations. Make sure that power is removed or the area is nonhazardous before proceeding

Preventing Electrostatic Discharge

ATTENTION



This equipment is sensitive to electrostatic discharge, which can cause internal damage and affect normal operation. Follow these guidelines when you handle this equipment.

- Touch a grounded object to discharge potential static.
- Wear an approved grounding wriststrap.
- Do not touch connectors or pins on component boards.
- Do not touch circuit components inside the equipment.
- Use a static-safe workstation, if available.
- Store the equipment in appropriate static-safe packaging when not in use.

Removing Module While Under Power (RIUP)

WARNING



When you insert or remove the module while backplane power is on, an electrical arc can occur. This could cause an explosion in hazardous location installations.

Be sure that power is removed or the area is nonhazardous before proceeding. Repeated electrical arcing causes excessive wear to contacts on both the module and its mating connector. Worn contacts may create electrical resistance that can affect module operation.

Environment and Enclosure

ATTENTION



This equipment is intended for use in a Pollution Degree 2 industrial environment, in overvoltage Category II applications (as defined in IEC publication 60664-1), at altitudes up to 2000 m (6561 ft) without derating.

This equipment is considered Group 1, Class A industrial equipment according to IEC/CISPR Publication 11. Without appropriate precautions, there may be potential difficulties ensuring electromagnetic compatibility in other environments due to conducted as well as radiated disturbance.

This equipment is supplied as open-type equipment. It must be mounted within an enclosure that is suitably designed for those specific environmental conditions that will be present and appropriately designed to prevent personal injury resulting from accessibility to live parts. The enclosure must have suitable flame-retardant properties to prevent or minimize the spread of flame, complying with a flame spread rating of 5VA, V2, V1, V0 (or equivalent) if non-metallic. The interior of the enclosure must be accessible only by the use of a tool. Subsequent sections of this publication may contain additional information regarding specific enclosure type ratings that are required to comply with certain product safety certifications.

In addition to this publication, see:

- Industrial Automation Wiring and Grounding Guidelines, for additional installation requirements, Allen-Bradley publication 1770-4.1.
- NEMA Standards publication 250 and IEC publication 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosure.

Installing the Controller into the Chassis

When you install a ControlLogix controller, you can:

- place the controller in any slot.
- use multiple controllers in the same chassis.

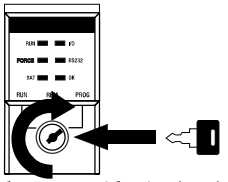
You can install or remove a ControlLogix controller while chassis power is on and the system is operating.

WARNING

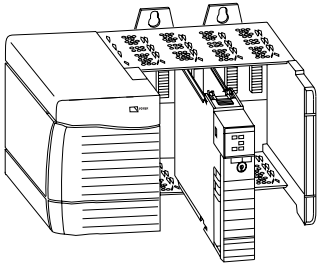


When you insert or remove the module while backplane power is on, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

Repeated electrical arcing causes excessive wear to contacts on both the module and its mating connector. Worn contacts may create electrical resistance that can affect module operation.



1. Insert the key into the controller.
2. Turn the key to the PROG position.
3. Align the circuit board with the top and bottom guides in the chassis.
4. Slide the module into the chassis, making sure it is flush with the power supply or other modules and the top and bottom latches are engaged.



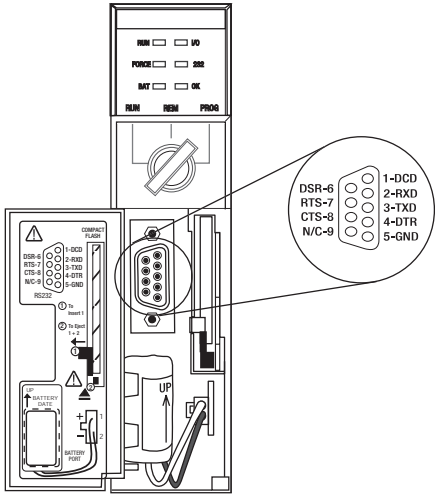
Connecting a Serial Cable

WARNING



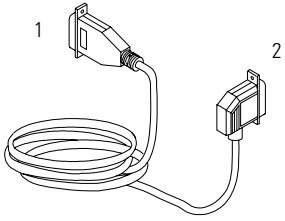
If you connect or disconnect the serial cable with power applied to this module or the serial device on the other end of the cable, an electrical arc can occur. This could cause an explosion in hazardous location installations. Make sure that power is removed or the area is nonhazardous before proceeding.

Use the serial port for RS-232 communication.



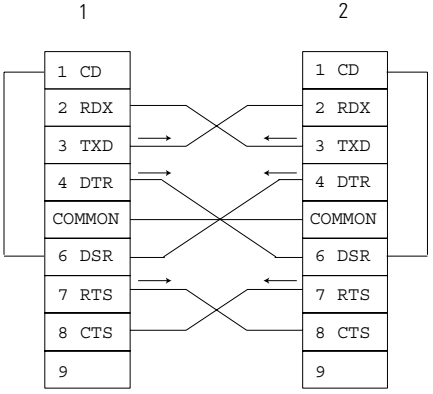
To connect a workstation to the serial port, use one of these cables:

- 1756-CP3 serial cable
- 1747-CP3 cable from the SLC product family. If you use this cable, the controller door may not close.



Item	Description
1	Workstation end
2	Controller end

If you make your own serial cable, limit the length to 15.2 m (50 ft), wire the connectors as follows, and attach the shield to both connectors.



Item	Description
1	Workstation
2	Controller