

# 1769 CompactLogix Controllers User Manual

Catalog Numbers 1769-L31, 1769-L32C, 1769-L32E, 1769-L35CR, 1769-L35E



**Table 1 - CompactLogix Controller Combinations**

Controller	Available Memory	Communication Options	Number of Tasks Supported	Number of Local I/O Modules Supported
1769-L35CR	1.5 MB	1 port ControlNet - supports redundant media 1 port RS-232 serial (system or user protocols)	8	30
1769-L35E		1 port EtherNet/IP 1 port RS-232 serial (system or user protocols)		
1769-L32C	750 KB	1 port ControlNet 1 port RS-232 serial (system or user protocols)	6	16
1769-L32E		1 port EtherNet/IP 1 port RS-232 serial (system or user protocols)		
1769-L31	512 KB	1 port RS-232 serial (system or user protocols) 1 port RS-232 serial (system protocol only)	4	

## Design a CompactLogix System

When designing a CompactLogix system, determine the network configuration and the placement of components in each location. To design your CompactLogix system, you must select the following:

- I/O devices
- A communication network
- Controllers
- Power supplies
- Software

**WARNING:**

- This equipment must be installed in an enclosure providing at least IP54 protection when applied in Zone 2 environments.
- This equipment shall be used within its specified ratings defined by Allen-Bradley.
- Provisions shall be made to prevent the rated voltage from being exceeded by transient disturbances of more than 40% when applied in Zone 2 environments.
- Secure any external connections that mate to this equipment by using screws, sliding latches, threaded connectors, or other means provided with this product.
- Do not disconnect equipment unless power has been removed or the area is known to be nonhazardous.



**ATTENTION:** This equipment is not resistant to sunlight or other sources of UV radiation.

## Verify Compatibility

**IMPORTANT**

The series B controllers are compatible only with the controller firmware and the RSLogix 5000 software versions as indicated in the table below.

Attempting to use controllers with incompatible software and firmware revisions can result in the following:

- An inability to connect to the series B controller in RSLogix 5000 software
- Unsuccessful firmware upgrades in ControlFLASH™ or AutoFlash utilities

This table shows the compatible pairs of RSLogix 5000 software versions and controller firmware revisions.

Controller	RSLogix 5000 Software Version or Later	Controller Firmware Revision or Later
1769-L31, 1769-L32C, 1769-L32E, 1769-L35CR, 1769-L35E	16.00.00	16.023
	17.01.02	17.012
	19.01.00	19.015
	20.01.00	20.013



## Before You Begin

Consider the following when planning your CompactLogix system:

- The CompactLogix controller is always the leftmost module in the system.
- The controller must be within four modules of the system power supply. Some I/O modules may be up to eight modules away from the power supply. See the documentation for your 1769 I/O modules for details.
- The 1769-L32E controller supports as many as 16 I/O modules and the 1769-L35E controller supports as many as 30 I/O modules. Both controllers can use a maximum of 3 I/O banks with 2 expansion cables.
- Each I/O bank requires its own power supply.
- Only one controller can be used in a CompactLogix system.
- A 1769-ECR right end cap or 1769-ECL left end cap is required to terminate the end of the communication bus.

## Parts List

These components are shipped with the controller.

Component	Description
	1769-BA battery
	1747-KY controller key

You may also use these components with the controller.

If you want to	Then use this component
Connect a device to the RS-232 port	1756-CP3 or 1747-CP3 serial cable
Add nonvolatile memory	1784-CF128 Industrial CompactFlash card
Connect a device to the EtherNet/IP port	Standard Ethernet cable with RJ-45 connector
Connect a device to the ControlNet port	<ul style="list-style-type: none"> <li>• ControlNet taps for connections from controller channels A or B to the ControlNet network</li> <li>• 1786-CP cable for connections from a programming terminal to the ControlNet network via the controller's network access port (NAP)</li> </ul>

## Set the Node Address (ControlNet only)

Every ControlNet network requires at least one module that can store parameters and configure the network with those parameters upon startup. The CompactLogix controller is called a keeper because it keeps the network configuration.

The CompactLogix controller can keep the network parameters at any legal node address (01...99). Multiple devices on any one network can act as the network keepers. Each device capable of being the network keeper acts to back up the current keeper. This back-up function is automatic and requires no action on your part.

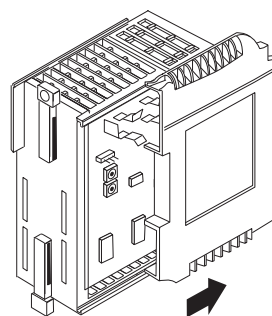
Node address switches are set to the 99 position at shipment, as shown in the figure.



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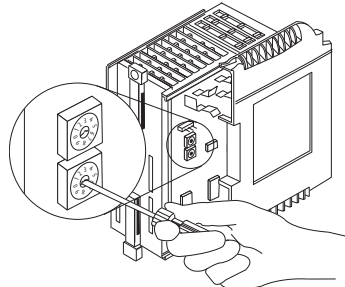
Use these steps to set the node address.

1. Slide the side cover forward.



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2. Use a small screwdriver to set the node address via the controller switches.



31504-M

3. Write the node address on the front panel overlay after setting the node address switches.

## Connect the 1769-BA Battery

The controller is shipped with the 1769-BA battery that is packed separately. To connect the battery, follow this procedure.



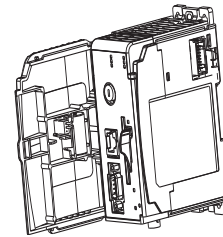
**ATTENTION:** The 1769-BA battery is the only battery you can use with the 1769-L32E and 1769-L35E controllers. The 1747-BA battery is not compatible with the 1769-L32E and 1769-L35E controllers and may cause problems.



**WARNING:** When you connect or disconnect the battery, 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.

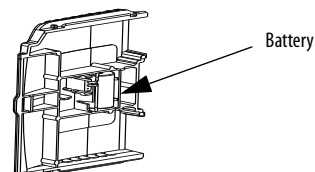
For safety information on the handling of lithium batteries, including handling and disposal of leaking batteries, see Guidelines for Handling Lithium Batteries Technical Data, publication [AG-5.4NOV04](#).

1. Remove the battery door by sliding it forward.



**IMPORTANT** Do not remove the plastic insulation covering the battery. The insulation is necessary to protect the battery contacts.

1. Insert the battery connector into the connector port.  
The connector is keyed to be installed with the correct polarity.
2. Insert the battery into the battery port in the battery door.



3. Slide the battery door back until it clicks into position.

**TIP** At the end of its life, the used battery should be collected separately from any unsorted municipal waste and recycled.



## Install a CompactFlash Card (optional)



**ATTENTION:** Do not remove the CompactFlash card while the controller is reading from or writing to the card, as indicated by a flashing green CF status indicator. This could corrupt the data on the card or in the controller, as well as corrupt the latest firmware in the controller.