



# SLC 500 Hardware Migration

Bulletins 1746, 1747, 1769, 5069



***Allen-Bradley***

by ROCKWELL AUTOMATION

Reference Manual

Original Instructions

## Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.



**WARNING:** Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.

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**ATTENTION:** Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence.

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**IMPORTANT** Identifies information that is critical for successful application and understanding of the product.

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Labels may also be on or inside the equipment to provide specific precautions.



**SHOCK HAZARD:** Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.

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**BURN HAZARD:** Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.

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**ARC FLASH HAZARD:** Labels may be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash will cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).

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## About This Publication

This document serves as a guide for replacing your existing SLC™ 500 modules with other products such as Compact I/O™ modules, or Compact 5000™ I/O modules.

The SLC 500 Control system hardware was redesigned to be RoHS compliant. As a result, several of the products will continue to be available for years to come, however, some products, such as less capable controllers and lower density I/O, have been discontinued.

The SLC™ control platform in general is in the Active Mature lifecycle state, as the newer CompactLogix™ and Compact 5000 platforms provide greater functionality and connectivity.

The following chapters of this document describe the many SLC, CompactLogix, and I/O options available for active management of your installed base of control products. You have the option of maintaining, migrating, or replacing that installed base in a phased manner to meet your needs.

This document focuses on hardware migration. For more detailed information, including instructions for converting an SLC program to a Logix program, see SLC to CompactLogix Programming Migration Application Profile, publication [5069-AP001](#).

## Audience

This document is intended for users of SLC 500 controllers and I/O modules who are familiar with the RSLogix 500® programming software.

## Required Software

If the replacement is an SLC 500 controller or I/O module, no additional software is required.

If the replacement is a CompactLogix 5370 controller, CompactLogix 5380 controller, Compact I/O module, or Compact 5000 I/O module, the following are required:

- **Studio 5000 environment**

The Studio 5000® environment combines elements of design into one standard framework that optimizes productivity and reduces time to commission.

With the Studio 5000 Applications you can:

- Build and maintain a system layout in a central place with **Studio 5000 Architect**®
- Configure, program, and maintain your Logix 5000™ family of controllers with **Studio 5000 Logix Designer**®
- Create intuitive, modern screens for the PanelView™ 5000 graphic terminals with **Studio 5000 View Designer**®

- Create and leverage reusable libraries of content for rapid project development with **Application Code Manager**

The following CompactLogix controllers are compatible with Studio 5000 Applications:

Controllers	Cat. No.	Studio 5000 Logix Designer Application
CompactLogix 5380 / Compact GuardLogix 5380	5069-L306ER, 5069-L306ERM, 5069-L310ER, 5069-L310ERM, 5069-L310ER-NSE, 5069-L320ER, 5069-L320ERM, 5069-L320ERMK, 5069-L330ER, 5069-L330ERM, 5069-L330ERMK, 5069-L340ER, 5069-L340ERM, 5069-L350ERM, 5069-L350ERMK, 5069-L380ERM, 5069-L3100ERM 5069-L306ERS2, 5069-L306ERMS2, 5069-L310ERS2, 5069-L310ERMS2, 5069-L320ERS2, 5069-L320ERMS2, 5069-L330ERS2, 5069-L330ERMS2, 5069-L340ERS2, 5069-L340ERMS2, 5069-L350ERS2, 5069-L350ERMS2, 5069-L380ERS2, 5069-L380ERMS2, 5069-L3100ERS2, 5069-L3100ERMS2, 5069-L320ERS2K, 5069-L320ERMS2K, 5069-L330ERS2K, 5069-L330ERMS2K, 5069-L350ERS2K, 5069-L350ERMS2K	Version 29.00.00 or later
CompactLogix 5370	For CompactLogix 5370 controllers using firmware revision 21.00.00 or later	Version 21.00.00 or later
	1769-L19ER-BB1B	Version 28.00.00 or later

- **RSLogix 500/RSLogix Micro version 12 or RSLogix Project Migrator**

The RSLogix 500/RSLogix™ Micro version 12 software includes an integrated SLC to CompactLogix program converter tool. To convert, simply perform a Save Program As, then select file type as \*.ACD, and fill out the menu prompts.

For older versions of RSLogix 500/RSLogix Micro, the RSLogix Project Migrator tool is a free, standalone software tool for converting an RSLogix 5 or RSLogix 500 project export file for import into Studio 5000 Logix Designer application.

The standalone converter tool is available for download at: [rok.auto/pcdc](http://rok.auto/pcdc).

## Summary of Changes

This publication contains the following new or updated information. This list includes substantive updates only and is not intended to reflect all changes.

Topic	Page
Added compatible list of CompactLogix 5380 controllers.	6
Updated reference documents.	7
Added a section on other considerations for migration.	14
Added a section for SLC 500 I/O to Compact 5000 I/O replacement using conversion modules.	23
Updated wire diagrams and warnings in Wiring Diagrams chapter.	25

## Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
SLC 500 Analog Input Module Installation Instructions, publication <a href="#">1746-IN006</a>	Installation instructions for the SLC 500 Analog Input Module (Cat. No. 1746-NI8).
SLC 500 RTD/Resistance Input Module Installation Instructions, publication <a href="#">1746-IN007</a>	Installation instructions for the SLC 500 RTD/Resistance Input Module (Cat. No. 1746-NR8).
SLC 500 RTD/Resistance Input Module Installation Instructions, publication <a href="#">1746-IN012</a>	Installation instructions for the SLC 500 RTD/Resistance Input Module (Cat. No. 1746-NR4).
SLC 500 Thermocouple/mV Analog Input Module Installation Instructions, publication <a href="#">1746-IN015</a>	Installation instructions for the SLC 500 Thermocouple/mV Analog Input Module.
SLC 500 8-Point Analog Output Module Installation Instructions, publication <a href="#">1746-IN026</a>	Installation instructions for SLC 500 8-point analog output modules.
SLC 500 Digital I/O Modules Installation Instructions, publication <a href="#">1746-IN027</a>	Installation Instructions for SLC 500 digital I/O modules.
SLC 500 4-Channel Analog I/O Modules User Manual, publication <a href="#">1746-UM005</a>	A more detailed description on how to configure the SLC 500 analog I/O modules.
SLC 500 4-Channel Thermocouple/mV Input Module User Manual, publication <a href="#">1746-UM007</a>	A more detailed description on how to configure the SLC 500 4-Channel Thermocouple/mV Input Module.
SLC 500 Systems Selection Guide, publication <a href="#">1747-SG001</a>	An overview of the SLC 500 family of products.
SLC to CompactLogix Programming Migration Application Profile, publication <a href="#">5069-AP001</a>	Provides information on converting an SLC program to a Logix program and migrating the existing SLC I/O to an Ethernet network.
CompactLogix Controllers Specifications Technical Data, publication <a href="#">1769-TD005</a>	Provides CompactLogix controllers specifications.
Compact I/O Modules Specifications Technical Data, publication <a href="#">1769-TD006</a>	Provides Compact I/O Modules specifications.
CompactLogix 5380, Compact GuardLogix 5380, and CompactLogix 5480 Controllers Specifications Technical Data, publication <a href="#">5069-TD002</a>	Provides CompactLogix, Compact GuardLogix, and CompactLogix controllers specifications.
CompactLogix 5370 Controllers User Manual, publication <a href="#">1769-UM021</a>	Describes how to install, use, and troubleshoot CompactLogix 5370 controllers.
CompactLogix 5380 Controllers User Manual, publication <a href="#">5069-UM001</a>	Describes how to install, use, and troubleshoot CompactLogix 5380 controllers and Compact GuardLogix 5380 controllers.
Compact 5000 I/O Modules and EtherNet/IP Adapters Technical Data, publication <a href="#">5069-TD001</a>	Provides Compact 5000 I/O and EtherNet/IP adapter specifications.
Compact 5000 I/O Serial Module User Manual, publication <a href="#">5069-UM003</a>	Describes how to install, use, and troubleshoot a Compact 5000 I/O serial module.

You can view or download publications at [rok.auto/literature](http://rok.auto/literature).

**Notes:**



## Overview

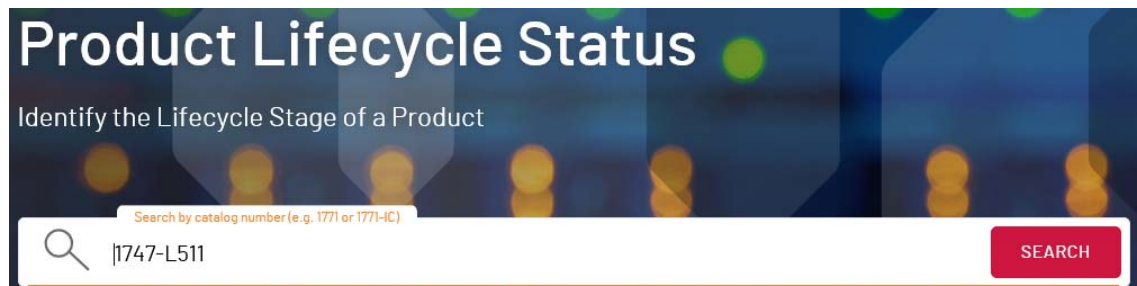
### Product Lifecycle Status Website

The Rockwell Automation Product Lifecycle Status website allows you to proactively plan and manage the transition from existing equipment to leading-edge products and technologies. Using the search tool, you can view up-to-date product lifecycle status and identify the most contemporary Rockwell Automation products.

The product lifecycle status may be Active, Active Mature, End of Life, or Discontinued.

To view the lifecycle information for a product:

1. On your web browser, open the Product Lifecycle Status website: <https://www.rockwellautomation.com/en-us/support/product-compatibility-migration/product-lifecycle-status.html>.
2. In the Catalog Number field, enter the catalog number of the product.



3. Click Search. The product lifecycle data displays.

If the lifecycle status of the product is End of Life or Discontinued, you can view the recommended replacement.



**1747-L511 | SLC 500 Controllers Programmable Controllers**  
SLC 5/01 Controller, 1K Memory - DH 485

CONFIGURE

Lifecycle status: ● Discontinued ^

Discontinued Date	Replacement Category	Replacement Product
2017-01-31	Functional Replacement	SLC 5/01, SLC 5/02 OR SLC 5/03

Quick Links: [Product Family Page](#) [Installation Guide](#)

## SLC 500 System

The SLC 500 system is a small chassis-based family of programmable controllers, discrete, analog, and specialty I/O, and peripheral devices. The SLC 500 family delivers power and flexibility with a wide range of communication configurations, features, and memory options.

SLC 500 programmable controllers provide value with extensive capabilities to address a broad range of applications including material handling, HVAC control, high-speed assembly operations, small process control, simple motion control, and SCADA. With SLC 500 Modular Hardware Style controllers, you select the processor, power supply, and I/O modules to fit your application. Modular style chassis are available in 4, 7, 10, and 13-slot versions.

Digital I/O modules, analog I/O modules, and specialty temperature, counting, and process control modules are available to help you create a custom solution for your application.

## CompactLogix 5370 Controllers

CompactLogix 5370 controllers provide scalable controller solutions to address a wide variety of applications. All CompactLogix 5370 controllers provide the following functionality:

- Two EtherNet/IP™ ports
- One USB port
- Support for local expansion modules
- Control of local and distributed I/O modules
- Use of 1784-SD1 or 1784-SD2 Secure Digital (SD) card for nonvolatile memory
- A battery is no longer necessary because of the internal energy-storage solution

Some CompactLogix 5370 controllers provide the following functionality:

- Built-in power supply
- Some combination of embedded digital, analog, and high-speed counter modules
- Support for Integrated Motion over an EtherNet/IP network
- Access to DeviceNet® networks.

## CompactLogix 5380 Controllers

CompactLogix 5380 controllers can operate in various applications that range from standalone systems or in more complex systems with devices that are connected to the controller via an EtherNet/IP network. All CompactLogix 5380 controllers provide the following functionality:

- Two EtherNet/IP ports
- One USB port
- Support for local expansion modules
- Control of local and distributed I/O modules
- Support Device Level Ring (DLR), Star, and Linear EtherNet/IP network topologies.
- Support up to 180 EtherNet/IP nodes, depending on catalog number.
- Support Linear/DLR and Dual-IP EtherNet/IP modes.

- Support Generic ASCII, Modbus RTU/ASCII, and legacy DF1 and DH-485 protocols.

Some CompactLogix 5380 controllers provide the following functionality:

- Support for Integrated Motion up to 32 axes over an EtherNet/IP network

## Compact I/O Modules

The Compact I/O modules can be used in the following applications:

- With a CompactLogix controller
- In an assembly with a 1769-ADN DeviceNet adapter
- In an assembly with a 1769-AENTR Ethernet adapter.

Each I/O module includes a built-in removable terminal block with fingersafe cover for connections to I/O sensors and actuators. The terminal block is behind a door at the front of the module. I/O wiring can be routed from beneath the module to the I/O terminals.

- Once the modules are locked together, the system becomes a rugged assembly.
- Upper and lower tongue-and-groove slots guide the module during installation and secure the module within the system.
- Removable terminal blocks help ease the wiring task.
- Self-lifting, field-wire pressure plates cut installation time.
- The patented bus connector with the lock function enables consistent system communication.
- A color bar is provided on the front of the module.
- Digital and field circuits are optically isolated.

## Compact 5000 I/O Modules

The Compact 5000 I/O architecture provides a wide range of input and output modules to span many applications, from high-speed digital to process control. The architecture uses Producer/Consumer technology that allows input information and output status to be shared among multiple Logix 5000 controllers.

Compact 5000 I/O systems are used as local I/O modules in CompactLogix 5380 controller systems or as remote I/O modules with CompactLogix 5380 controllers and some other Logix 5000 controllers. The modules are configured with the Studio 5000 Logix Designer application.

The serial module provides two independent channels that function as network interface using RS232C, RS422, or RS485 to serial devices communicating on Generic ASCII, Modbus RTU/ASCII, DF1, or DH-485 protocol.

The I/O module requires a removable terminal block (RTB) to connect field-side wiring. RTBs are not included with the I/O modules. You must order RTBs separately.

## Power Considerations

### SLC 500 Controllers

The SLC 500 controllers require an SLC power supply module on the leftmost slot to provide power to all modules on the chassis. This powers up the controller and the I/O modules. This also facilitates communication through the backplane.

Though all 1746 input modules and most 1746 output modules receive the necessary power that they need from the backplane, some 1746 output modules, such as relay modules and AC modules, require additional power to be supplied to the module terminal block.

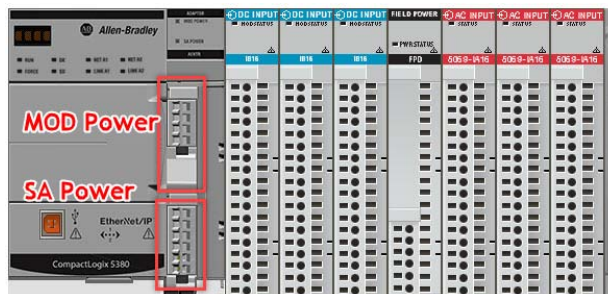


### CompactLogix 5380 Controllers

The CompactLogix 5380 controllers require a 24V DC source supply that is connected to the MOD power terminal to provide power to all modules. Unlike the SLC 500 controller, the CompactLogix 5380 controller does not require a chassis.

Backplane connection is at the side of each module and it is necessary to cover the side with a 5069-ECR end cap (shipped with the CompactLogix 5380 controllers and Compact 5000 EtherNet/IP adapters) to help prevent electrical hazards.

The 24V DC source to MOD power terminal can be from any external power supply. You do not require additional power supply connections to each I/O module<sup>(1)</sup> if connecting field devices are in the same operating voltage range.

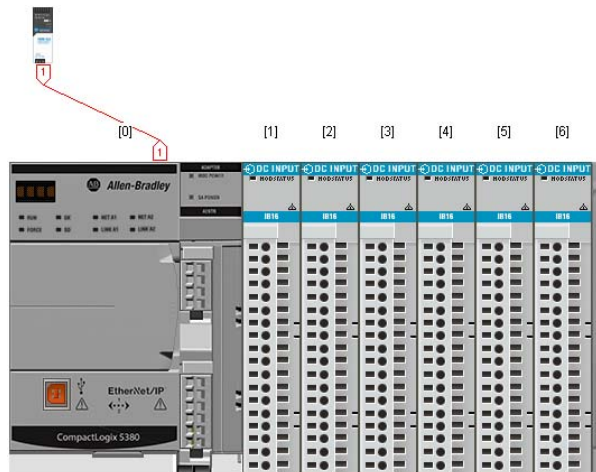


For more information about MOD power and SA power considerations, see chapter 2 of the CompactLogix 5380 and Compact GuardLogix® 5380 Controllers User Manual, [5069-UM001](#).

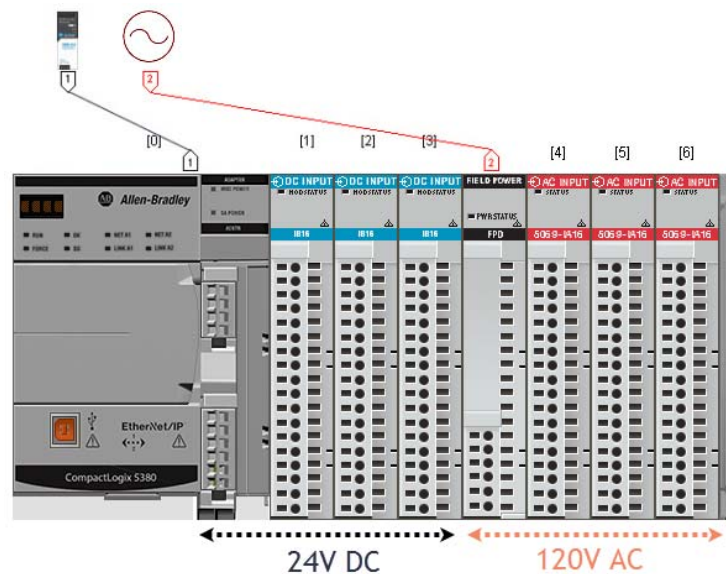
(1) Except for 5069-0B8, 5069-0B16 and 5069-0B16F.

## Sensor Actuator Power for CompactLogix 5380

The CompactLogix 5380 I/O power system has a common sensor actuator (SA) bus where a single power source can be shared among all attaching I/O modules using the backplane. This helps reduce wiring effort and is convenient if all I/O devices operate at the same operating voltage. If the SA has two different operating voltages (see following figures), the SA power bus can be separated with a Field Potential Distributor Module, such as the 5069-FPD.



The CompactLogix 5380 I/O power system if sensors/actuators have a common operating voltage.



The CompactLogix 5380 I/O power system if sensors/actuators have different operating voltages.

**IMPORTANT** The 5069-OW16 module uses DC SA power. You must connect DC power to the component, that is, controller, adapter, or field potential distributor, that provides SA power to the module.

## Other Considerations

The SLC 500 system was designed more than 30 years ago and electronic components have evolved over time. To help avoid potential electromagnetic interference (EMI) and transient EMI that could cause problems in your existing system conversion, see the Industrial Automation Wiring and Grounding Guidelines, publication [1770-IN041](#).

To fully migrate your SLC 500 systems you also need to convert your SLC 500 application code. For more information on software conversion, see the SLC to CompactLogix Programming Migration Application Profile, publication [5069-AP001](#).

## Replace an SLC 500 Controller

This chapter provides information about the recommended replacement for your existing SLC 500 controller.

Due to the discontinuation of SLC 5/01 and SLC 5/02 controllers in January 2017, a replacement CompactLogix controller is recommended.

You can view the lifecycle status of your SLC product on the Rockwell Automation Product Lifecycle Status website:

<https://www.rockwellautomation.com/en-us/support/product/product-compatibility-migration/product-lifecycle-status.html>.

### Upgrade to a CompactLogix 5370 Controller

[Table 1](#) lists the recommended replacement CompactLogix 5370 controller to your existing SLC 500 controller. These recommendations exclude Motion and Safety applications, consult your local sales office for more info.

**Table 1 - Recommended CompactLogix 5370 Replacement Controllers**

Catalog Number	SLC Controller Description	Recommended CompactLogix 5370 Controller Replacement <sup>(1)</sup>	CompactLogix 5370 Controller Description
1747-L511	SLC 5/01 1K Controller	1769-L24ER-QB1B	CompactLogix 5370 L2 Controller, 750 KB Memory, 16 DC Inputs, 16 DC Outputs
1747-L514	SLC 5/01 4K Controller	1769-L24ER-QB1B	CompactLogix 5370 L2 Controller, 750 KB Memory, 16 DC Inputs, 16 DC Outputs
1747-L524	SLC 5/02 4K Controller	1769-L24ER-QB1B	CompactLogix 5370 L2 Controller, 750 KB Memory, 16 DC Inputs, 16 DC Outputs
1747-L531	SLC™ 5/03 8K Controller	1769-L24ER-QB1B	CompactLogix 5370 L2 Controller, 750 KB Memory, 16 DC Inputs, 16 DC Outputs
1747-L532	SLC 5/03 16K Controller	1769-L24ER-QB1B	CompactLogix 5370 L2 Controller, 750 KB Memory, 16 DC Inputs, 16 DC Outputs
1747-L533	SLC 5/03 32K Controller	1769-L24ER-QB1B	CompactLogix 5370 L2 Controller, 750 KB Memory, 16 DC Inputs, 16 DC Outputs
1747-L541	SLC 5/04 16K Controller	1769-L24ER-QB1B	CompactLogix 5370 L2 Controller, 750 KB Memory, 16 DC Inputs, 16 DC Outputs
1747-L542	SLC 5/04 32K Controller	1769-L24ER-QB1B	CompactLogix 5370 L2 Controller, 750 KB Memory, 16 DC Inputs, 16 DC Outputs
1747-L543	SLC 5/04 64K Controller	1769-L30ER	CompactLogix 5370 L3 Controller, 1 MB Memory, Dual Ethernet Port - SD Card
1747-L551	SLC 5/05 16K Controller	1769-L24ER-QB1B	CompactLogix 5370 L2 Controller, 750 KB Memory, 16 DC Inputs, 16 DC Outputs
1747-L552	SLC 5/05 32K Controller	1769-L24ER-QB1B	CompactLogix 5370 L2 Controller, 750 KB Memory, 16 DC Inputs, 16 DC Outputs
1747-L553	SLC 5/05 64K Controller	1769-L30ER	CompactLogix 5370 L3 Controller, 1 MB Memory, Dual Ethernet Port - SD Card

(1) The general rule of thumb for memory estimation can be found under "SLC to Logix Memory Comparison" in the SLC to CompactLogix Programming Migration Application Profile, publication [5069-AP001](#). Alternatively, you may validate the controller based on memory estimation by the code conversion tool (RSLogix Project Migrator).

For technical specifications of the recommended CompactLogix 5370 controller, see CompactLogix Controllers Specifications Technical Data, publication [1769-TD005](#).

## Upgrade to a CompactLogix 5380 Controller

[Table 2](#) lists the recommended replacement CompactLogix 5380 controller to your existing SLC 500 controller. These recommendations exclude Motion applications, consult your local sales office for more information.

**Table 2 - Recommended CompactLogix 5380 Replacement Controllers**

Catalog Number	SLC Controller Description	Recommended CompactLogix 5380 Controller Replacement	CompactLogix 5380 Controller Description
1747-L511	SLC 5/01 1K Controller	5069-L306ER <sup>(1)(2)</sup>	CompactLogix 5380 Controller, 600 KB, 8 I/O, 16 nodes, Standard
1747-L514	SLC 5/01 4K Controller	5069-L306ER	CompactLogix 5380 Controller, 600 KB, 8 I/O, 16 nodes, Standard
1747-L524	SLC 5/02 4K Controller	5069-L306ER	CompactLogix 5380 Controller, 600 KB, 8 I/O, 16 nodes, Standard
1747-L531	SLC 5/03 8K Controller	5069-L306ER	CompactLogix 5380 Controller, 600 KB, 8 I/O, 16 nodes, Standard
1747-L532	SLC 5/03 16K Controller	5069-L306ER	CompactLogix 5380 Controller, 600 KB, 8 I/O, 16 nodes, Standard
1747-L533	SLC 5/03 32K Controller	5069-L306ER	CompactLogix 5380 Controller, 600 KB, 8 I/O, 16 nodes, Standard
1747-L541	SLC 5/04 16K Controller	5069-L306ER	CompactLogix 5380 Controller, 600 KB, 8 I/O, 16 nodes, Standard
1747-L542	SLC 5/04 32K Controller	5069-L306ER	CompactLogix 5380 Controller, 600 KB, 8 I/O, 16 nodes, Standard
1747-L543	SLC 5/04 64K Controller	5069-L310ER	CompactLogix 5380 Controller, 1 MB, 8 I/O, 24 nodes, Standard
1747-L551	SLC 5/05 16K Controller	5069-L306ER	CompactLogix 5380 Controller, 600 KB, 8 I/O, 16 nodes, Standard
1747-L552	SLC 5/05 32K Controller	5069-L306ER	CompactLogix 5380 Controller, 600 KB, 8 I/O, 16 nodes, Standard
1747-L553	SLC 5/05 64K Controller	5069-L310ER	CompactLogix 5380 Controller, 1 MB, 8 I/O, 24 nodes, Standard

(1) To include safety on the control, you can upgrade any recommended CompactLogix 5380 replacement controller to Compact GuardLogix 5380 SIL 2 and Compact GuardLogix 5380 SIL 3 safety controllers.

(2) The general rule of thumb for memory estimation can be found under "SLC to Logix Memory Comparison" in the SLC to CompactLogix Programming Migration Application Profile, publication [5069-AP001](#). Alternatively, you can validate the controller based on memory estimation by the code conversion tool (RSLogix™ Project Migrator).

For technical specifications of the recommended CompactLogix 5380 controller, see CompactLogix Controllers Specifications Technical Data, publication [5069-TD002](#).



## Replace an SLC 500 I/O Module

This chapter provides information about the recommended replacement for your existing SLC 500 I/O module.

The lifecycle status for Rockwell Automation products is maintained and published in the Rockwell Automation Product Lifecycle Status website: <https://www.rockwellautomation.com/en-us/support/product/product-compatibility-migration/product-lifecycle-status.html>.

### Upgrade an SLC I/O Installation by Replacing it with Compact I/O

[Table 3](#) lists the recommended replacement Compact I/O module to your existing SLC 500 I/O module.

Before upgrading, take note of the following:

- When replacing an SLC I/O with a Compact I/O, a CompactLogix 5370 controller must be used.
- There might be technical differences between the SLC I/O and Compact I/O. Verify the specifications to meet your application needs. For wiring diagrams and technical specifications of Compact I/O modules, see Compact I/O Modules Specifications Technical Data, publication [1769-TD006](#).

**Table 3 - Recommended Compact I/O Replacement**

Module Type	Catalog Number <sup>(1)</sup>	SLC Module Description	Recommended Compact I/O Replacement <sup>(2)</sup>	Compact I/O Module Description
Digital input	1746-IA4	100/120V AC 4 120V AC input module	1769-IA8I	8 inputs, individually isolated, 100/120V AC input module
	1746-IA8	100/120V AC 8 120V AC input module	1769-IA8I	8 inputs, individually isolated, 100/120V AC input module
	1746-IA16	100/120V AC 16 120V AC input module	1769-IA16	16 inputs, 100/120V AC input module
	1746-IB8	24V DC 8 current sinking DC input module	1769-IQ16	16 inputs, 24V DC sink/source input module
	1746-IB16	24V DC 16 current sinking DC input module	1769-IQ16	16 inputs, 24V DC sink/source input module
	1746-IB32	24V DC 32 current sinking DC input module	1769-IQ32	32 inputs, 24V DC sink/source input module
	1746-IC16	48V DC 16 current sinking DC input module	No replacement	–
	1746-IG16	5V DC 16 current sourcing TTL input module	1769-IG16	16 inputs, 5V DC TTL input module
	1746-IH16	125V DC 16 current sinking DC input module	No replacement	–
	1746-IM4	200/240V AC 4 240V AC input module	1769-IM12	12 inputs, 200/240V AC input module
	1746-IM8	200/240V AC 8 240V AC input module	1769-IM12	12 inputs, 200/240V AC input module
	1746-IM16	200/240V AC 16 240V AC input module	1769-IM12	12 inputs, 200/240V AC input module
	1746-IN16	24V AC/DC 16 24V AC/DC input module	No replacement	–
	1746-ITB16	24V DC 16 fast response DC sinking input module	1769-IQ16F	16 inputs, high-speed 24V DC sink/source digital input module

**Table 3 - Recommended Compact I/O Replacement (Continued)**

Module Type	Catalog Number <sup>(1)</sup>	SLC Module Description	Recommended Compact I/O Replacement <sup>(2)</sup>	Compact I/O Module Description
Digital input	1746-ITV16	24V DC 16 fast response DC sourcing input module	1769-IQ16F	16 inputs, high-speed 24V DC sink/source digital input module
	1746-IV8	24V DC 8 current sourcing DC input module	1769-IQ16	16 inputs, 24V DC sink/source input module
	1746-IV16	24V DC 16 current sourcing DC input module	1769-IQ16	16 inputs, 24V DC sink/source input module
	1746-IV32	24V DC 32 current sourcing DC input module	1769-IQ32	32 inputs, 24V DC sink/source input module
Digital output	1746-OA8	120/240V AC 8 120/240V AC output module	1769-OA8	8 outputs, 100/240V AC input module
	1746-OA16	120/240V AC 16 120/240V AC output module	1769-OA16	16 outputs, 100/240V AC input module
	1746-OAP12	120/240V AC 12 high current 120/240V AC output module	No replacement	—
	1746-OB6EI	24V DC 6 electronically protected isolated sourcing DC output module	No replacement	—
	1746-OB8	24V DC 8 current sourcing DC output module	1769-OB8	8 outputs, 24V DC source output module
	1746-OB16	24V DC 16 current sourcing DC output module	1769-OB16	16 outputs, 24V DC source output module
	1746-OB16E	24V DC 16 electronically protected current sourcing DC output module	1769-OB16P	16 outputs, protected, 24V DC source output module
	1746-OB32	24V DC 32 current sourcing DC output module	1769-OB32	32 outputs, 24V DC source output module
	1746-OB32E	24V DC 32 electronically protected current sourcing DC output module	No replacement	—
	1746-OBP8	24V DC 8 high current sourcing DC output module	1769-OB8	8 outputs, 24V DC source output module
	1746-OBP16	24V DC 16 high current sourcing DC output module	No replacement	—
	1746-OG16	5V DC 16 current sourcing TTL output module	1769-OG16	16 outputs, 5V DC TTL output module
	1746-OV8	24V DC 8 current sinking DC output module	1769-OV16	16 outputs, 24V DC sink output module
	1746-OV16	24V DC 16 current sinking DC output module	1769-OV16	16 output, 24V DC sink output module
	1746-OV32	24V DC 32 current sinking DC output module	1769-OV32T	32 terminated outputs, 24V DC sink output module
	1746-OVP16	24V DC 16 high current sinking DC output module	No replacement	—
	1746-OW4	AC/DC relay 4 relay (hard contact) output module	1769-OW8	8 outputs, 5...265V AC/5...125V DC relay output module
	1746-OW8	AC/DC relay 8 relay (hard contact) output module	1769-OW8	8 outputs, 5...265V AC/5...125V DC relay output module
	1746-OW16	AC/DC relay 16 relay (hard contact) output module	1769-OW16	16 outputs, 5...265V AC/5...125V DC relay output module
	1746-OX8	AC/DC relay 8 relay (hard contact) output module	No replacement	—
Digital combination	1746-I04	120V AC (inputs) 100/120V AC (relay contact outputs) 2-in 2-out combination input/output module	No replacement	—
	1746-I08	120V AC (inputs) 100/120V AC (relay contact outputs) 4-in 4-out combination input/output module	No replacement	—
	1746-I012	120V AC (inputs) 100/120V AC (relay contact outputs) 6-in 6-out combination input/output module	No replacement	—
	1746-I012DC	240V DC (inputs) 100/120V AC (relay contact outputs) 6-in 6-out combination input/output module	1769-IQ6X0W4	6 inputs, 4 outputs, 24V DC sink/source input AC/DC normally open, relay contact output module

Table 3 - Recommended Compact I/O Replacement (Continued)

Module Type	Catalog Number <sup>(1)</sup>	SLC Module Description	Recommended Compact I/O Replacement <sup>(2)</sup>	Compact I/O Module Description
Analog input	1746-INT4	4-channel thermocouple (J, K, T, E, R, S, B, N, C, D)/mV input module	1769sc-IT6I	Isolated thermocouple or millivolt input module
	1746-NI4	High resolution (4) analog input module	1769-IF4	4 inputs, differential or single-ended, $\pm 10\text{V}/0\text{...}10\text{V}/0\text{...}5\text{V}/1\text{...}5\text{V}/0\text{...}20\text{ mA}/4\text{...}20\text{ mA}$ analog input module
	1746-NI8	High resolution (8) analog input module	1769-IF8	8 inputs, differential or single-ended, $\pm 10\text{V}/0\text{...}10\text{V}/0\text{...}5\text{V}/1\text{...}5\text{V}/0\text{...}20\text{ mA}/4\text{...}20\text{ mA}$ analog input module
	1746-NI16I	-20 mA to +20 mA high resolution (16) analog input module	1769-IF16C	16 inputs, single-ended 0...20 mA/ 4...20 mA analog input module
	1746-NI16V	-10V DC to +10V DC high resolution (16) analog input module	1769-IF16V	16 inputs, single-ended, $\pm 10\text{V}/0\text{...}10\text{V}/0\text{...}5\text{V}/1\text{...}5\text{V}$ analog input module
	1746-NR4	4-channel RTD/resistance input module	1769-IR6	6 RTD inputs, 100, 200, 500, 1000 Platinum 385/3916, 120 ohm Nickel 618/672, 10 ohm Nickel-iron, 0...150/500/1000/3000 ohm module
	1746-NR8	8-channel RTD/resistance input module	1769-IR6	6 RTD inputs, 100, 200, 500, 1000 Platinum 385/3916, 120 ohm Nickel 618/672, 10 ohm Nickel-iron, 0...150/500/1000/3000 ohm module
	1746-NT4	4-channel thermocouple (J, K, T, E, R, S, B, N)/mV input module	1769-IT6	6 thermocouple, thermocouple types B, C, E, J, K, N, R, S, T/ $\pm 50\text{V}/\pm 100\text{V}$ module
	1746-NT8	8-channel thermocouple (J, K, T, E, R, S, B, N)/mV input module	1769-IT6	6 thermocouple, thermocouple types B, C, E, J, K, N, R, S, T/ $\pm 50\text{V}/\pm 100\text{V}$ module
Analog output	1746-NIO4I	High resolution (2) analog input, (2) analog current output module	1769-IF4XOF2	4 inputs, differential or single-ended, 2 outputs, single-ended analog module
	1746-NIO4V	High resolution (2) analog input, (2) analog voltage output module	1769-IF4XOF2	4 inputs, differential or single-ended, 2 outputs, single-ended analog module
	1746-NO4I	0...20 mA (4) analog current output module	1769-OF4	4 outputs, single-ended, $\pm 10\text{V}/0\text{...}10\text{V}/0\text{...}5\text{V}/1\text{...}5\text{V}/0\text{...}20\text{ mA}/4\text{...}20\text{ mA}$ analog output module
	1746-NO4V	-10V DC to +10V DC (4) analog current output module	1769-OF4	4 outputs, single-ended, $\pm 10\text{V}/0\text{...}10\text{V}/0\text{...}5\text{V}/1\text{...}5\text{V}/0\text{...}20\text{ mA}/4\text{...}20\text{ mA}$ analog output module
	1746-NO8I	0...20 mA (8) analog current output module	1769-OF8C	8 outputs, single-ended, 0...20 mA/4...20 mA analog output module
	1746-NO8V	-10V DC to +10V DC (8) analog current output module	1769-OF8V	8 outputs, single-ended, $\pm 10\text{V}/0\text{...}10\text{V}/0\text{...}5\text{V}/1\text{...}5\text{V}$ analog output module
Analog combination	1746-FIO4I	(2) Fast analog input, (2) analog current output module	1769-IF4XOF2	4 inputs, differential or single-ended, 2 outputs, single-ended analog module
	1746-FIO4V	(2) Fast analog input, (2) analog voltage output module	1769-IF4XOF2	4 inputs, differential or single-ended, 2 outputs, single-ended analog module

**Table 3 - Recommended Compact I/O Replacement (Continued)**

Module Type	Catalog Number <sup>(1)</sup>	SLC Module Description	Recommended Compact I/O Replacement <sup>(2)</sup>	Compact I/O Module Description
Specialty	1747-ACN15	ControlNet® adapter	No replacement	—
	1747-ACNR15	ControlNet adapter, redundant	No replacement	—
	1747-ASB	SLC 500 remote I/O adapter	No replacement	—
	1746-BAS	Basic module	No replacement	—
	1746-BAS-T	High-speed basic module	No replacement	—
	1746-BLM	Blow molding module	No replacement	—
	1746-BTM	Barrel temperature module	No replacement	—
	1746-HS	IMC 110 motion module	No replacement	—
	1746-HSCE	High-speed counter encoder module	No replacement	—
	1746-HSCE2	Multi-channel high-speed counter encoder module	1769-HSC	High-speed counter module
	1746-HSTP1	1-axis stepper module	No replacement	—
	1746-N2	Empty slot filler	1769-ARM	Compact address reserve module
	1746-QS	Synchronized axis module	No replacement	—
	1746-QV	Open loop velocity control module	No replacement	—
	1747-SCNR	ControlNet scanner	No replacement	—
	1747-SDN	DeviceNet scanner	1769-SDN	Compact I/O DeviceNet scanner
	1746-SIM	16-point input simulator module	No replacement	—
	1747-SN	Remote I/O scanner	No replacement	—

(1) The product may be in Active Mature, End of Life, or Discontinued state. To view the most up-to-date product lifecycle status, search for the catalog number on the [Product Lifecycle Status](#) website.

(2) The recommended replacements that are indicated in this table are for reference only. There may be slight differences in specifications between the existing 1746 SLC I/O module and recommended 1769 Compact I/O module. Consult your local sales team for further assistance.

## Upgrade an SLC I/O Installation by Replacing it with Compact 5000 I/O

[Table 4](#) lists the recommended replacement Compact 5000 I/O module to your existing SLC 500 I/O module.

Before upgrading, take note of the following:

- When replacing an SLC I/O with a Compact 5000 I/O, a CompactLogix 5380, CompactLogix 5480, or ControlLogix® 5580 controller must be used.
- There might be technical differences between the SLC I/O and Compact 5000 I/O. Verify the specifications to meet your application needs. For wiring diagrams and technical specifications of Compact 5000 I/O modules, see Compact 5000 I/O Modules Specifications Technical Data, publication [5069-TD001](#).

Table 4 - Recommended Compact 5000 I/O Replacement

Module Type	Catalog Number <sup>(1)</sup>	SLC Module Description	Recommended Compact 5000 I/O Replacement <sup>(2)</sup>	Compact 5000 I/O Module Description
Digital input	1746-IA4	100/120V AC 4 120V AC input module	5069-IA16	16-point, 120/240V AC digital input module
	1746-IA8	100/120V AC 8 120V AC input module	5069-IA16	16-point, 120/240V AC digital input module
	1746-IA16	100/120V AC 16 120V AC input module	5069-IA16	16-point, 120/240V AC digital input module
	1746-IB8	24V DC 8 current sinking DC input module	5069-IB16	16-point, 24V DC sinking digital input module
	1746-IB16	24V DC 16 current sinking DC input module	5069-IB16	16-point, 24V DC sinking digital input module
	1746-IB32	24V DC 32 current sinking DC input module	5069-IB16 x 2 <sup>(3)</sup>	16-point, 24V DC sinking digital input module
	1746-IC16	48V DC 16 current sinking DC input module	No replacement	—
	1746-IG16	5V DC 16 current sourcing TTL input module	No replacement	—
	1746-IH16	125V DC 16 current sinking DC input module	No replacement	—
	1746-IM4	200/240V AC 4 240V AC input module	5069-IA16	16-point, 120/240V AC digital input module
	1746-IM8	200/240V AC 8 240V AC input module	5069-IA16	16-point, 120/240V AC digital input module
	1746-IM16	200/240V AC 16 240V AC input module	5069-IA16	16-point, 120/240V AC digital input module
	1746-IN16	24V AC/DC 16 24V AC/DC input module	No replacement	—
	1746-ITB16	24V DC 16 fast response DC sinking input module	5069-IB16	16-point, 24V DC sinking digital input module
	1746-ITV16	24V DC 16 fast response DC sourcing input module	No replacement	—
	1746-IV8	24V DC 8 current sourcing DC input module	No replacement	—
	1746-IV16	24V DC 16 current sourcing DC input module	No replacement	—
1746-IV32	24V DC 32 current sourcing DC input module	No replacement	—	
Digital output	1746-OA8	120/240V AC 8 120/240V AC output module	5069-OA16	16-point, 120/240V AC digital output module
	1746-OA16	120/240V AC 16 120/240V AC output module	5069-OA16	16-point, 120/240V AC digital output module
	1746-OAP12	120/240V AC 12 high current 120/240V AC output module	No replacement	—
	1746-OB6E1	24V DC 6 electronically protected isolated sourcing DC output module	No replacement	—
	1746-OB8	24V DC 8 current sourcing DC output module	5069-OB8	8-point, 24V DC high current digital output module
	1746-OB16	24V DC 16 current sourcing DC output module	5069-OB16	16-point, 24V DC sourcing digital output module
	1746-OB16E	24V DC 16 electronically protected current sourcing DC output module	5069-OB16	16-point, 24V DC sourcing digital output module
	1746-OB32	24V DC 32 current sourcing DC output module	5069-OB16 x 2 <sup>(3)</sup>	16-point, 24V DC sourcing digital output module
	1746-OB32E	24V DC 32 electronically protected current sourcing DC output module	5069-OB16 x 2 <sup>(3)</sup>	16-point, 24V DC sourcing digital output module
	1746-OBP8	24V DC 8 high current sourcing DC output module	5069-OB8	8-point, 24V DC high current digital output module
	1746-OBP16	24V DC 16 high current sourcing DC output module	5069-OB8 x 2 <sup>(4)</sup>	16-point, 24V DC high current digital output module
1746-OG16	5V DC 16 current sourcing TTL output module	No replacement	—	
Digital output (cont)	1746-OV8	24V DC 8 current sinking DC output module	No replacement	—
	1746-OV16	24V DC 16 current sinking DC output module	No replacement	—
	1746-OV32	24V DC 32 current sinking DC output module	No replacement	—
	1746-OVP16	24V DC 16 high current sinking DC output module	No replacement	—
	1746-OW4	AC/DC relay 4 relay (hard contact) output module	5069-OW4 <sup>(5)(6)</sup>	4-point, normally open, isolated relay output module
	1746-OW8	AC/DC relay 8 relay (hard contact) output module	5069-OW16 <sup>(5)(6)</sup>	16-point, non-isolated, high-density relay output module
	1746-OW16	AC/DC relay 16 relay (hard contact) output module	5069-OW16 <sup>(5)(6)</sup>	16-point, non-isolated, high-density relay output module
	1746-OX8	AC/DC relay 8 relay (hard contact) output module	5069-OX4 <sup>(5)(6)</sup>	4-point, normally open/normally closed, isolated relay output module

**Table 4 - Recommended Compact 5000 I/O Replacement (Continued)**

Module Type	Catalog Number <sup>(1)</sup>	SLC Module Description	Recommended Compact 5000 I/O Replacement <sup>(2)</sup>	Compact 5000 I/O Module Description
Digital combination	1746-I04	120V AC (inputs) 100/120V AC (relay contact outputs) 2-in 2-out combination input/output module	No replacement	—
	1746-I08	120V AC (inputs) 100/120V AC (relay contact outputs) 4-in 4-out combination input/output module	No replacement	—
	1746-I012	120V AC (inputs) 100/120V AC (relay contact outputs) 6-in 6-out combination input/output module	No replacement	—
	1746-I012DC	240V DC (inputs) 100/120V AC (relay contact outputs) 6-in 6-out combination input/output module	No replacement	—
Analog input	1746-INT4	4-channel thermocouple (J, K, T, E, R, S, B, N, C, D)/mV input module	No replacement	—
	1746-NI4	High resolution (4) analog input module	5069-IY4	4-channel, universal analog input module, differential inputs only
	1746-NI8	High resolution (8) analog input module	5069-IF8	8-channel, analog input module, differential inputs only
	1746-NI16I	-20 mA to +20 mA high resolution (16) analog input module	5069-IF8	8-channel, analog input module, differential inputs only
	1746-NI16V	-10V DC to +10V DC high resolution (16) analog input module	5069-IF8	8-channel, analog input module, differential inputs only
	1746-NR4	4-channel RTD/resistance input module	5069-IY4	4-channel, universal analog input module, differential inputs only
	1746-NR8	8-channel RTD/resistance input module	5069-IY4	4-channel, universal analog input module, differential inputs only
	1746-NT4	4-channel thermocouple (J, K, T, E, R, S, B, N)/mV input module	5069-IY4	4-channel, universal analog input module, differential inputs only
1746-NT8	8-channel thermocouple (J, K, T, E, R, S, B, N)/mV input module	5069-IY4	4-channel, universal analog input module, differential inputs only	
Analog output	1746-NI04I	High resolution (2) analog input, (2) analog current output module	No replacement	—
	1746-NI04V	High resolution (2) analog input, (2) analog voltage output module	No replacement	—
	1746-NO4I	0...20 mA (4) analog current output module	5069-OF4	4-channel, analog output module
	1746-NO4V	-10V DC to +10V DC (4) analog current output module	5069-OF4	4-channel, analog output module
	1746-NO8I	0...20 mA (8) analog current output module	5069-OF8	8-channel, analog output module
	1746-NO8V	-10V DC to +10V DC (8) analog current output module	5069-OF8	8-channel, analog output module
Analog combination	1746-FI04I	(2) Fast analog input, (2) analog current output module	No replacement	—
	1746-FI04V	(2) Fast analog input, (2) analog voltage output module	No replacement	—
Specialty	1747-ACN15	ControlNet adapter	No replacement	—
	1747-ACNR15	ControlNet adapter, redundant	No replacement	—
	1747-ASB	SLC 500 remote I/O adapter	No replacement	—
	1746-BAS	Basic module	No replacement	—
	1746-BAS-T	High-speed basic module	No replacement	—
	1746-BLM	Blow molding module	No replacement	—
	1746-BTM	Barrel temperature module	No replacement	—

Table 4 - Recommended Compact 5000 I/O Replacement (Continued)

Module Type	Catalog Number <sup>(1)</sup>	SLC Module Description	Recommended Compact 5000 I/O Replacement <sup>(2)</sup>	Compact 5000 I/O Module Description
Specialty (cont)	1746-HS	IMC IIO motion module	No replacement	—
	1746-HSCE	High-speed counter encoder module	5069-HSC2X0B4	High-speed counter, 2-axis, 4-point sourcing digital output module
	1746-HSCE2	Multi-channel high-speed counter encoder module	5069-HSC2X0B4	High-speed counter, 2-axis, 4-point sourcing digital output module
	1746-HSTP1	1 axis stepper module	No replacement	—
	1746-N2	Empty slot filler	5069-ARM	Address reserve module
	1746-QS	Synchronized axis module	No replacement	—
	1746-QV	Open loop velocity control module	No replacement	—
	1747-SCNR	ControlNet scanner	No replacement	—
	1747-SDN	DeviceNet scanner	No replacement	—
	1746-SIM	16-point input simulator module	No replacement	—
	1747-SN	Remote I/O scanner	No replacement	—

- (1) The product may be in Active Mature, End of Life, or Discontinued state. To view the most up-to-date product lifecycle status, search for the catalog number on the [Product Lifecycle Status](#) website.
- (2) The recommended replacements that are indicated in this table are for reference only. There may be slight differences in specifications between the existing 1746 SLC I/O module and recommended 5069 Compact 5000 I/O module. Consult your local sales team for further assistance.
- (3) 1746-IB32 modules can be replaced with two 5069-IB16 modules.
- (4) 1746-OBP16 modules can be replaced with two 5069-OB8 modules.
- (5) 5069-OW16 is a DC module.
- (6) The 5069-OW16 does not come with an internal snubber, an external surge suppressor is required. For more information on selecting and adding surge suppressors, see the Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

## SLC I/O Installation Using a Conversion Kit

You can use a conversion system to connect the existing SLC I/O wiring to the Compact 5000 I/O modules without disturbing the field wiring connections, reducing labor time and eliminating downtime that could result from wiring mistakes during the migration. With a conversion system I/O can be swapped one rack at a time, giving you the option to run both new and old I/O networks simultaneously.

Table 5 - SLC I/O to Compact 5000 I/O Conversion System Selection

SLC I/O Module Catalog Number (To be converted)	Compact 5000 I/O Modules Catalog Number (To be used)	Conversion Module Catalog Number	Conversion Module Description
1746-IA16	5069-IA16	1492-CM1746-M01	120VAC Input Module
1746-IM16			240VAC Input Module
1746-IB16	5069-IB16		Current Sinking DC Input Module
1746-ITB16			Fast Response DC Sinking Input Module
1746-OA16	5069-OA16	1492-CM1746-M02	120/240V AC Output Module
1746-OB16	5069-OB16	1492-CM1746-M03	Current Sourcing DC Output Module
1746-OB16E			Current Sourcing DC Output Module
1746-OW16	5069-OW16	1492-CM1746-M04	AC/DC Relay Output Module
1746-NI8	5069-IF8	1492-CM1746-M05	High Resolution (8) Analog Input Module
1746-NI4	5069-IY4	1492-CM1746-M06	High Resolution (4) Analog Input Module
1746-NR4		1492-CM1746-M07	SLC 500 RTD/Resistance Input Module
1746-NT4		1492-CM1746-M09	4-Channel Thermocouple/mV Input Module
1746-N04I	5069-OF4	1492-CM1746-M10	4 Point Analog Output Module (Current)
1746-N04V			4 Point Analog Output Module (Voltage)

**Table 5 - SLC I/O to Compact 5000 I/O Conversion System Selection**

SLC I/O Module Catalog Number (To be converted)	Compact 5000 I/O Modules Catalog Number (To be used)	Conversion Module Catalog Number	Conversion Module Description
1746-N08I	5069-0F8	1492-CM1746-M11	8 Point Analog Output Module (Current)
1746-N08V			8 Point Analog Output Module (Voltage)
1746-IB32	5069-IB16 (2x)	1492-CM1746-M12	Current Sinking DC Input Module
1746-OB32	5069-OB16 (2x)	1492-CM1746-M13	Current Sourcing DC Output Module
1746-OB32E			Current Sourcing DC Output Module

**Table 6 - SLC to Compact 5000 Chassis Conversion System Selection**

SLC 500 Chassis	1492 Conversion Chassis	1792 Slots max	Chassis Length	Usable Length	Number of Compact 5000 I/O Cards max
1746-A4	1492-CH1746-4	4	235 mm (9.25 in.)	203 mm (8.00 in.)	4
1746-A7	1492-CH1746-7	7	339 mm (13.33 in.)	307 mm (12.08 in.)	9
1746-A10	1492-CH1746-10	10	454 mm (17.88 in.)	422 mm (16.63 in.)	14
1746-A13	1492-CH1746-13	13	559 mm (22.00 in.)	527 mm (20.75 in.)	19

For more information on choosing the appropriate conversion chassis and conversion system for your system, see 1746 SLC I/O to Compact 5000 I/O Conversion System Selection Guide, publication [1492-SG010](#).

For more information on installing the 1492 conversion system chassis, see 1746-to-5069 I/O Conversion System Instruction Sheet, publication [1492-IN132](#).



## Wiring Diagram Comparisons

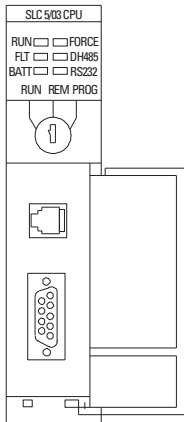
This appendix provides wiring diagram comparisons of the recommended replacement for your existing SLC 500 I/O module.

### Replace an SLC 5 Processor Serial Port with a Compact I/O Serial Module

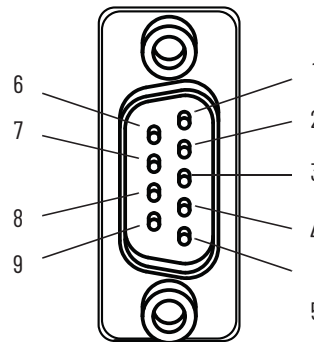
See the installations instructions and technical data of the associated catalogs for the detailed wiring instructions.

*SLC 5/03, SLC 5/04, or SCL 5/05 to 5069-SERIAL*

**SLC 5/03, 5/04, 5/05**  
Serial Port



**5069-SERIAL**  
Serial Module



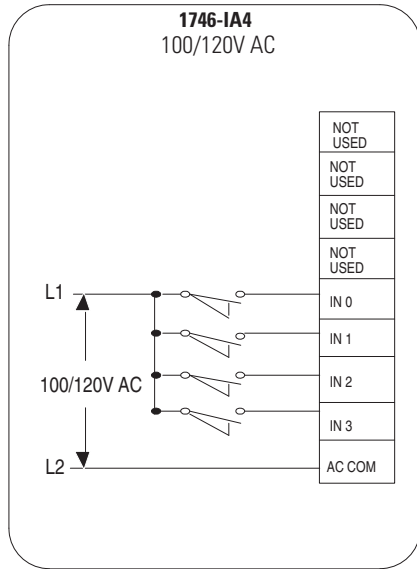
9-pin female	25-pin	9-pin
DCD.IN 1	8	1
RXD.IN 2	3	2
TXD.OUT 3	2	3
DTR.OUT 4	20	4
SIG.GND 5	7	5
DSR.IN 6	6	6
RTS.OUT 7	4	7
CTS.IN 8	5	8

Pin	RS-232C	Input (i)/Output (o)	Wiring	
			No Handshaking	Handshaking
1	Data Carrier Detect (DCD)	(i)	-	-
2	Receive Data (RXD)	(i)	A	A
3	Transmit Data (TXD)	(o)	A	A
4	Data Terminal Ready (DTR)	(o)	B	B
5	Common (COM)	-	A	A
6	Data Set Ready (DSR)	(i)	-	-
7	Request To Send (RTS)	(o)	B	A
8	Clear To Send (CTS)	(i)	-	A
9	-	-	-	-

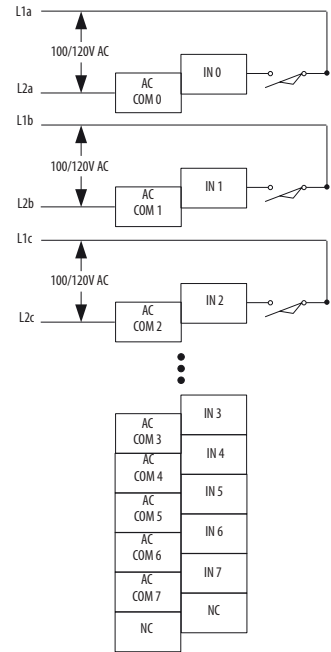
# Replace an SLC 500 I/O with a Compact I/O

See the installations instructions and technical data of the associated catalogs for the detailed wiring instructions.

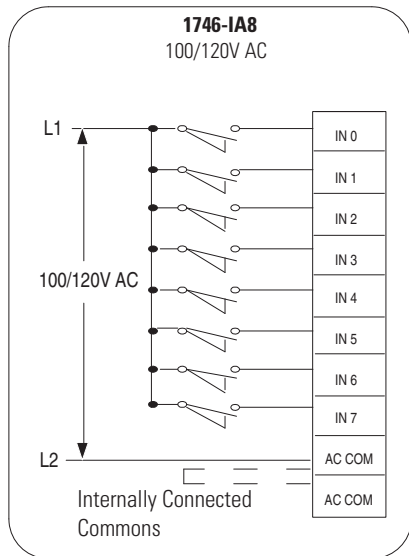
## 1746-IA4 to 1769-IA8I



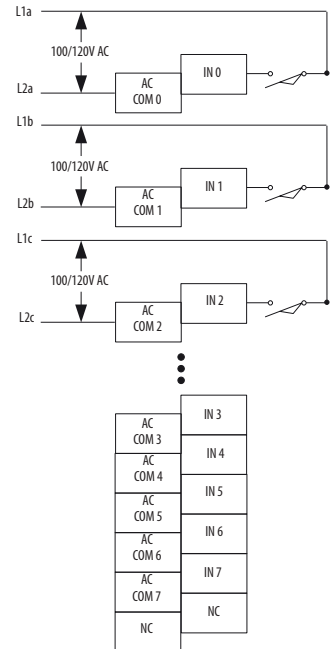
## 1769-IA8I 100/120V AC Input Module



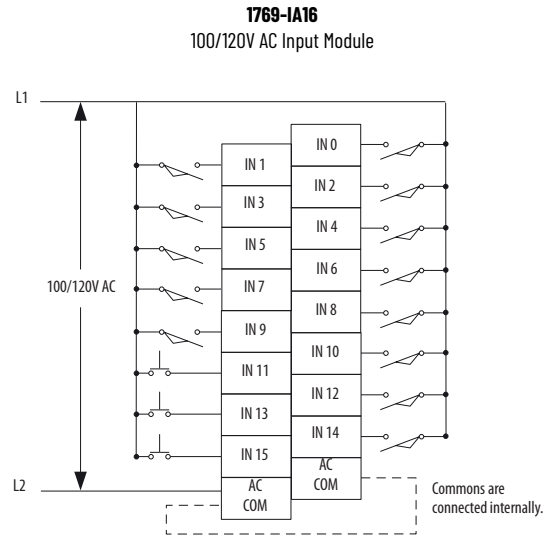
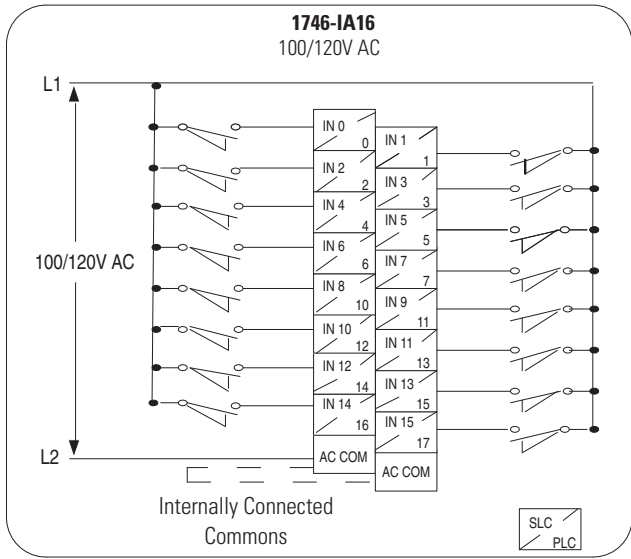
## 1746-IA8 to 1769-IA8I



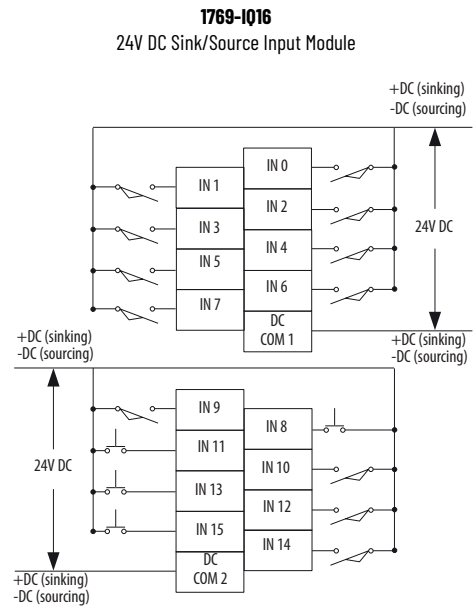
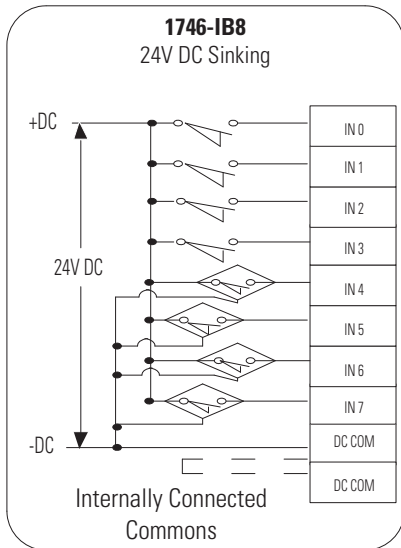
## 1769-IA8I 100/120V AC Input Module



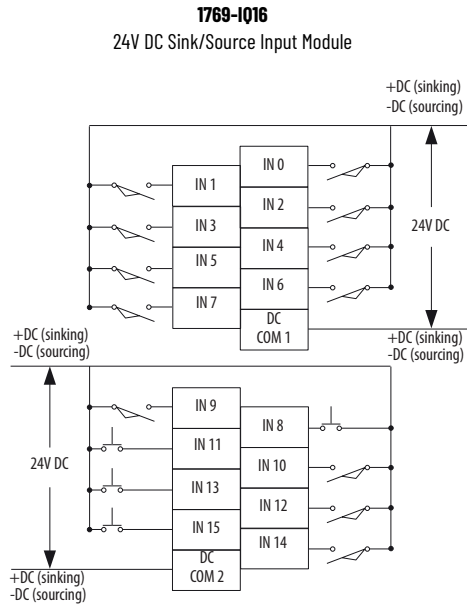
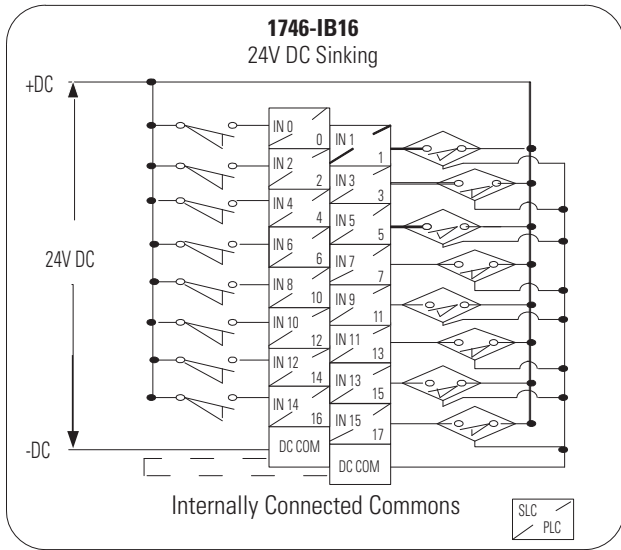
1746-IA16 to 1769-IA16



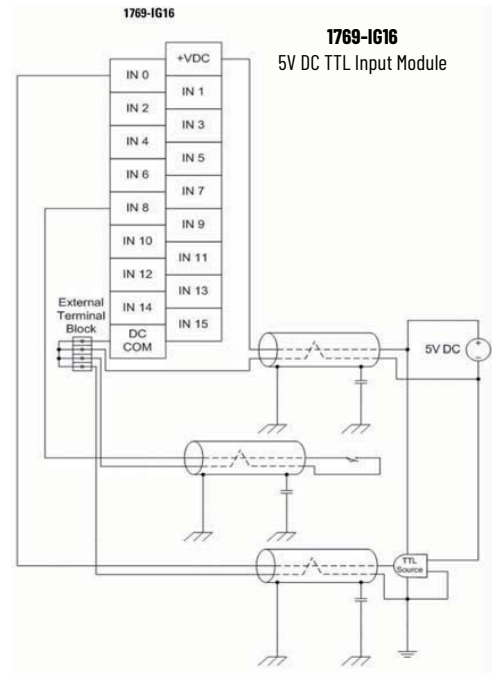
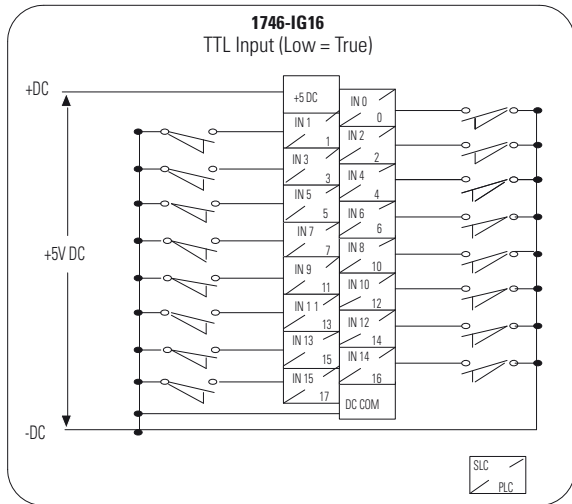
1746-IB8 to 1769-IQ16



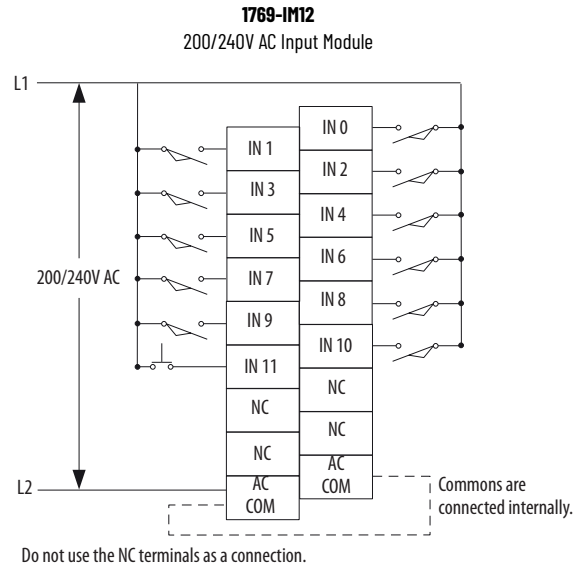
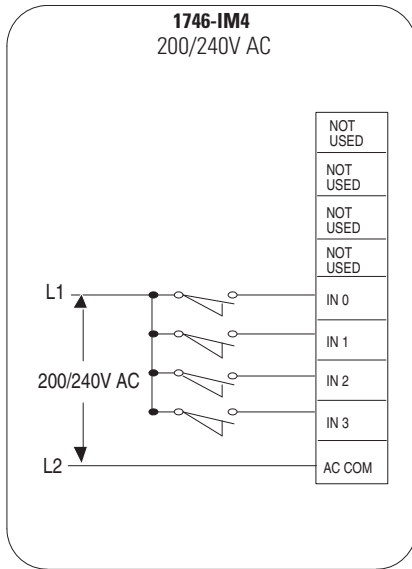
1746-IB16 to 1769-IQ16



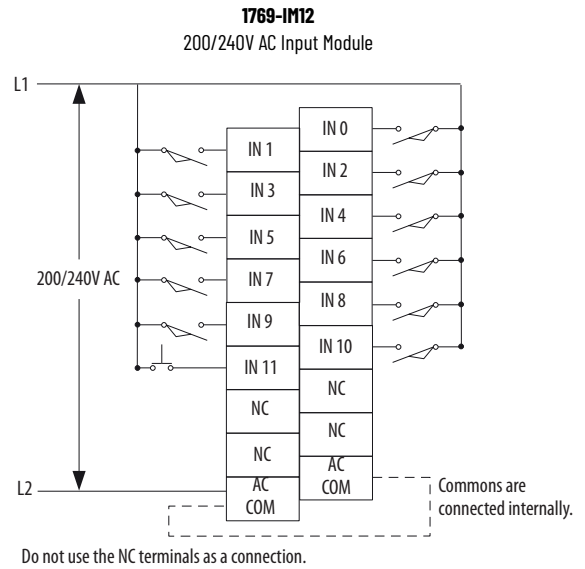
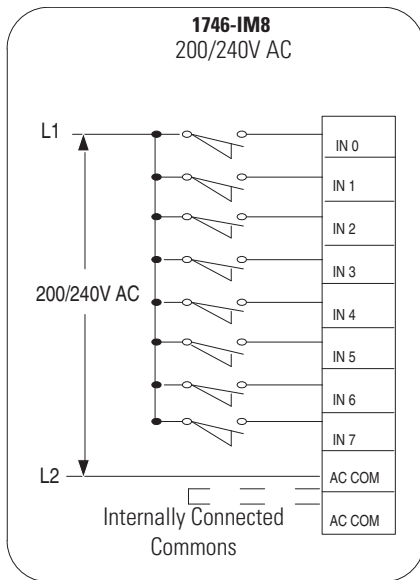
1746-IG16 to 1769-IG16



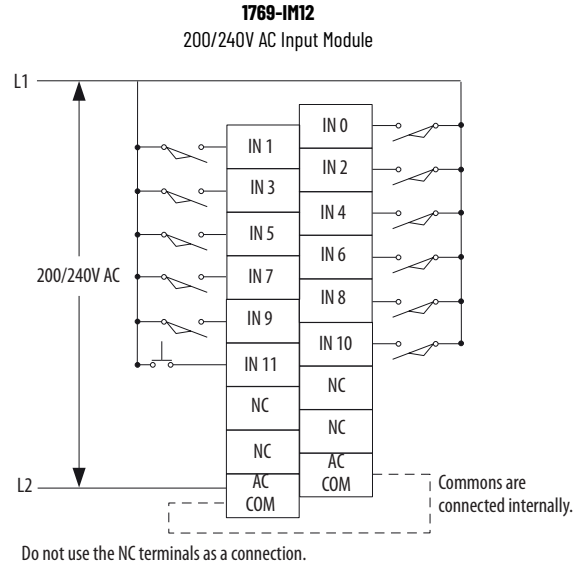
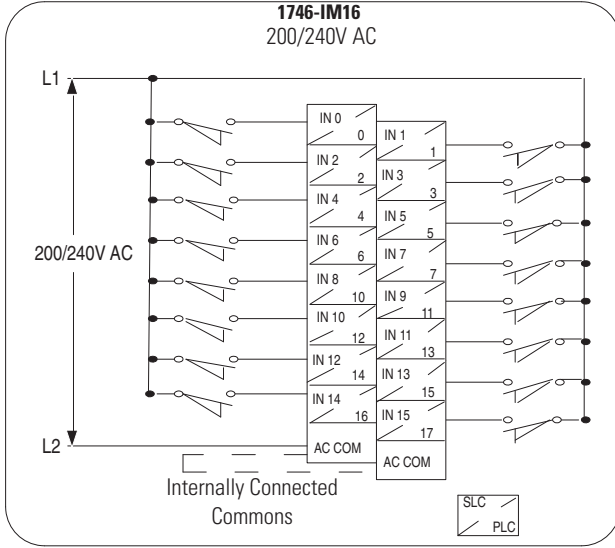
1746-IM4 to 1769-IM12



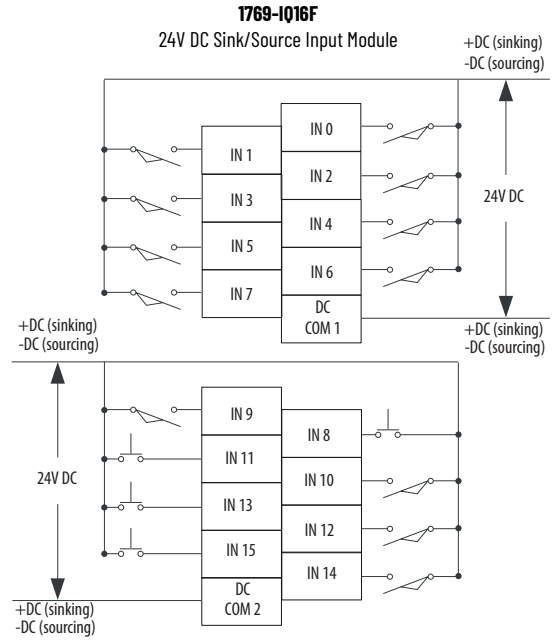
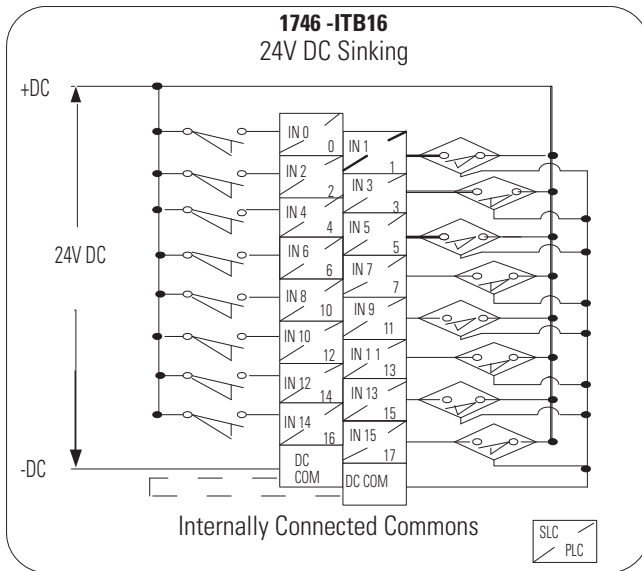
1746-IM8 to 1769-IM12



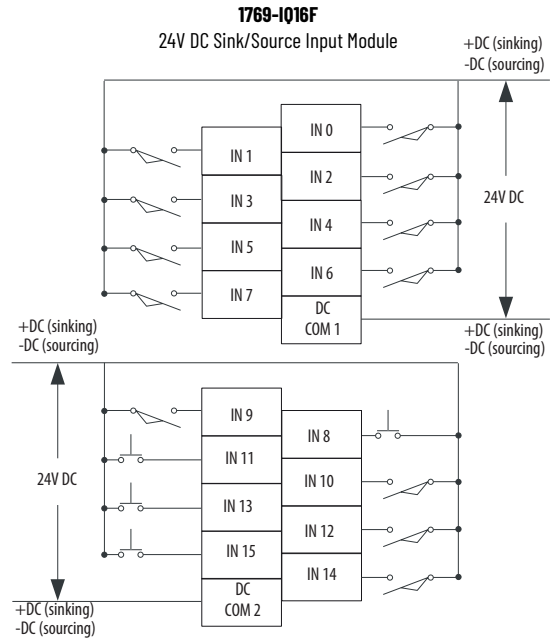
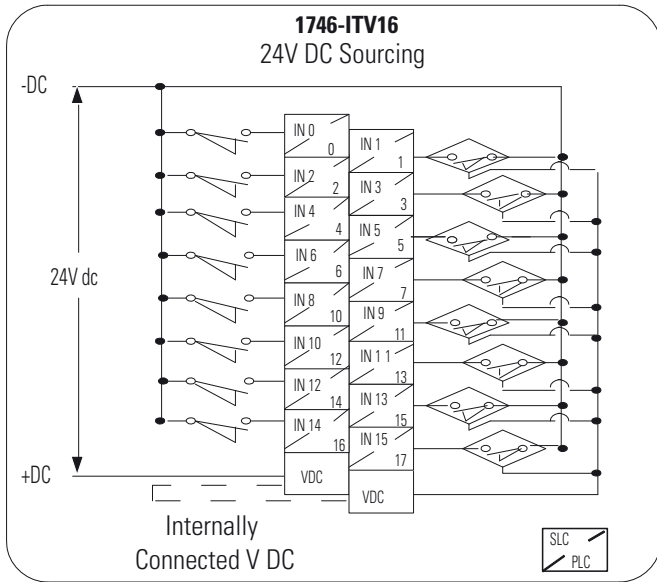
1746-IM16 to 1769-IM12



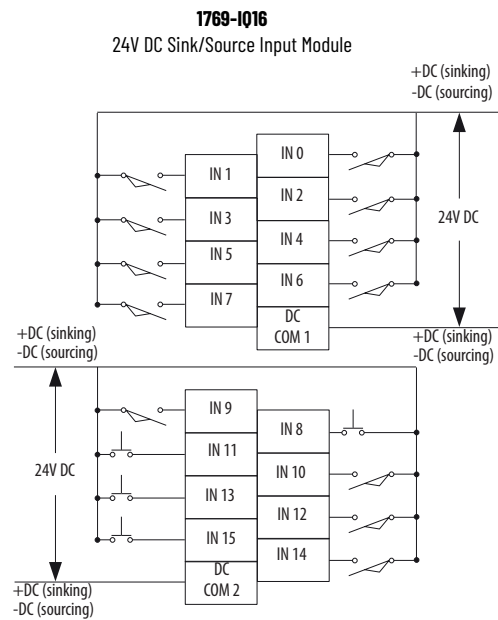
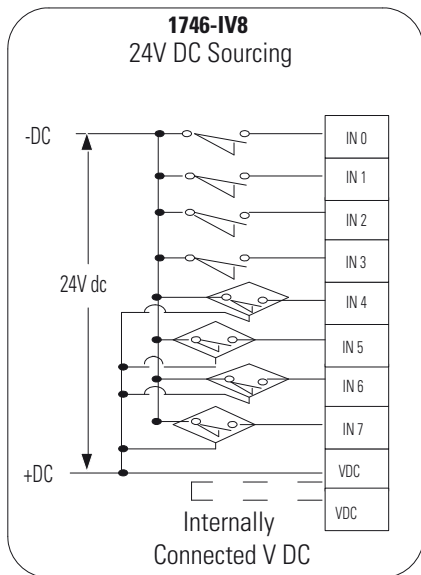
1746-ITB16 to 1769-IQ16F



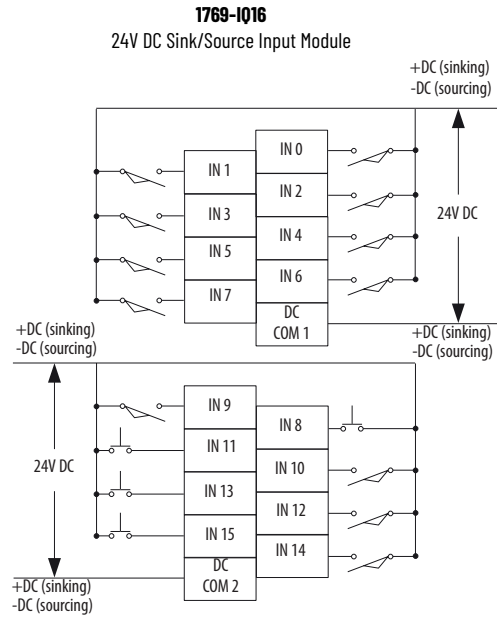
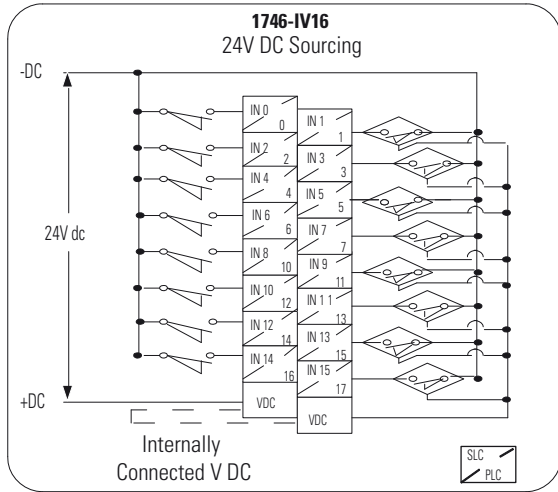
1746-ITV16 to 1769-IQ16F



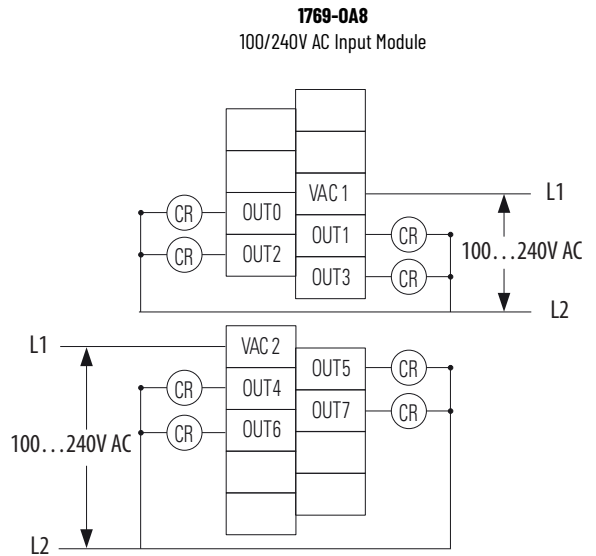
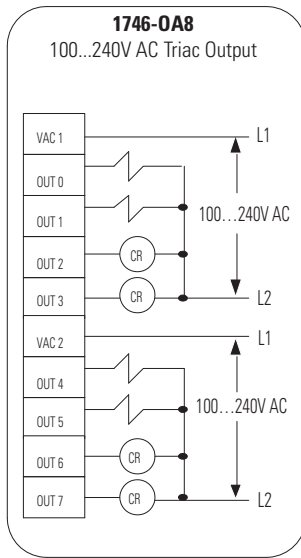
1746-IV8 to 1769-IQ16



1746-IV16 to 1769-IQ16

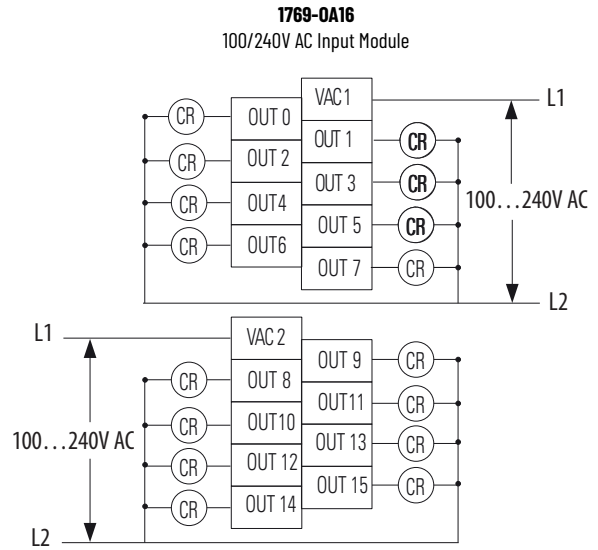
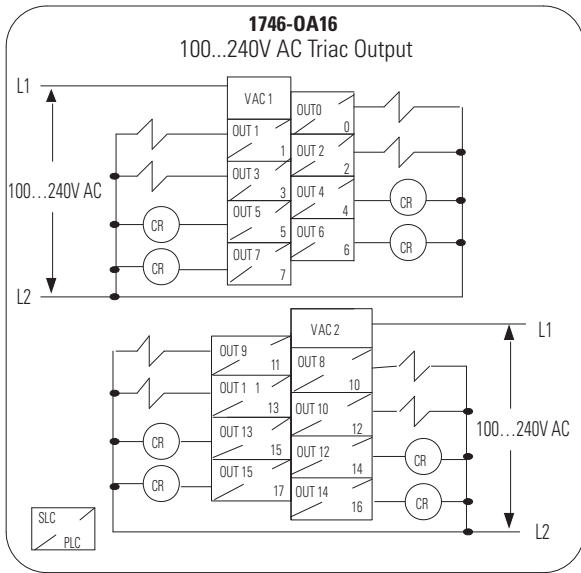


1746-OA8 to 1769-OA8

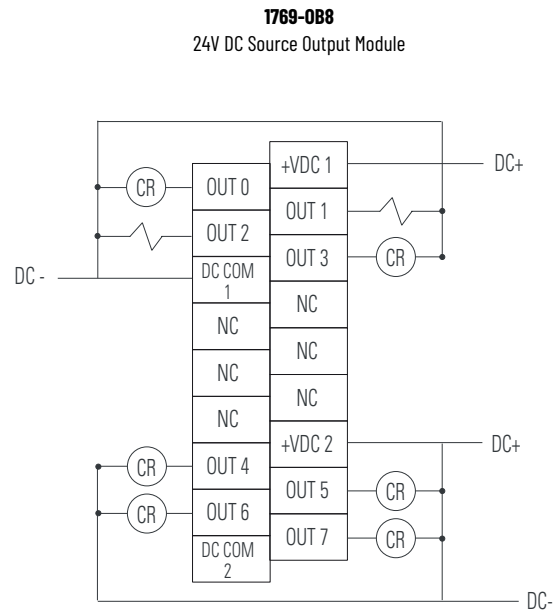
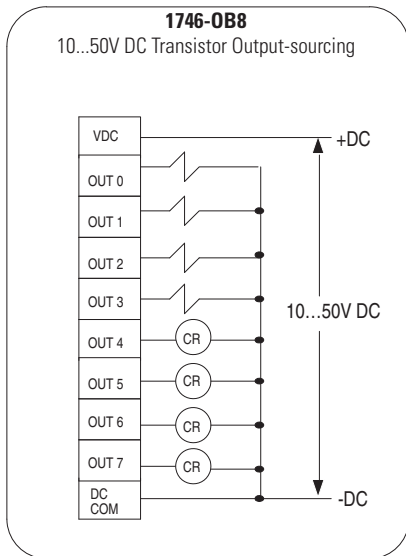




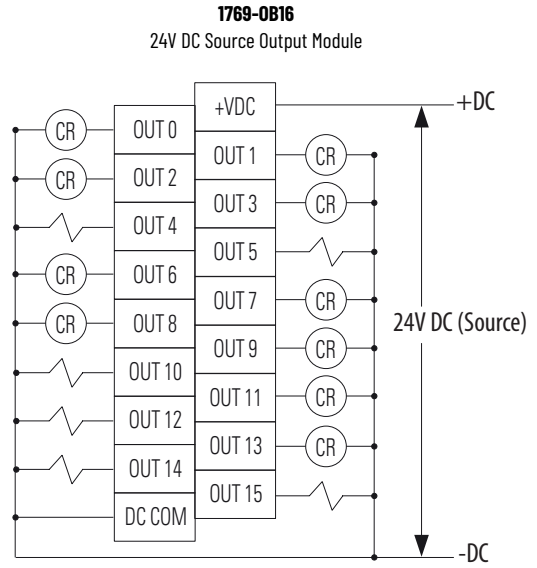
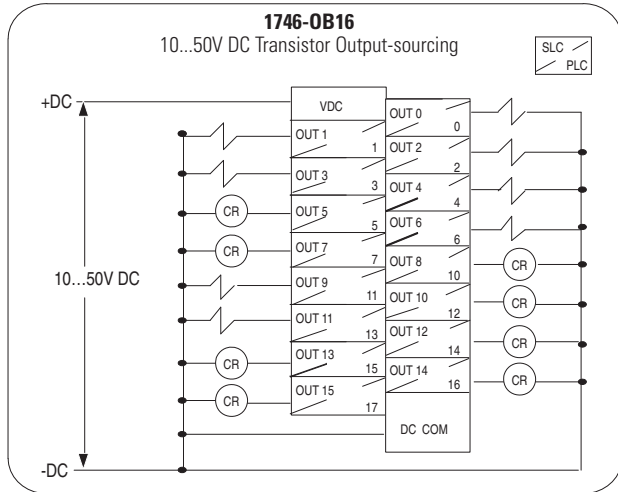
1746-0A16 to 1769-0A16



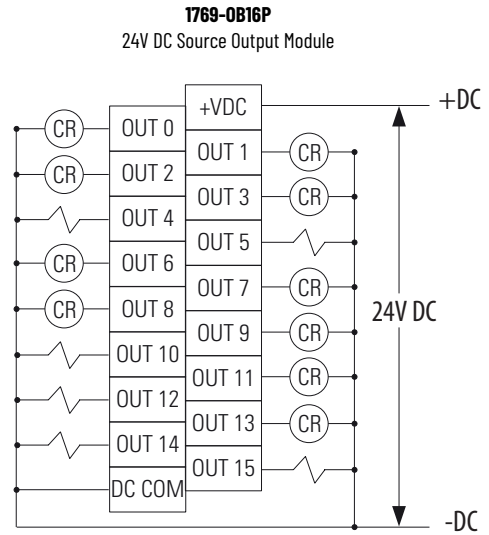
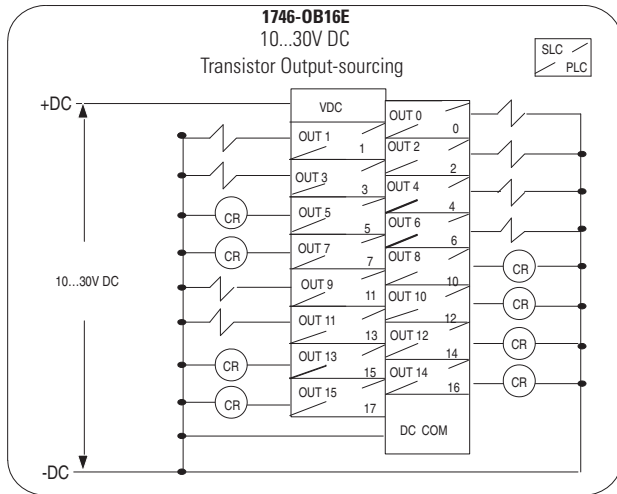
1746-0B8 to 1769-0B8



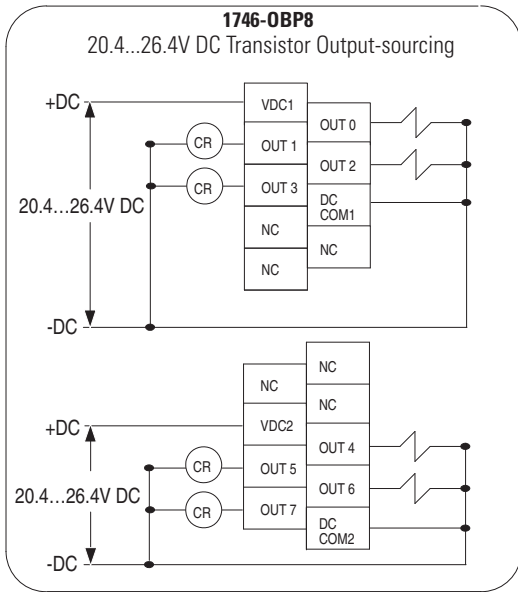
1746-OB16 to 1769-OB16



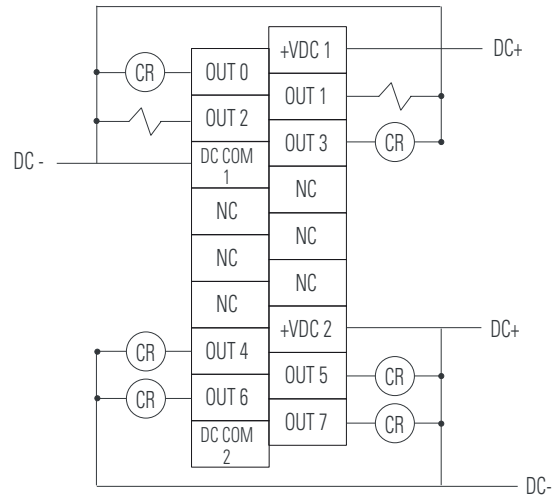
1746-OB16E to 1769-OB16P



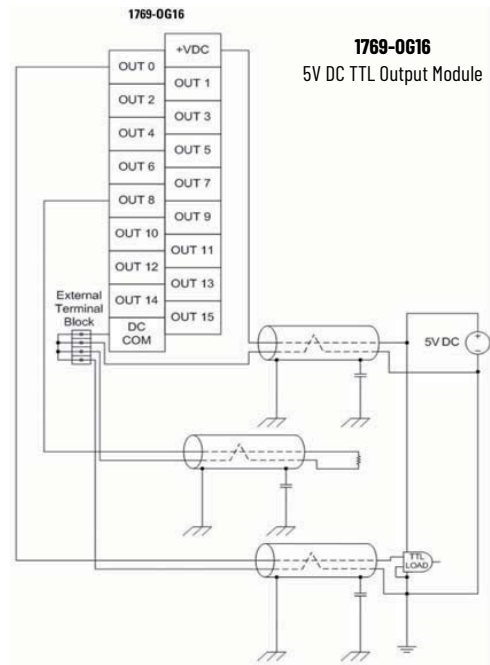
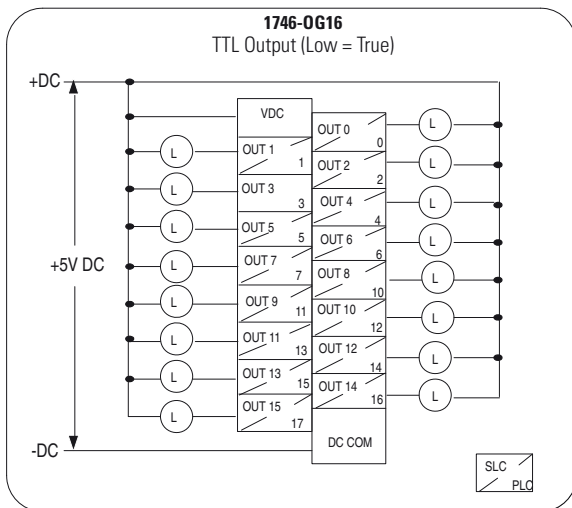
1746-OBP8 to 1769-OB8



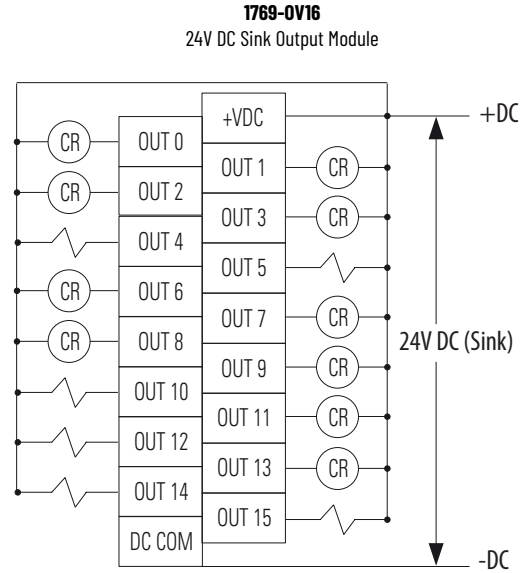
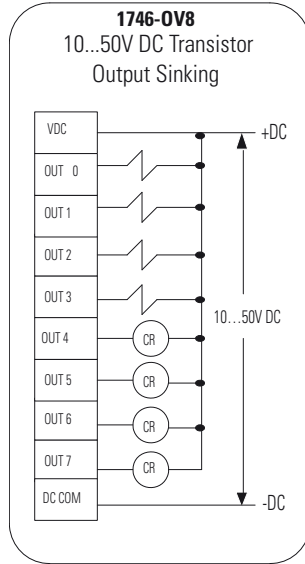
**1769-OB8**  
24V DC Source Output Module



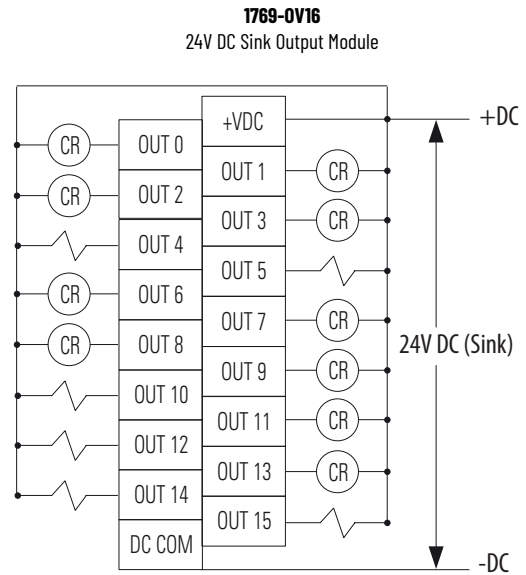
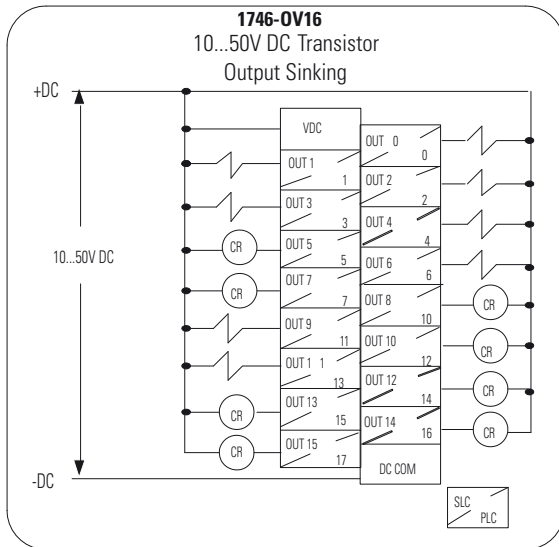
1746-OG16 to 1769-OG16



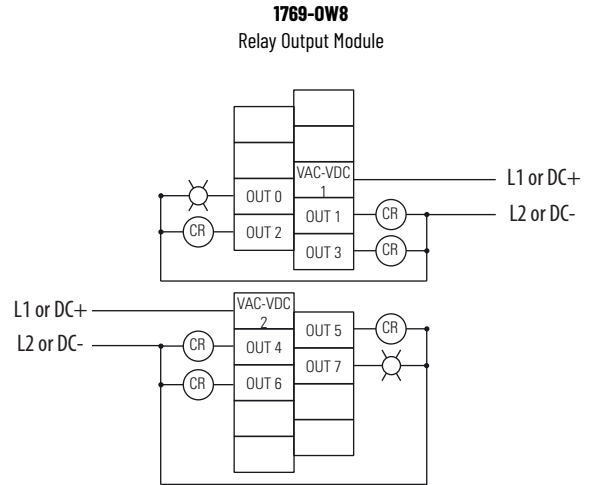
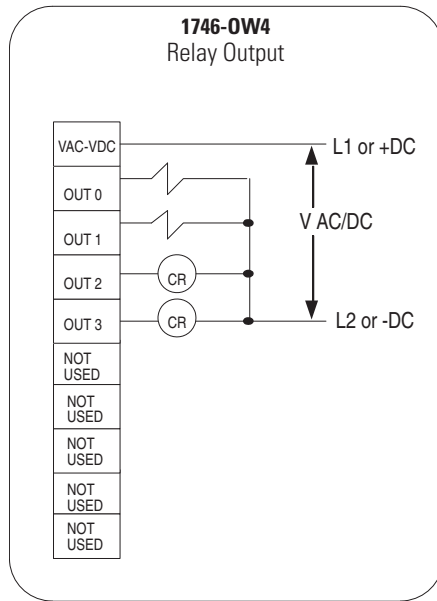
1746-OV8 to 1769-OV16



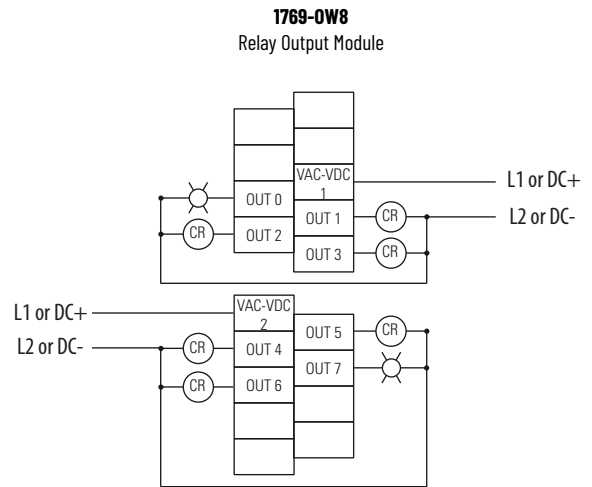
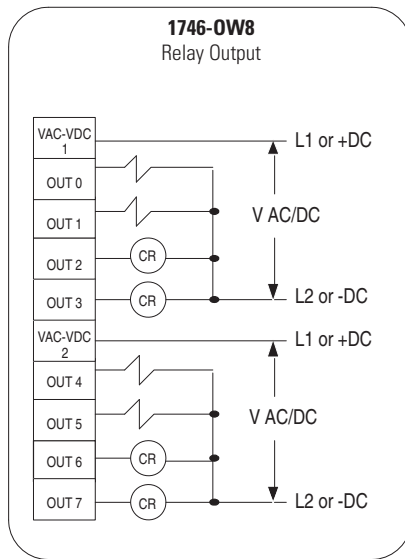
1746-OV16 to 1769-OV16



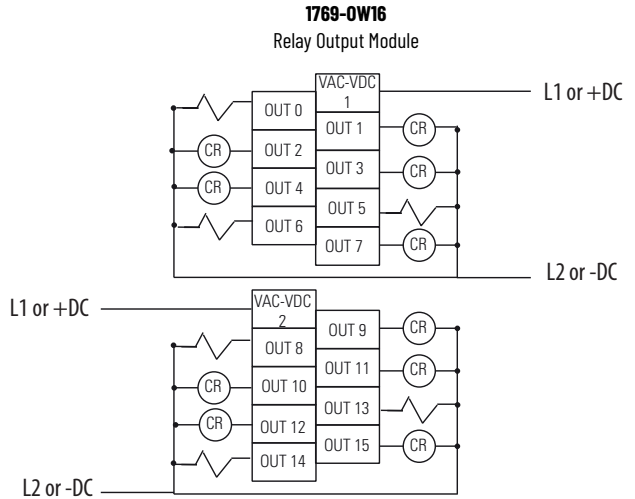
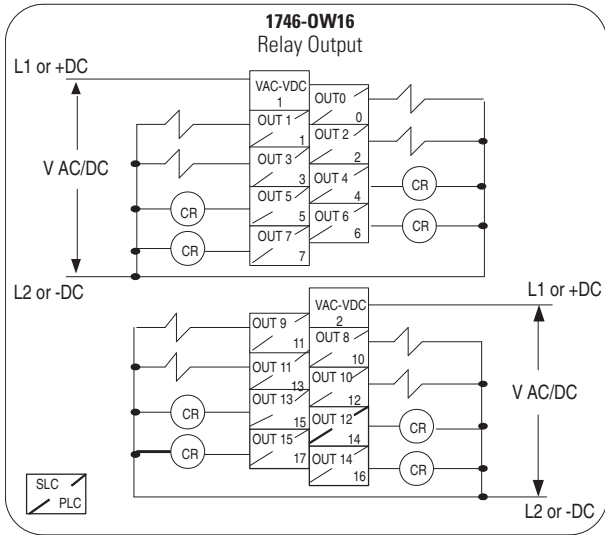
1746-OW4 to 1769-OW8



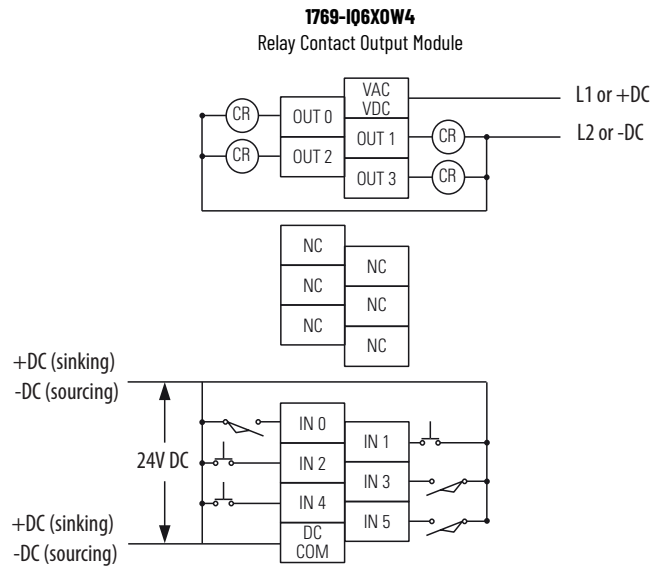
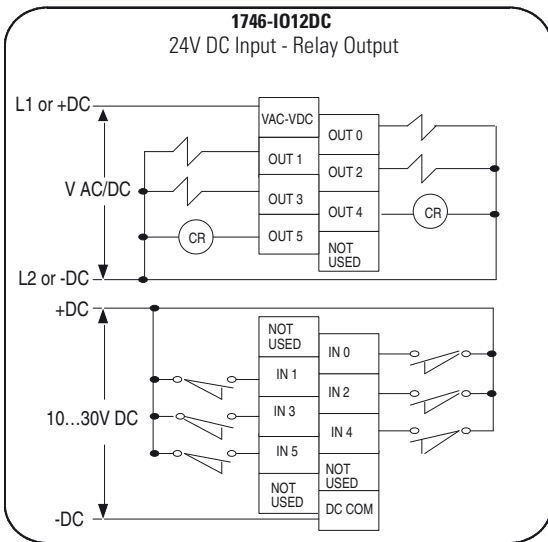
1746-OW8 to 1769-OW8



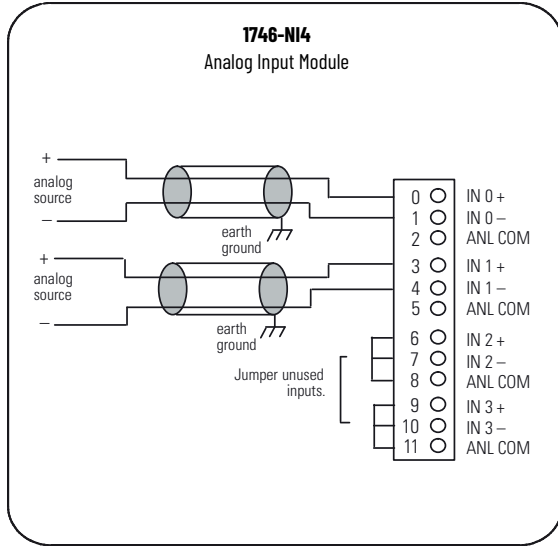
1746-OW16 to 1769-OW16



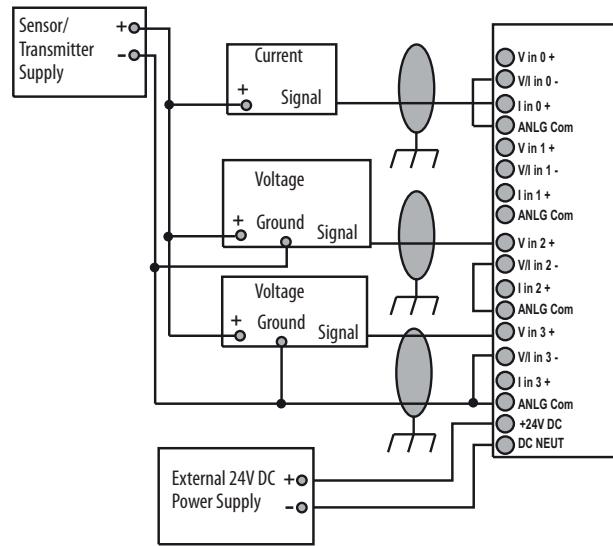
1746-IO2DC to 1769-IQ6XOW4



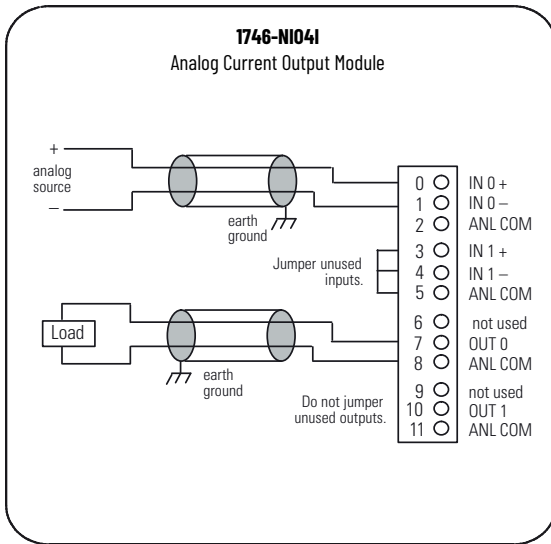
1746-NI4 to 1769-IF4



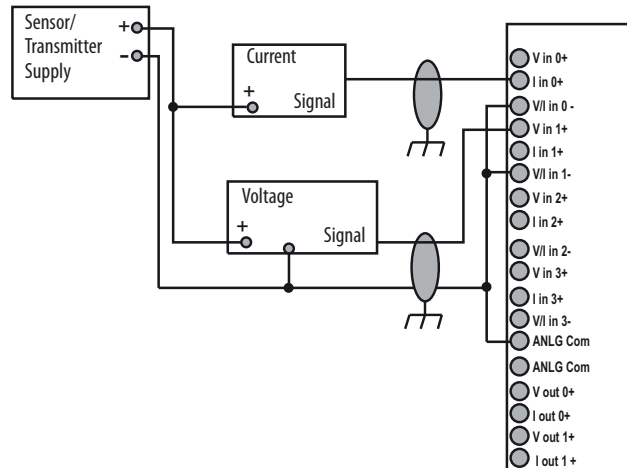
1769-IF4 Single-ended Sensor/Transmitter Inputs



1746-NI04I to 1769-IF4X0F2

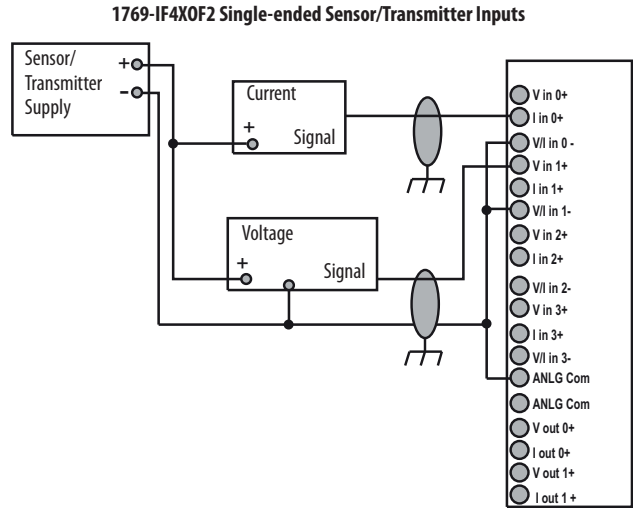
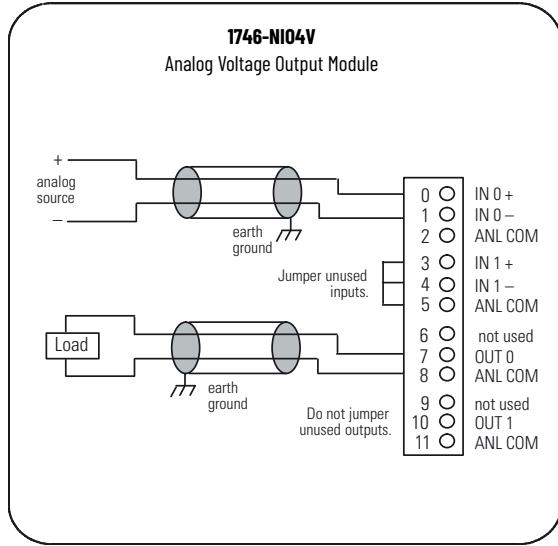


1769-IF4X0F2 Single-ended Sensor/Transmitter Inputs



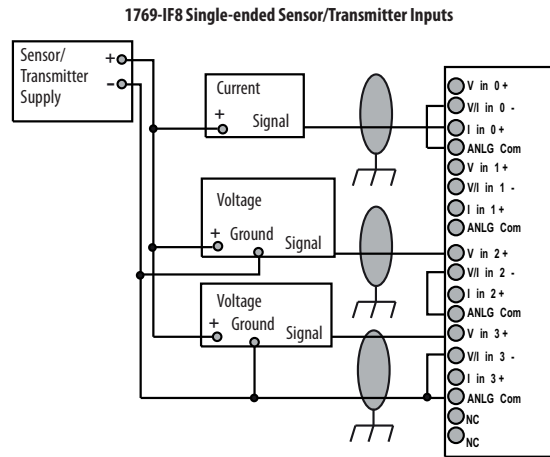
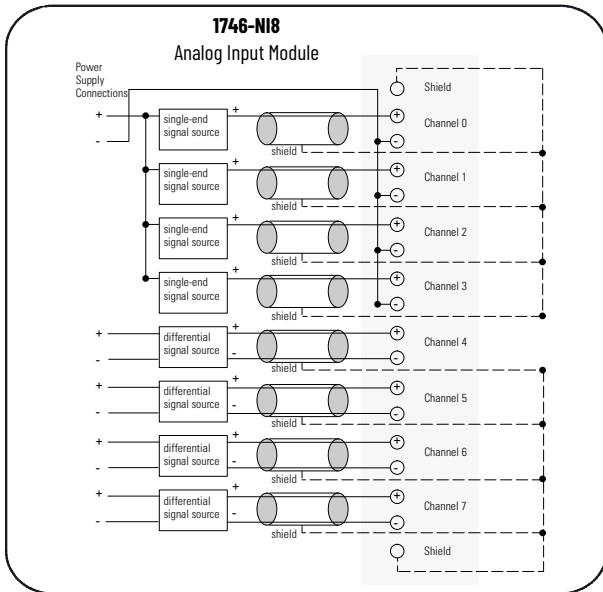
The sensor power supply must be rated Class 2.

1746-NI04V to 1769-IF4XOF2



The sensor power supply must be rated Class 2.

1746-NI8 to 1769-IF8

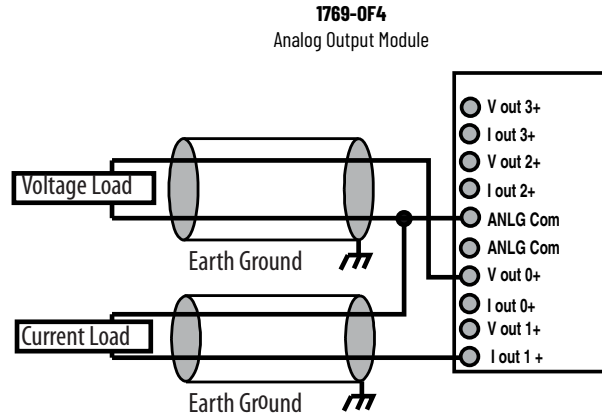
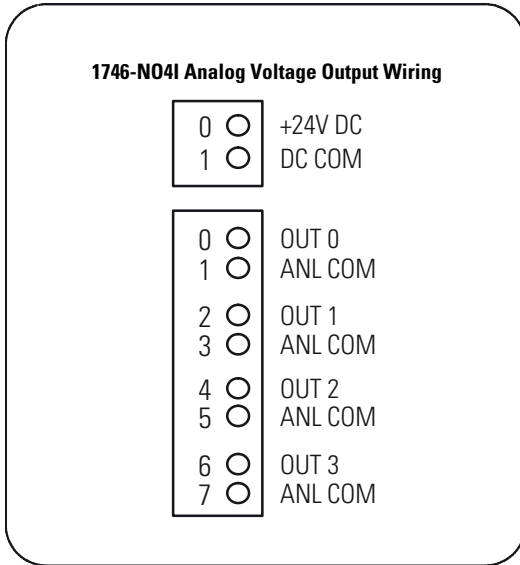


The sensor power supply must be rated Class 2.

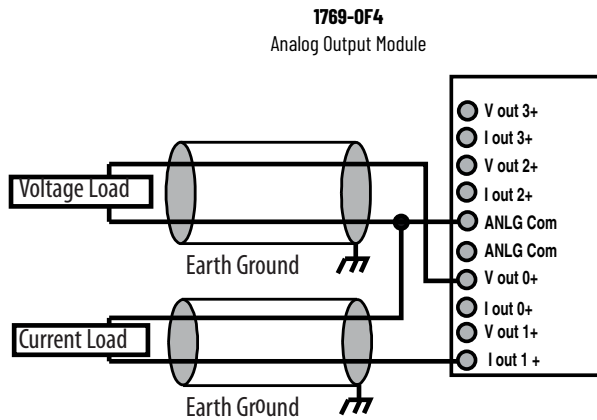
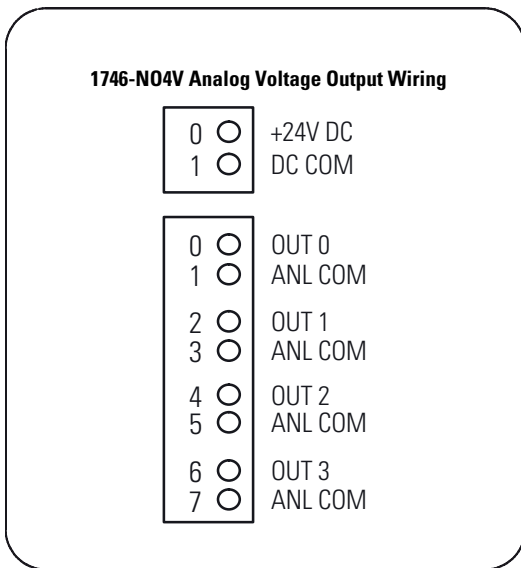
Wiring for channels 4...7 are identical.



1746-NO4I to 1769-OF4



1746-NO4V to 1769-OF4



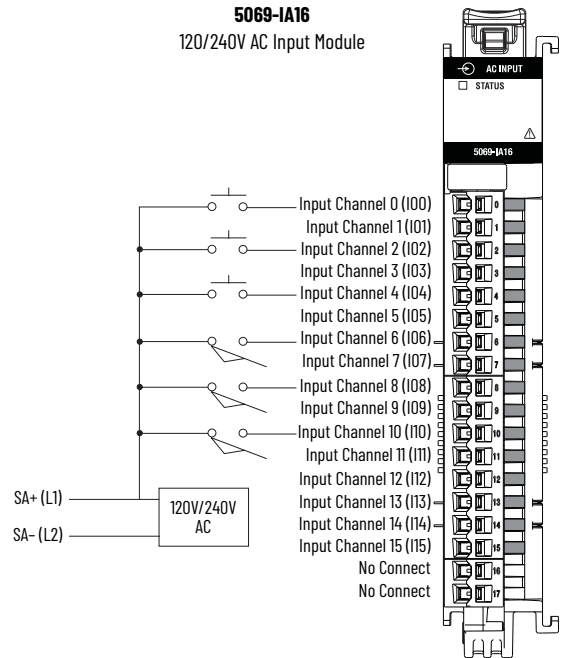
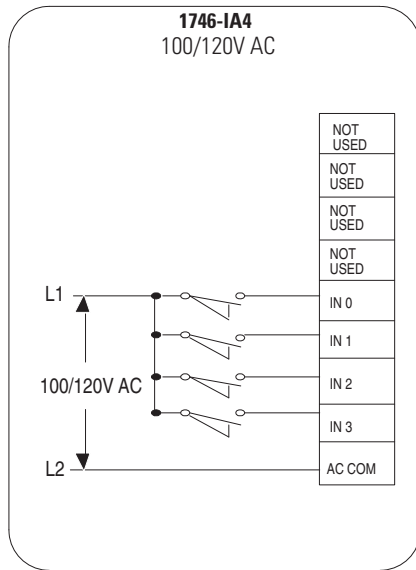
# Replace an SLC 500 I/O with a Compact 5000 I/O

See the installations instructions and technical data of the associated catalogs for the detailed wiring instructions.

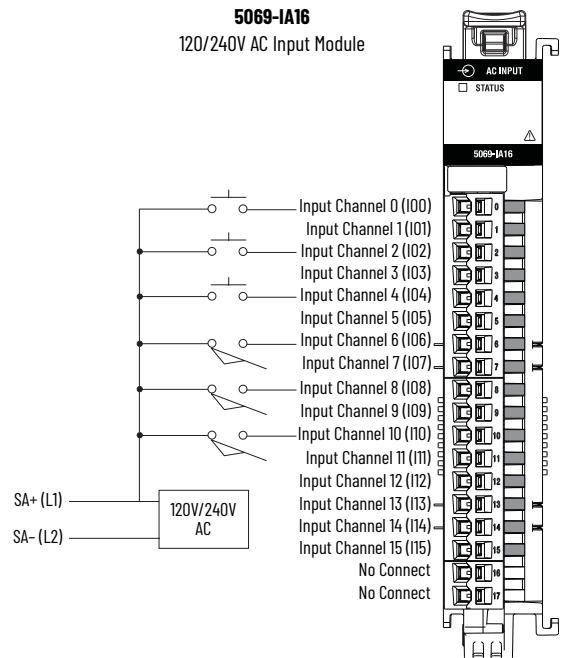
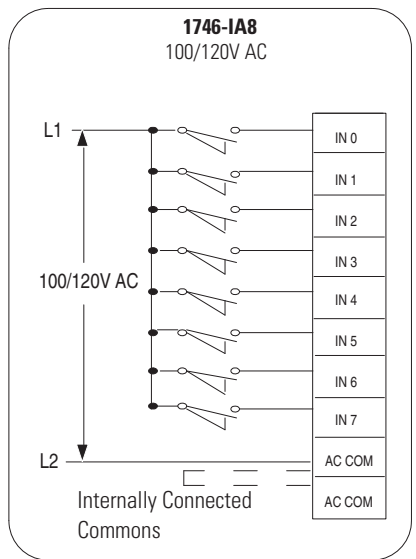
**IMPORTANT** The 5069-IA16 module inputs use a shared common. The inputs have a return through internal module circuitry to the SA(-) terminal on the SA power RTB.

If you install modules in a Compact 5000 I/O system that use AC SA power and DC SA power, you must install them on separate SA power buses.

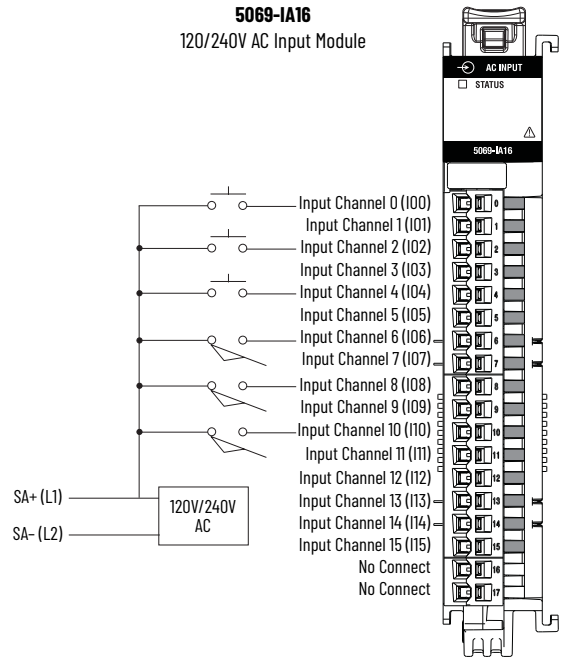
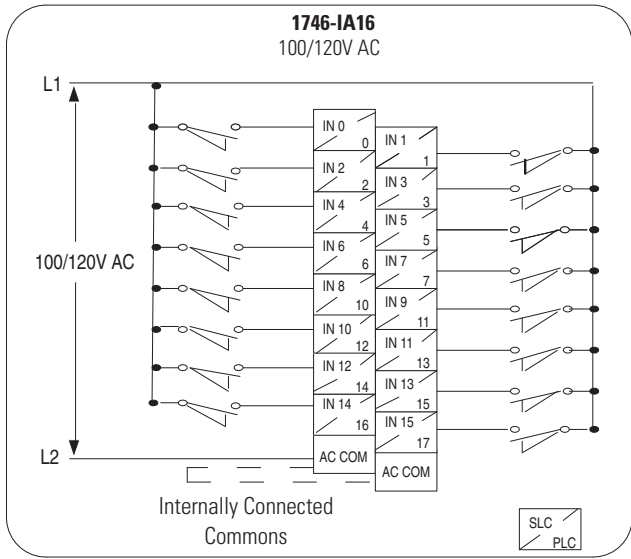
## 1746-IA4 to 5069-IA16



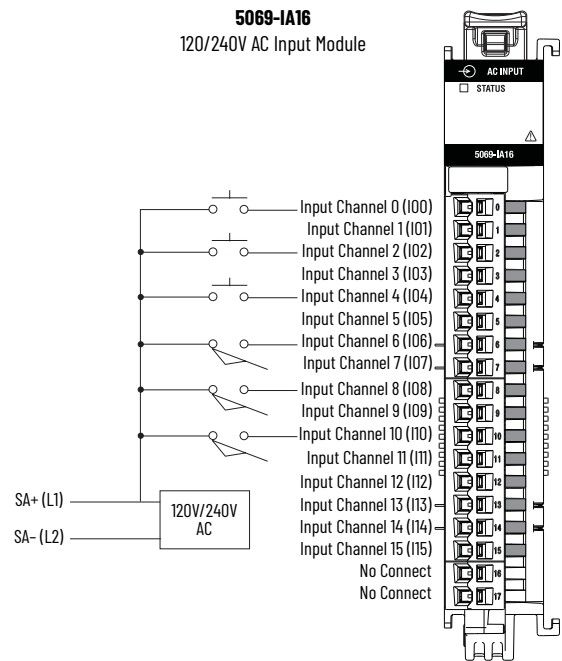
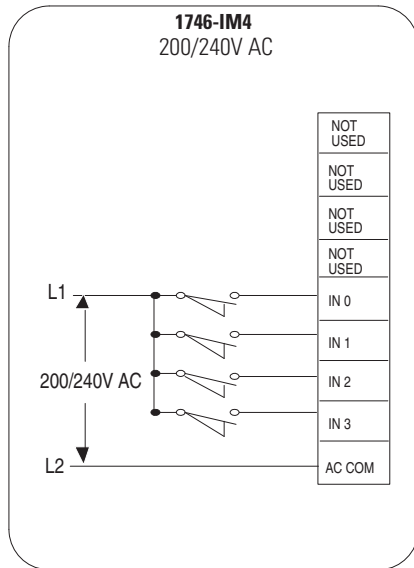
## 1746-IA8 to 5069-IA16



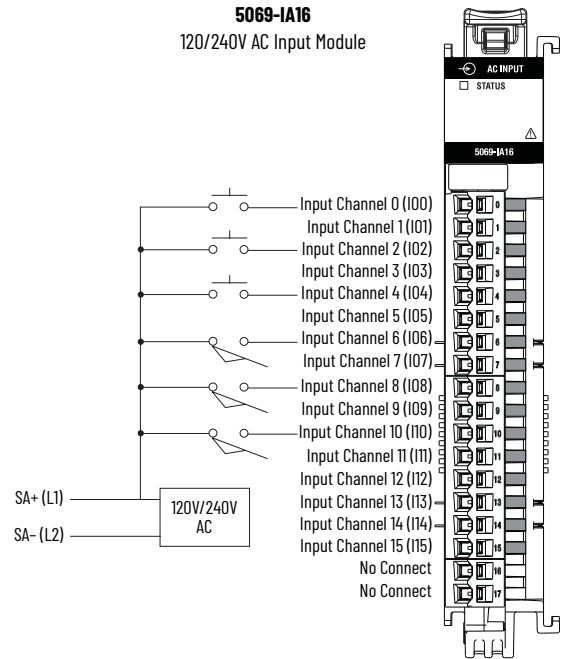
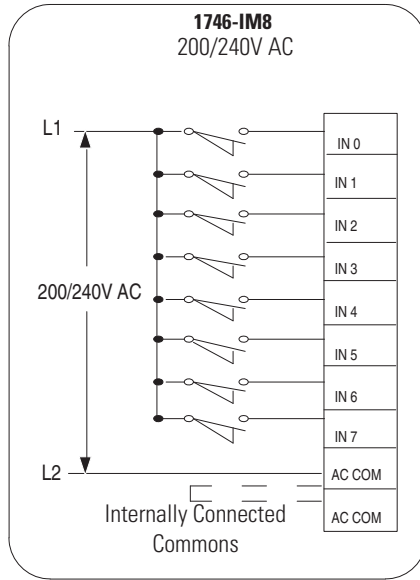
1746-IA16 to 5069-IA16



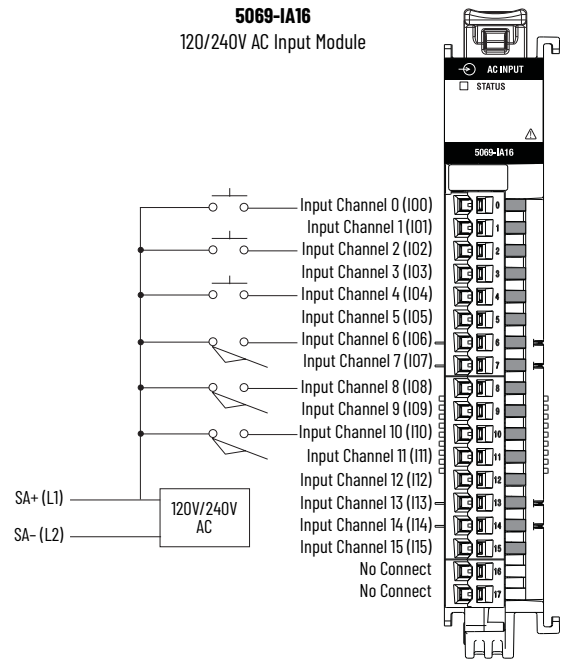
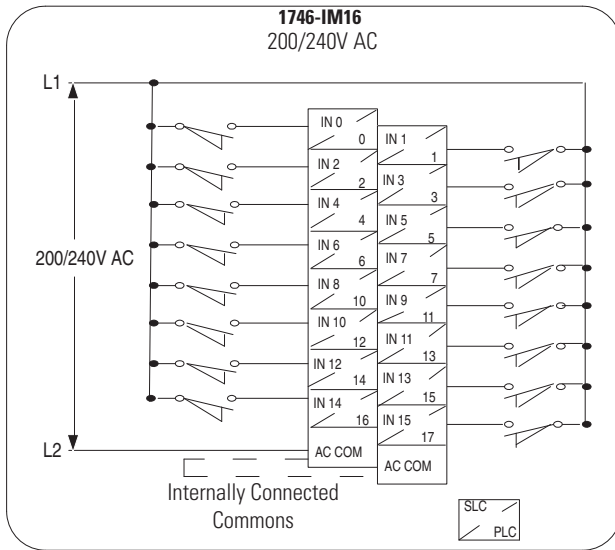
1746-IM4 to 5069-IA16



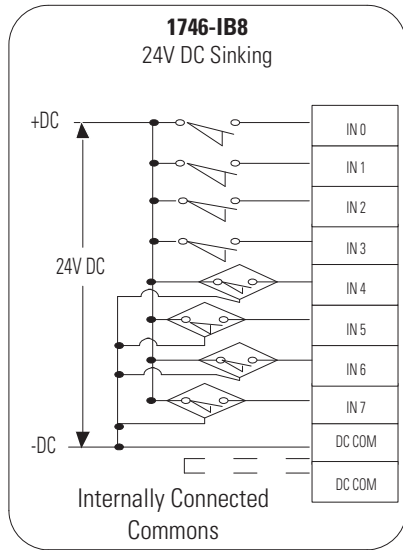
1746-IM8 to 5069-IA16



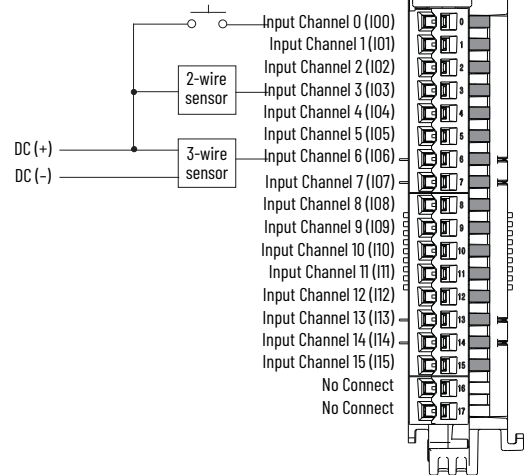
1746-IM16 to 5069-IA16



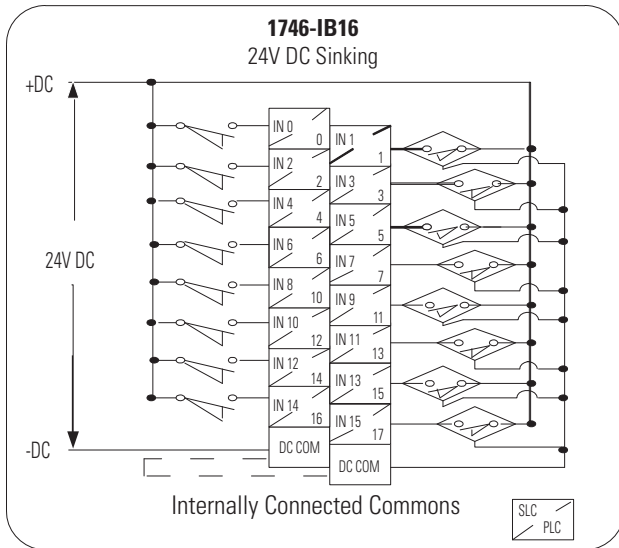
1746-IB8 to 5069-IB16



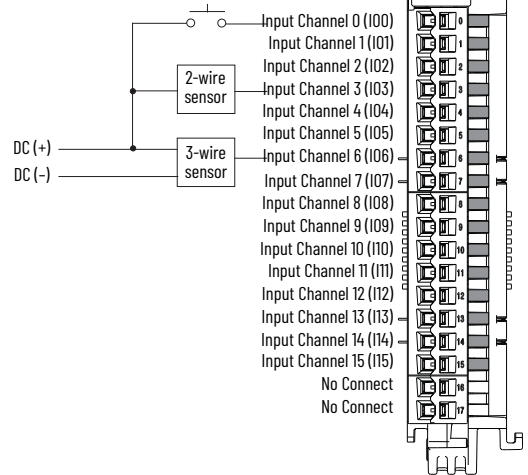
**5069-IB16**  
24V DC Sinking Input Module



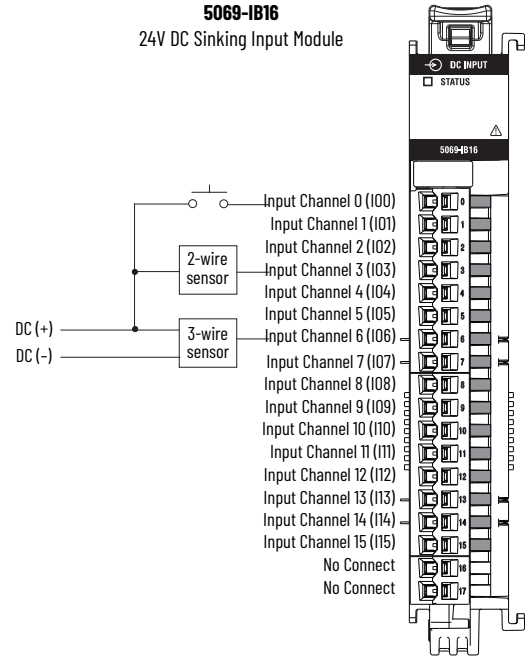
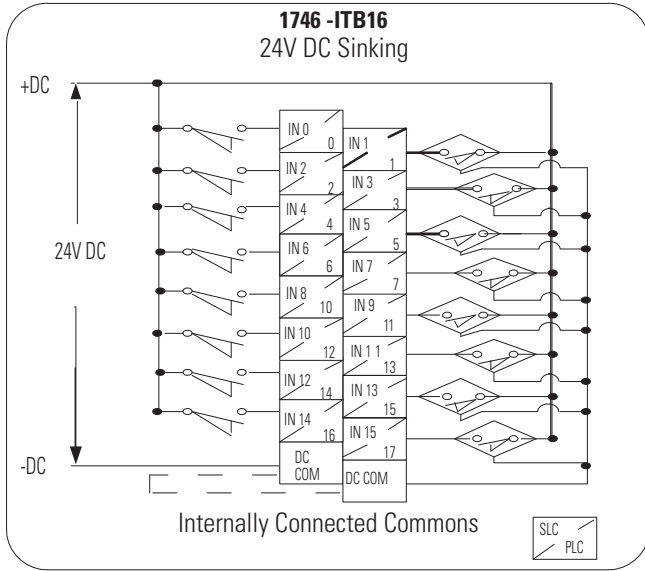
1746-IB16 to 5069-IB16



**5069-IB16**  
24V DC Sinking Input Module

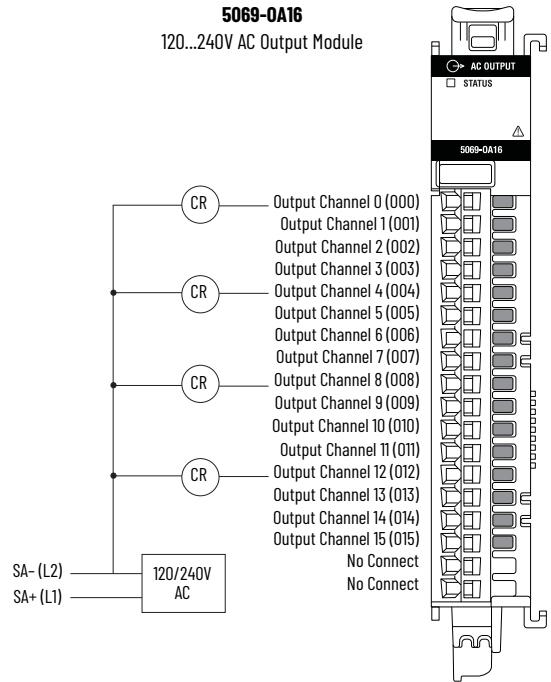
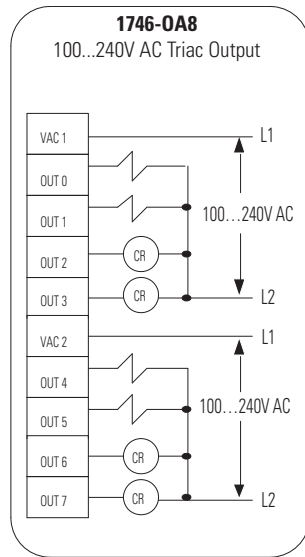


1746-ITB16 to 5069-IB16



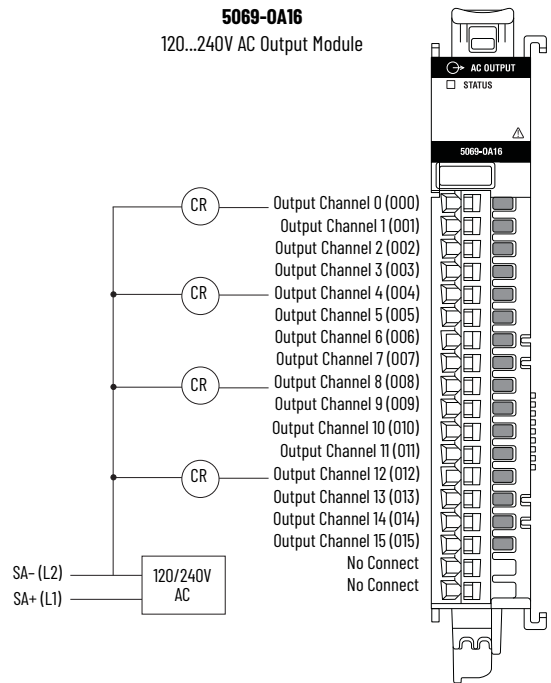
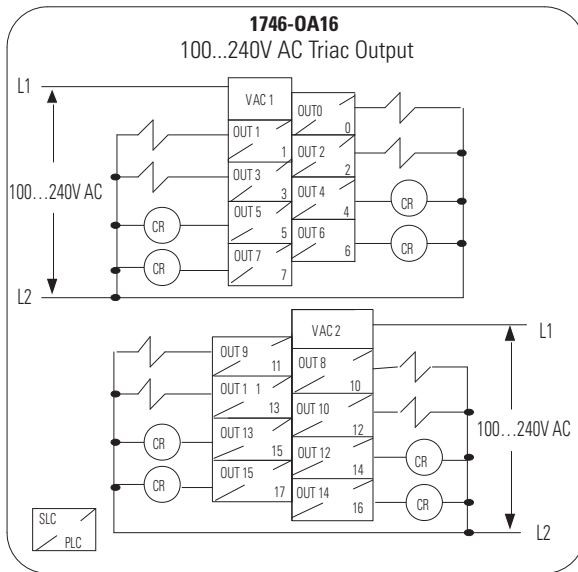
1746-OA8 to 5069-OA16

**IMPORTANT** If the modules in the 5069 rack require more than one type of SA bus, for example 24V DC and 240V AC, use a 5069-FPD (field potential distributor) to separate the bus and these modules.



1746-0A16 to 5069-0A16

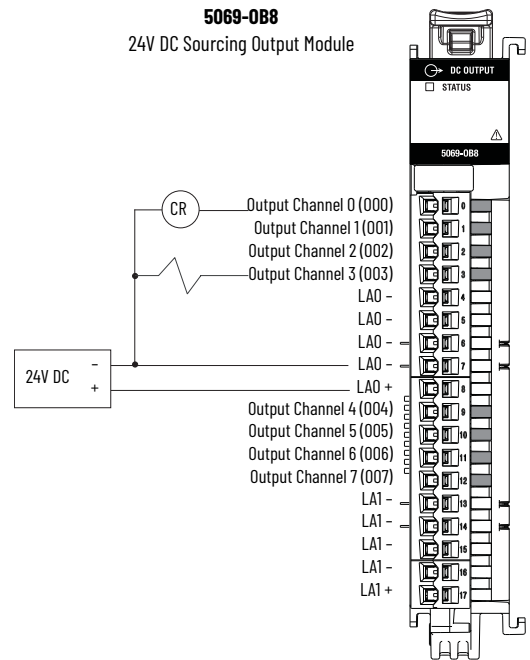
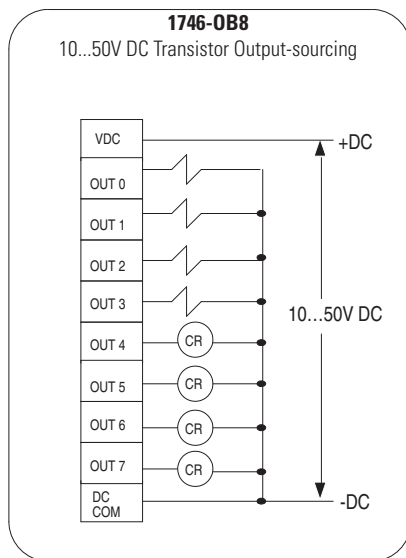
**IMPORTANT** If the modules in the 5069 rack require more than one type of SA bus, for example 24V DC and 240V AC, use a 5069-FPD (field potential distributor) to separate the bus and these modules.



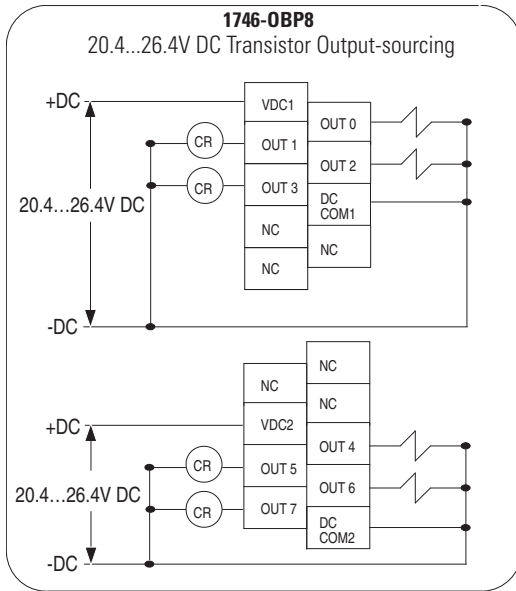
**IMPORTANT** The 5094-0B8 and 5094-0B16 modules Local Actuator (LA+ and LA-) connections are used to supply field-side power to the module. The module does not draw current from the SA power bus that is internal to the system.

For the 5049-0B8 module, output channels 0...3 use LA0 +/-, and output channels 4...7 use LA1 +/-.

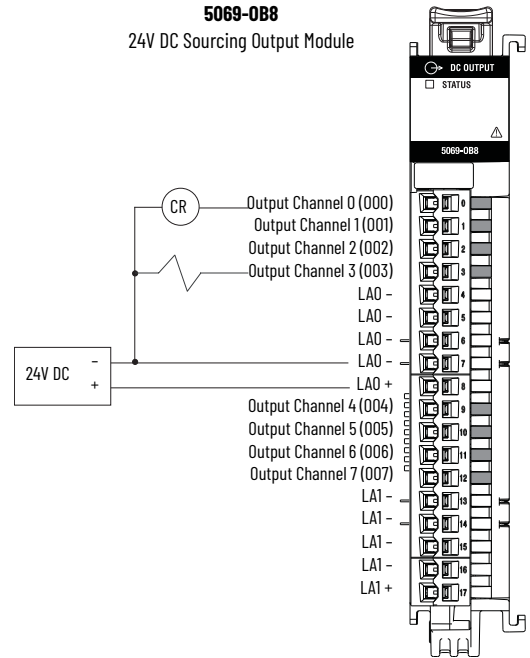
1746-0B8 to 5069-0B8



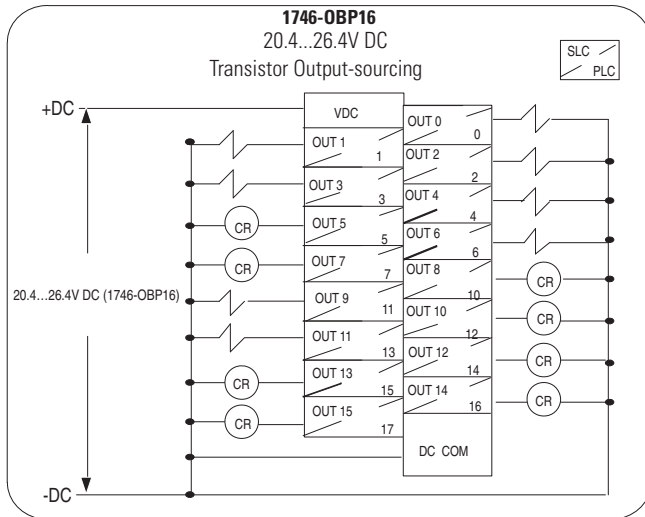
1746-OBP8 to 5069-OB8



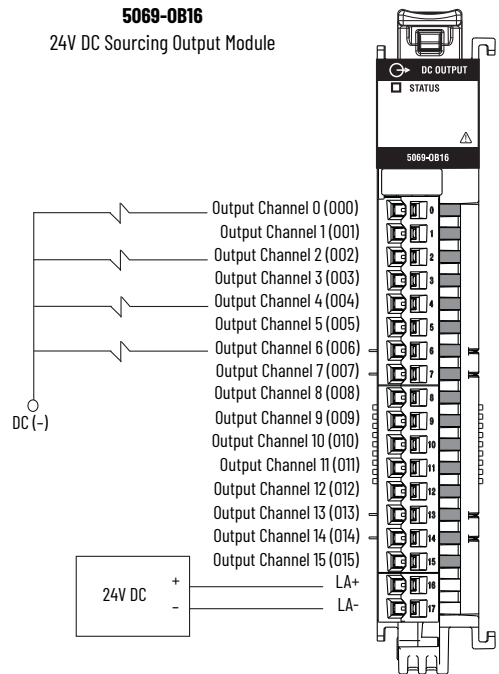
**5069-OB8**  
24V DC Sourcing Output Module



1746-OBP16 to 5069-OB16

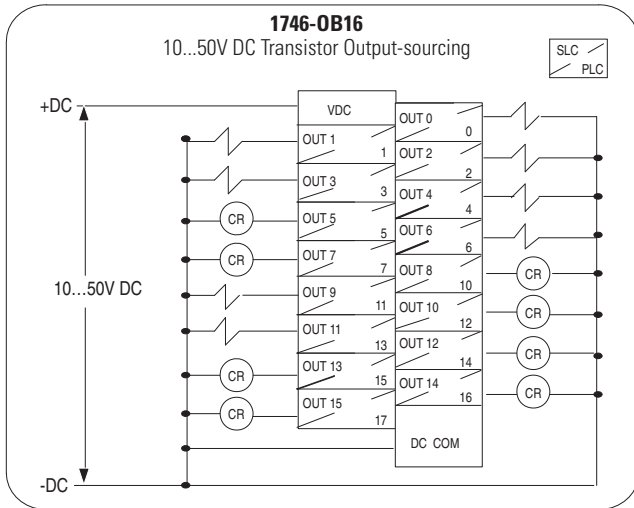


**5069-OB16**  
24V DC Sourcing Output Module

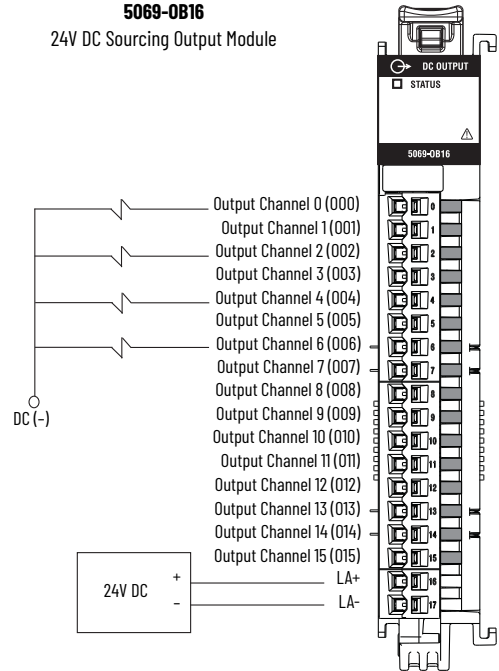




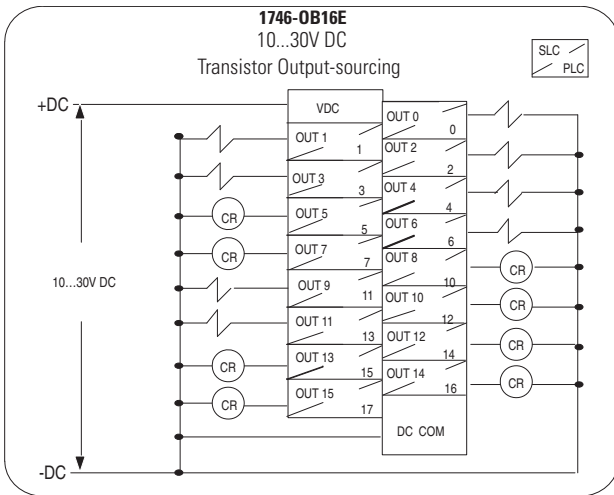
1746-OB16 to 5069-OB16



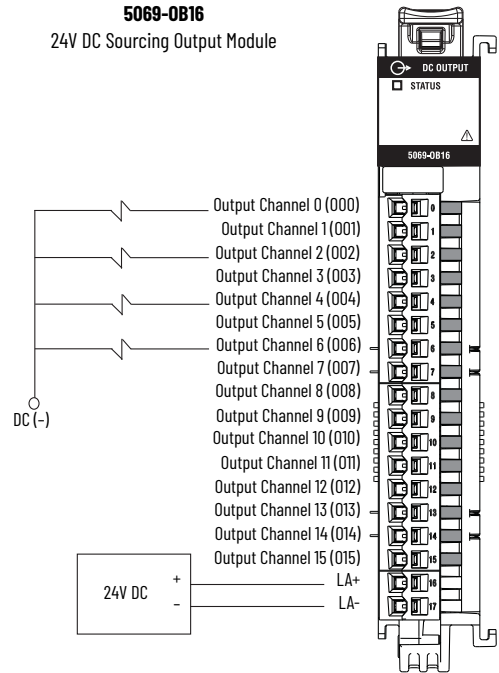
**5069-OB16**  
24V DC Sourcing Output Module



1746-OB16E to 5069-OB16

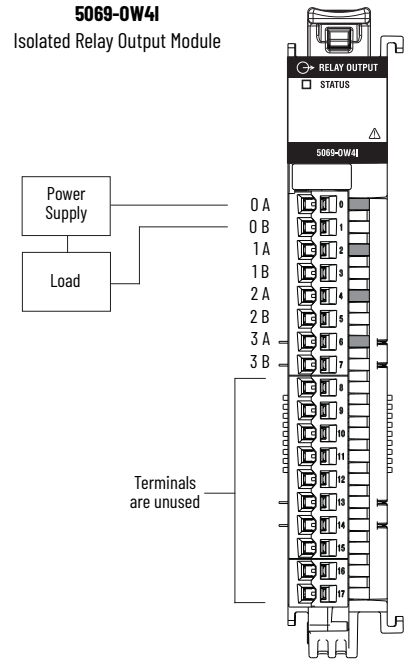
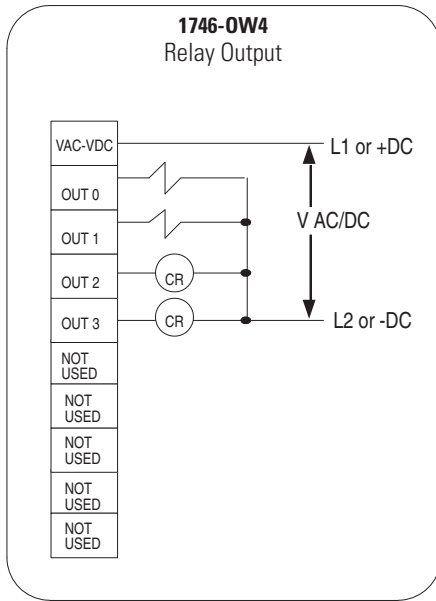


**5069-OB16**  
24V DC Sourcing Output Module

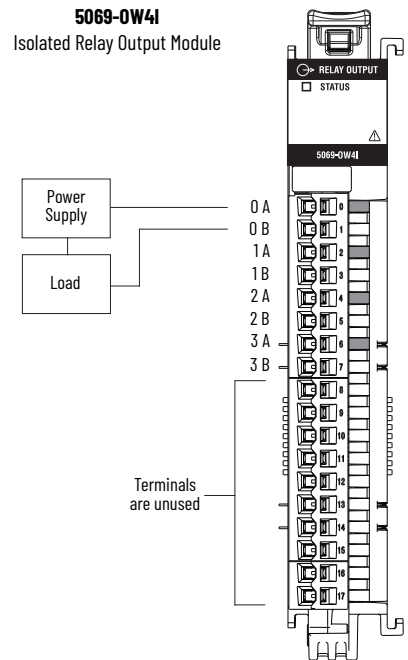
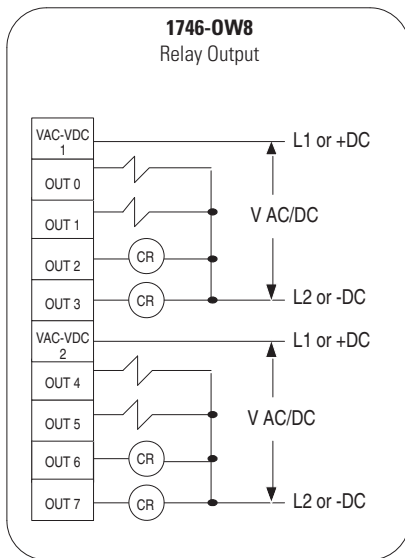


**IMPORTANT** The 5069-OB16 module does not use SA power. That is, it does not draw current from the SA power bus. The module passes it through to the next Compact 5000 I/O module in the system.

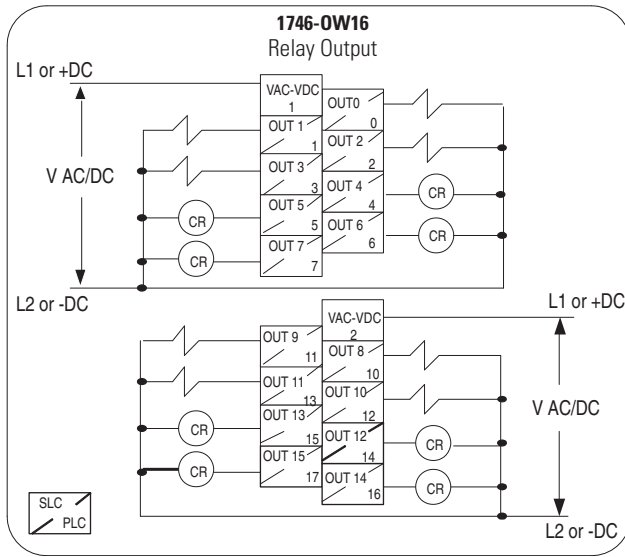
1746-OW4 to 5069-OW4I



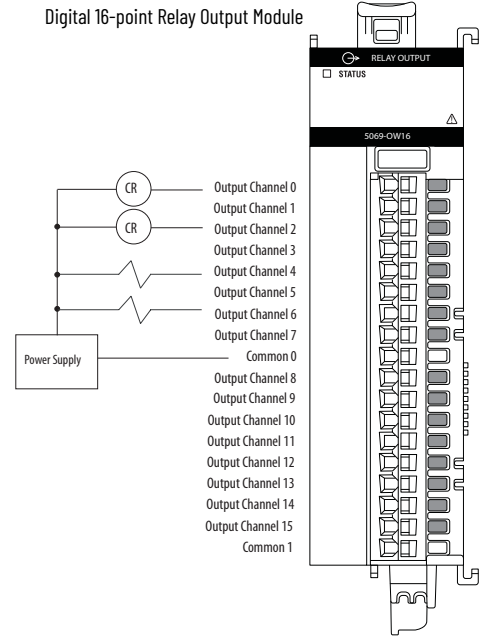
1746-OW8 to 5069-OW4I



1746-OW16 to 5069-OW16

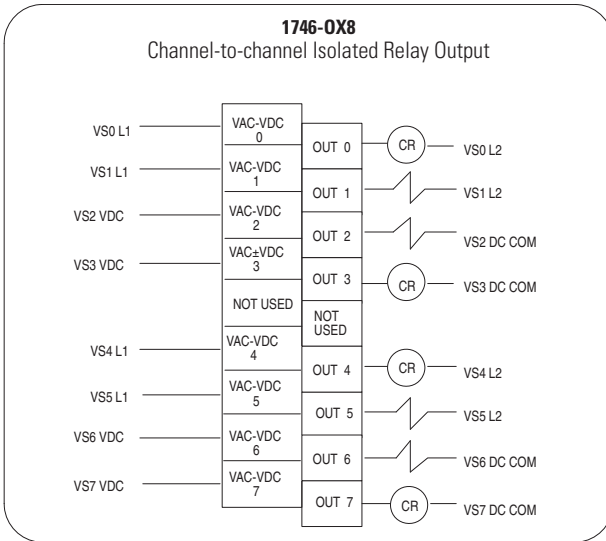


**5069-OW16**  
Digital 16-point Relay Output Module

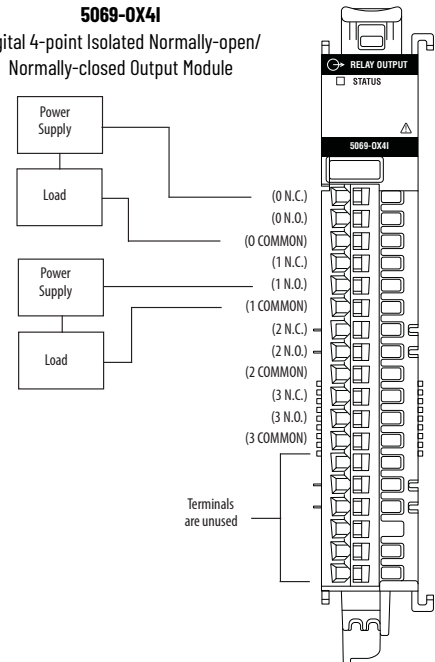


**IMPORTANT** The 5069-OW16 module requires an external surge suppressor for inductive loads. For more information on adding surge suppressors, see the Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

1746-OX8 to 5069-OX4I

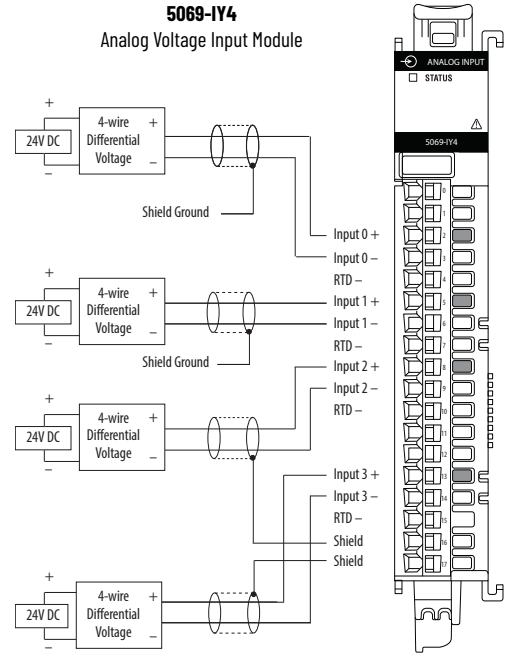
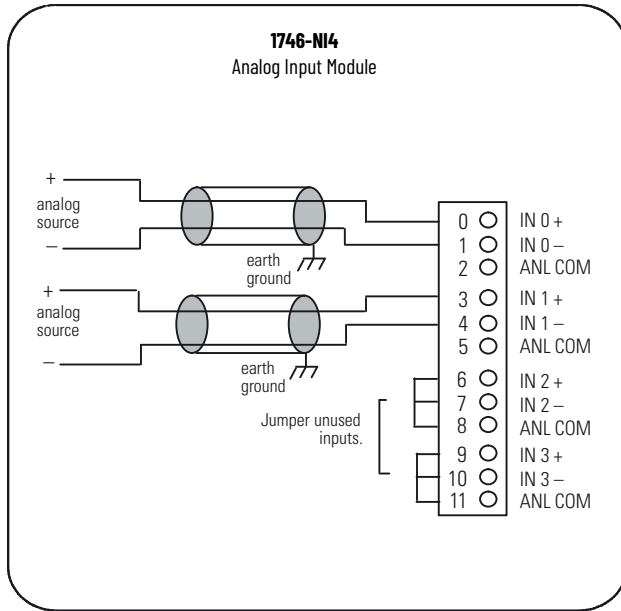


**5069-OX4I**  
Digital 4-point Isolated Normally-open/  
Normally-closed Output Module



1746-NI4 to 5069-IY4

**IMPORTANT Channel Connections:** The diagram shows devices that are connected to channels 0, 1, 2, and 3. You are not restricted to using only this channel. You can connect devices to any channel or combination of channels as needed.



**Note: 5069-IY4 modules only support differential input.**

**IMPORTANT** • This example shows separate power supplies for each device.

We recommend that you use separate power supplies to help improve the noise immunity.

However, if you use separate power supplies, you must verify that the common mode voltage between any two power supplies does not exceed 10V DC.

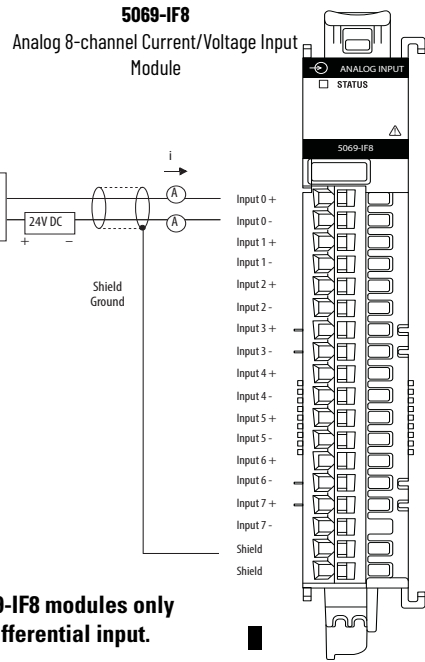
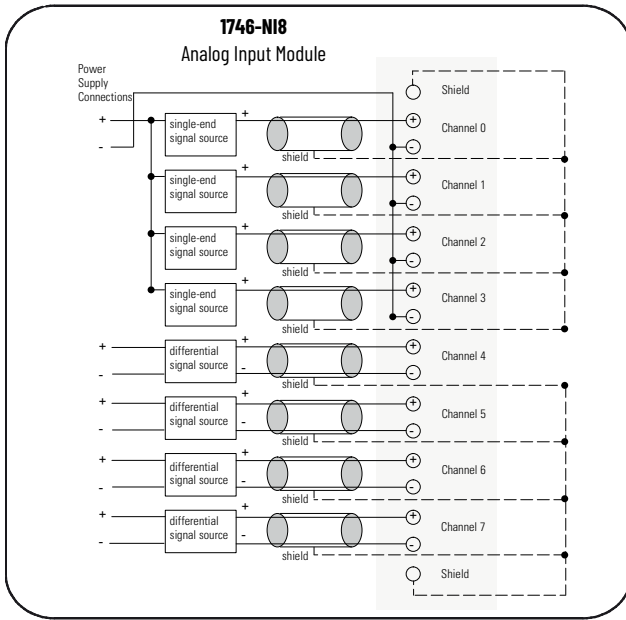
- This module has only two shield terminals. Compact 5000 I/O module RTBs only support one wire per terminal.

If you connect more than two devices to the module, you can ground two devices at the shield terminals. You must ground the remaining devices somewhere else, such as, to the DIN rail via a terminal strip.

1746-NI8 to 5069-IF8

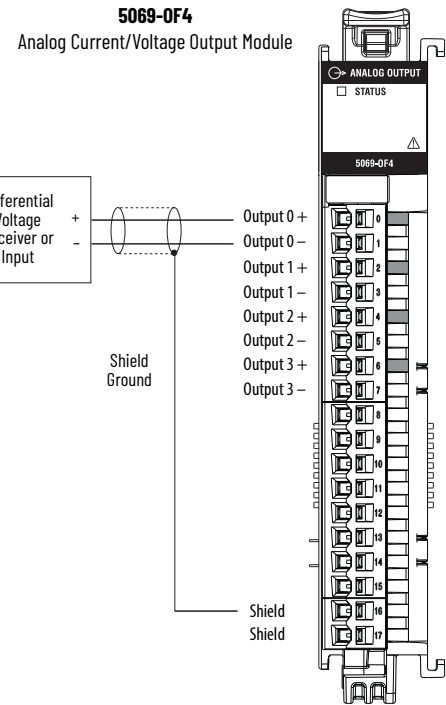
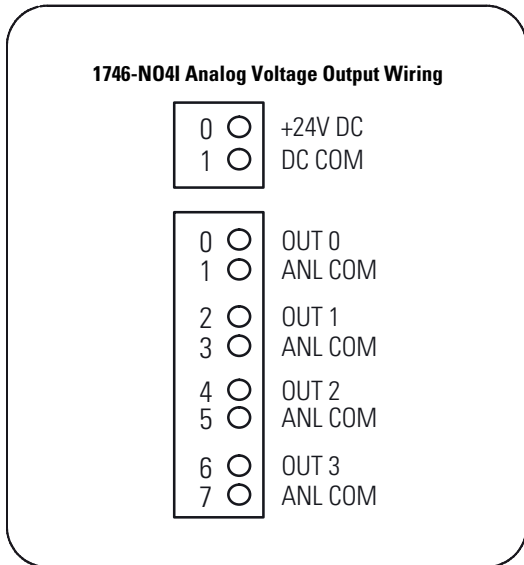
**IMPORTANT Channel Connections:** The diagram shows a device that is connected to channel 0. You are not restricted to using only this channel.

You can connect devices to any channel or combination of channels as needed.

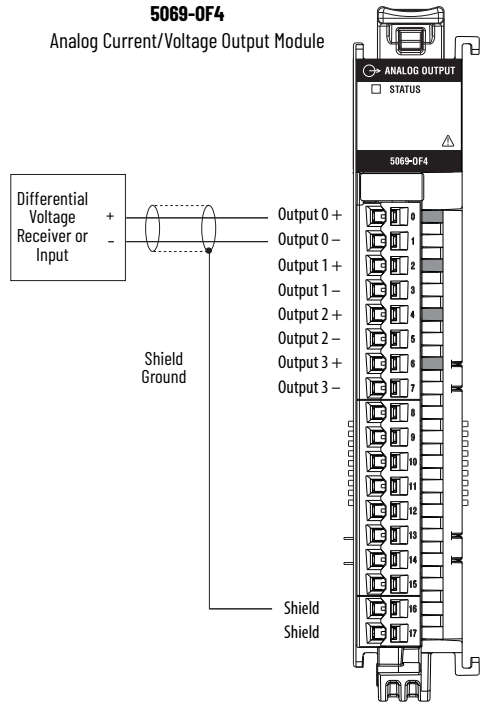
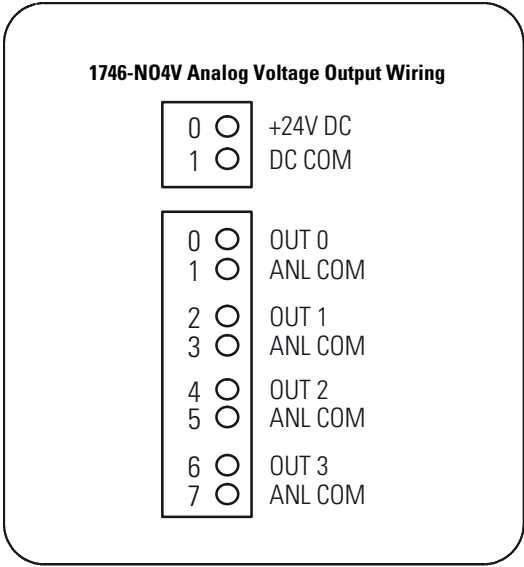


**IMPORTANT** Place additional loop devices, for example, strip chart recorders, at either **A** location in the current loop.

1746-N04I to 5069-OF4



1746-NO4V to 5069-OF4





# Rockwell Automation Support

Use these resources to access support information.

<b>Technical Support Center</b>	Find help with how-to videos, FAQs, chat, user forums, and product notification updates.	<a href="http://rok.auto/support">rok.auto/support</a>
<b>Knowledgebase</b>	Access Knowledgebase articles.	<a href="http://rok.auto/knowledgebase">rok.auto/knowledgebase</a>
<b>Local Technical Support Phone Numbers</b>	Locate the telephone number for your country.	<a href="http://rok.auto/phonesupport">rok.auto/phonesupport</a>
<b>Literature Library</b>	Find installation instructions, manuals, brochures, and technical data publications.	<a href="http://rok.auto/literature">rok.auto/literature</a>
<b>Product Compatibility and Download Center (PCDC)</b>	Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes.	<a href="http://rok.auto/pcdc">rok.auto/pcdc</a>

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## Waste Electrical and Electronic Equipment (WEEE)







At the end of life, this equipment should be collected separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental information on its website at [rok.auto/pec](http://rok.auto/pec).

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ASIA PACIFIC: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

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