



# **Compact™ Address Reserve Module**

(Cat. No. 1769-ARM)

## *Inside*

Module Description.....	4
Module Installation.....	5
System Assembly .....	6
Mounting Expansion I/O .....	7
Grounding the Module .....	10
I/O Memory Mapping.....	10
Specifications .....	11

## Important User Information

Because of the variety of uses for the products described in this publication, those responsible for the application and use of these products must satisfy themselves that all necessary steps have been taken to assure that each application and use meets all performance and safety requirements, including any applicable laws, regulations, codes and standards. In no event will Rockwell Automation be responsible or liable for indirect or consequential damage resulting from the use or application of these products.

Any illustrations, charts, sample programs, and layout examples shown in this publication are intended solely for purposes of example. Since there are many variables and requirements associated with any particular installation, Rockwell Automation does not assume responsibility or liability (to include intellectual property liability) for actual use based upon the examples shown in this publication.

Allen-Bradley publication SGI-1.1, *Safety Guidelines for the Application, Installation and Maintenance of Solid-State Control* (available from your local Rockwell Automation office), describes some important differences between solid-state equipment and electromechanical devices that should be taken into consideration when applying products such as those described in this publication.

Reproduction of the contents of this copyrighted publication, in whole or part, without written permission of Rockwell Automation, is prohibited.

Throughout this publication, notes may be used to make you aware of safety considerations. The following annotations and their accompanying statements help you to identify a potential hazard, avoid a potential hazard, and recognize the consequences of a potential hazard:

---

**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.

---

**ATTENTION**

Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss.

---

**IMPORTANT**

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

---

**ATTENTION****Environment and Enclosure**

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

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

This equipment is supplied as “open type” equipment. It must be mounted within an enclosure that is suitably designed for those specific environmental conditions that will be present and appropriately designed to prevent personal injury resulting from accessibility to live parts. The interior of the enclosure must be accessible only by the use of a tool. Subsequent sections of this publication may contain additional information regarding specific enclosure type ratings that are required to comply with certain product safety certifications.

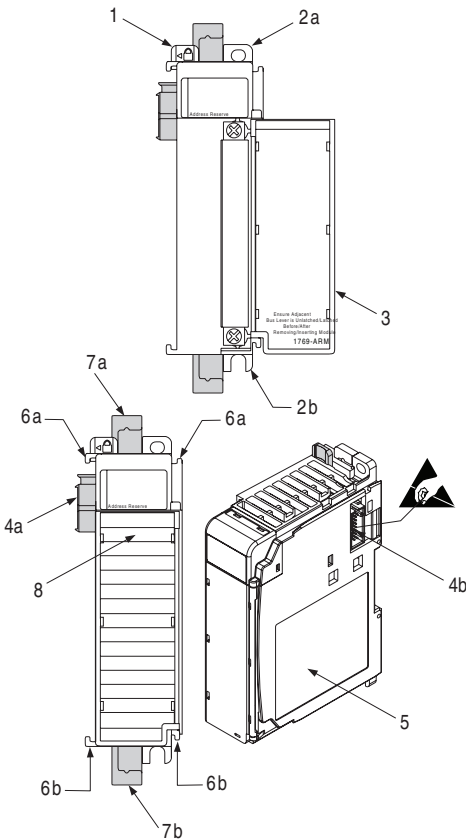
NOTE: See NEMA Standards publication 250 and IEC publication 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosure. Also, see the appropriate sections in this publication, as well as the Allen-Bradley publication 1770-4.1 (“Industrial Automation Wiring and Grounding Guidelines”), for additional installation requirements pertaining to this equipment.

---

# Module Description

Use the 1769-ARM address reserve module in CompactLogix™ systems to cost-effectively reserve module slots. After creating the CompactLogix system's I/O configuration and user program, any I/O module in the system can be removed and replaced with a 1769-ARM module once the removed module is inhibited using RSLogix 5000™ programming software. Inhibiting a module creates an I/O configuration and user program removing all references to that module.

To use the 1769-ARM module in MicroLogix™ systems, configure a generic module using RSLogix 500™ programming software. Any user-program references to the slot position occupied by the 1769-ARM module must not use another module's parameters.



Item	Description
1	Bus lever (with locking function)
2a	Upper panel mounting tab
2b	Lower panel mounting tab
3	Module door with terminal identification label
4a	Movable bus connector with female pins
4b	Stationary bus connector with male pins
5	Nameplate label
6a	Upper tongue-and-groove slots
6b	Lower tongue-and-groove slots
7a	Upper DIN rail latch
7b	Lower DIN rail latch
8	Write-on label (user ID tag)

## Module Installation

Compact I/O is suitable for use in an industrial environment when installed in accordance with these instructions. Specifically, this equipment is intended for use in clean, dry environments (Pollution degree 2<sup>(1)</sup>) and to circuits not exceeding Over Voltage Category II<sup>(2)</sup> (IEC 60664-1).<sup>(3)</sup>

### ATTENTION



#### Preventing Electrostatic Discharge

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

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

When not in use, store the equipment in appropriate static-safe packaging.

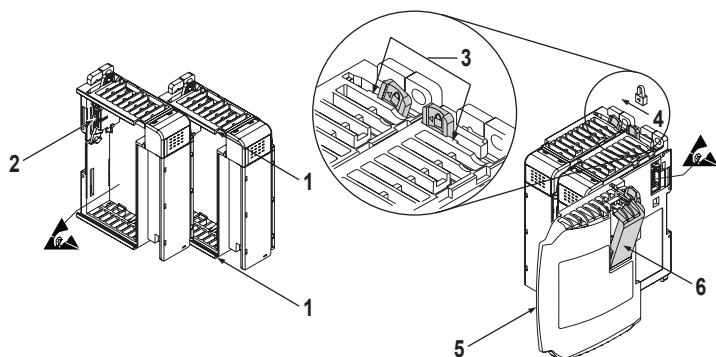
<sup>(1)</sup> Pollution Degree 2 is an environment where, normally, only non-conductive pollution occurs except that occasionally a temporary conductivity caused by condensation shall be expected.

<sup>(2)</sup> Over Voltage Category II is the load level section of the electrical distribution system. At this level transient voltages are controlled and do not exceed the impulse voltage capability of the product's insulation.

<sup>(3)</sup> Pollution Degree 2 and Over Voltage Category II are International Electrotechnical Commission (IEC) designations.

## System Assembly

The module can be attached to the controller or an adjacent I/O module before or after mounting. For mounting instructions, see the Panel Mounting or DIN Rail Mounting sections. To work with a system that is already mounted, see Replacing a Single Module within a System section.



1. Disconnect power.

### ATTENTION



Remove power before removing or inserting this module. When you remove or insert a module with power applied, an electrical arc may occur. An electrical arc can cause personal injury or property damage by:

- sending an erroneous signal to your system's field devices, causing unintended machine motion
- causing an explosion in a hazardous environment

Electrical arcing causes excessive wear to contacts on both the module and its mating connector. Worn contacts may create electrical resistance.

2. Check that the bus lever of the module to be installed is in the unlocked (fully right) position.
3. Use the upper and lower tongue-and-groove slots (1) to secure the modules together (or to a controller).
4. Move the module back along the tongue-and-groove slots until the bus connectors (2) line up with each other.
5. Push the bus lever back slightly to clear the positioning tab (3). Use your fingers or a small screw driver.

6. To allow communication between the controller and module, move the bus lever fully to the left (4) until it clicks. Ensure it is locked firmly in place.

**ATTENTION**

When attaching I/O modules, it is very important that the bus connectors are securely locked together to ensure proper electrical connection.

7. Attach an end cap terminator (5) to the last module in the system by using the tongue-and-groove slots as before.
8. Lock the end cap bus terminator (6).

**IMPORTANT**

A 1769-ECR or 1769-ECL right or left end cap must be used to terminate the end of the serial communication bus.

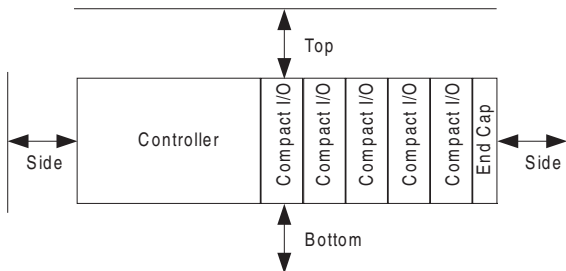
## Mounting Expansion I/O

**ATTENTION**

During panel or DIN rail mounting of all devices, be sure that all debris (metal chips, wire strands, etc.) is kept from falling into the module. Debris that falls into the module could cause damage on power up.

## Minimum Spacing

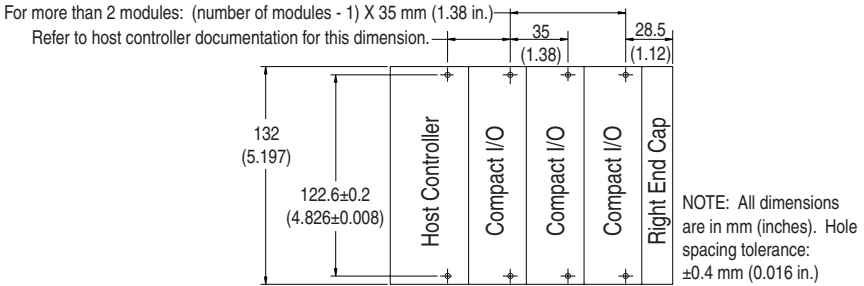
Maintain spacing from enclosure walls, wireways, adjacent equipment, etc. Allow 50 mm (2 in) of space on all sides for adequate ventilation.



## Panel Mounting

Mount the module to a panel using two screws per module. Use M4 or #8 panhead screws. Mounting screws are required on every module.

### *Panel Mounting Using the Dimensional Template*



### *Panel Mounting Procedure Using Modules as a Template*

The following procedure lets you use the assembled modules as a template for drilling holes in the panel. Due to module mounting hole tolerance, it is important to follow these procedures.

1. On a clean work surface, assemble no more than three modules.
2. Using the assembled modules as a template, carefully mark the center of all module-mounting holes on the panel.
3. Return the assembled modules to the clean work surface, including any previously mounted modules.
4. Drill and tap the mounting holes for the recommended M4 or #8 screw.
5. Place the modules back on the panel, and check for proper hole alignment.
6. Attach the modules to the panel using the mounting screws.

If mounting more modules, mount only the last one of this group and put the others aside. This reduces remounting time during drilling and tapping of the next group.

7. Repeat steps 1 to 6 for any remaining modules.



## DIN Rail Mounting

The module can be mounted using these DIN rails:

- 35 x 7.5 mm (EN 50022 - 35 x 7.5)
- 35 x 15 mm (EN 50022 - 35 x 15)

Before mounting the module on a DIN rail, close the DIN rail latches. Press the DIN rail mounting area of the module against the DIN rail. The latches will momentarily open and lock into place.

## Replacing a Single Module within a System

The module can be replaced while the system is mounted to a panel (or DIN rail).

1. Remove power.

### ATTENTION



Remove power before removing or inserting this module. When you remove or insert a module with power applied, an electrical arc may occur. An electrical arc can cause personal injury or property damage by:

- sending an erroneous signal to your system's field devices, causing unintended machine motion
- causing an explosion in a hazardous environment

Electrical arcing causes excessive wear to contacts on both the module and its mating connector. Worn contacts may create electrical resistance.

2. On the module to be removed, remove the upper and lower mounting screws from the module (or open the DIN latches using a flat-blade or phillips style screw driver).
3. Move the bus lever to the right to disconnect (unlock) the bus.
4. On the right-side adjacent module, move its bus lever to the right (unlock) to disconnect it from the module to be removed.
5. Gently slide the disconnected module forward. If you feel excessive resistance, check that the module has been disconnected from the bus, and that both mounting screws have been removed (or DIN latches opened).

It may be necessary to rock the module slightly from front to back to remove it, or, in a panel-mounted system, to loosen the screws of adjacent modules.

6. Before installing the replacement module, be sure that the bus lever on the module to be installed, and on the right-side adjacent module are in the unlocked (fully right) position.

- 7. Slide the replacement module into the open slot.
- 8. Connect the modules together by locking (fully left) the bus levers on the replacement module and the right-side adjacent module.
- 9. Replace the mounting screws (or snap the module onto the DIN rail).

## Grounding the Module

This product is intended to be mounted to a well-grounded mounting surface such as a metal panel. Additional grounding connections from the module's mounting tabs or DIN rail (if used), are not required unless the mounting surface cannot be grounded. Refer to Industrial Automation Wiring and Grounding Guidelines, Allen-Bradley publication 1770-4.1, for additional information.

## I/O Memory Mapping

The 1769-ARM module has an input data file of 1 word, no output data file (0 words), and no configuration data file (0 words).

### Input Data File

For each address reserve module, slot x, word 0 in the input data file contains all bits set to 0.

Word	Bit Position															
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

## Specifications

### General Specifications - 1769-ARM Module

Dimensions (HxWxL), Imperial	4.65 x 3.43 x 1.38 in (Height including mounting tabs is 5.43 in)
Dimensions (HxWxL), Metric	118 x 87 x 35 mm (Height including mounting tabs is 138 mm)
Weight, Imperial	0.61 lb
Weight, Metric	2.8 kg
Environmental Conditions	
Operational Temperature	0 to 60° C (32 to 140° F)
Storage Temperature	-40 to 85° C (-40 to 185° F)
Relative Humidity	5 to 95% non-condensing
Vibration	10 to 500 Hz, 5 G, 0.030 in maximum peak-to-peak (operating) 2 G (relay operation)
Operating Shock	30 G panel mounted (20 G DIN-rail mounted) 7.5 G panel mounted (5 G DIN-rail mounted)
Non-operating Shock	40 G panel mounted (30 G DIN-rail mounted)
Hazardous Environment Class	Class I, Division 2, Hazardous Location, Groups A, B, C, D (UL 1604, c-UL under CSA C22.2 No. 213)
Radiated and Conducted Emissions	EN 50081-2 Class A
Bus Current Draw, Max.	60 mA at 5V dc (0.300 W)
Heat Dissipation	0.300 Total Watts
Power Supply Distance Rating	8 (the module may not be more than 8 modules away from the power supply)
Vendor I.D. Code	1
Product Type Code	7
Product Code	74 (decimal)
Certifications <sup>1</sup> (when product is marked)	<b>c-UL</b> - under CSA C22.2 No. 142 <b>UL 508 listed</b> <b>CE</b> - compliant for all applicable directives <b>C-Tick</b> - compliant for all applicable directives

<sup>1</sup> See the Product Certification link at [www.ab.com](http://www.ab.com) for Declaration of Conformity, Certificates, and other certification details.

## Hazardous Location Considerations

This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D or non-hazardous locations only. The following ATTENTION statement applies to use in hazardous locations.

### ATTENTION



#### EXPLOSION HAZARD

- Substitution of components may impair suitability for Class I, Division 2.
  - Do not replace components or disconnect equipment unless power has been switched off or the area is known to be non-hazardous.
  - Do not connect or disconnect components unless power has been switched off or the area is known to be non-hazardous.
  - This product must be installed in an enclosure.
  - All wiring must comply with N.E.C. article 501-4(b).
- 

## Environnements dangereux

Cet équipement est conçu pour être utilisé dans des environnements de Classe 1, Division 2, Groupes A, B, C, D ou non dangereux. La mise en garde suivante s'applique à une utilisation dans des environnements dangereux.

### AVERTISSEMENT



#### DANGER D'EXPLOSION

- La substitution de composants peut rendre cet équipement impropre à une utilisation en environnement de Classe 1, Division 2.
  - Ne pas remplacer de composants ou déconnecter l'équipement sans s'être assuré que l'alimentation est coupée et que l'environnement est classé non dangereux.
  - Ne pas connecter ou déconnecter des composants sans s'être assuré que l'alimentation est coupée ou que l'environnement est classé non dangereux.
  - Ce produit doit être installé dans une armoire.
-

## For More Information

For	See	Publication Number
A more detailed description of how to install and use the Compact I/O system with MicroLogix™ 1200 and 1500 programmable controllers	MicroLogix 1500 Programmable Controllers User Manual	1764-UM001
A more detailed description of how to install and use the Compact I/O system with a 1769-ADN DeviceNet™ adapter	Compact I/O 1769-ADN DeviceNet Adapter User Manual	1769-UM001
A more detailed description of how to install and use the Compact I/O system with a ControlLogix™ system	CompactLogix System User Manual	1769-UM007

Contact your local A-B distributor for information on ordering any of these publications. For electronic copies, go to <http://www.rockwellautomation.com/literature>.

**Notes:**

Compact, CompactLogix, and MicroLogix are trademarks of Rockwell Automation, Inc.

RSLogix 5000 and RSLogix 500 are trademarks of Rockwell Software, Inc.

# Rockwell Automation Support

Rockwell Automation provides technical information on the web to assist you in using our products. At <http://support.rockwellautomation.com>, you can find technical manuals, a knowledge base of FAQs, technical and application notes, sample code and links to software service packs, and a MySupport feature that you can customize to make the best use of these tools.

For an additional level of technical phone support for installation, configuration and troubleshooting, we offer TechConnect Support programs. For more information, contact your local distributor or Rockwell Automation representative, or visit <http://support.rockwellautomation.com>.

## Installation Assistance

If you experience a problem with a hardware module within the first 24 hours of installation, please review the information that's contained in this manual. You can also contact a special Customer Support number for initial help in getting your module up and running:

United States	1.440.646.3223 Monday – Friday, 8am – 5pm EST
Outside United States	Please contact your local Rockwell Automation representative for any technical support issues.

## New Product Satisfaction Return

Rockwell tests all of our products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned:

United States	Contact your distributor. You must provide a Customer Support case number (see phone number above to obtain one) to your distributor in order to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for return procedure.

[www.rockwellautomation.com](http://www.rockwellautomation.com)

### Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444  
Europe/Middle East/Africa: Rockwell Automation, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640  
Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

Publication 1769-IN071A-EN-P - September 2004

PN 40071-183-01(1)

Copyright © 2004 Rockwell Automation, Inc. All rights reserved. Printed in the U.S.A.