

Crestron **C3IO-16**  
3-Series™ Control Card  
16 Versiport I/O Ports

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Installation Guide



This document was prepared and written by the Technical Documentation department at:



### Regulatory Compliance

As of the date of manufacture, the C3IO-16 has been tested and found to comply with specifications for CE marking and standards per EMC and Radiocommunications Compliance Labelling.



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### Federal Communications Commission (FCC) Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions:  
(1) This device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

**CAUTION:** Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

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### Industry Canada (IC) Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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The specific patents that cover Crestron products are listed at [patents.crestron.com](http://patents.crestron.com).

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# 3-Series™ Control Card – 16 Versiport I/O Ports: C3IO-16

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## Introduction

The C3IO-16 is a 3-Series™ control card that provides 16 Crestron® Versiport I/O ports. Each I/O port can function as a 0-10 Volt analog input, a digital logical sensing input, or a digital logic output. The card is designed to install in a control card expansion slot of a 3-Series Control System™ model PRO3 or AV3<sup>1</sup>, or 3-Series Card Interface model CEN-CI3-1 or CEN-CI3-3<sup>2</sup>.

1. AV3 requires CAGE3 Control Card Expansion Cage accessory to enable use of 3-Series control cards.
2. The C3IO-16 is not compatible with the 2-Series PRO2/AV2/PAC2. Even installed in the CAGE3 Control Card Expansion Cage, the card is not compatible with any 2-Series control system.

## Specifications

Specifications for the C3IO-16 are listed in the following table.

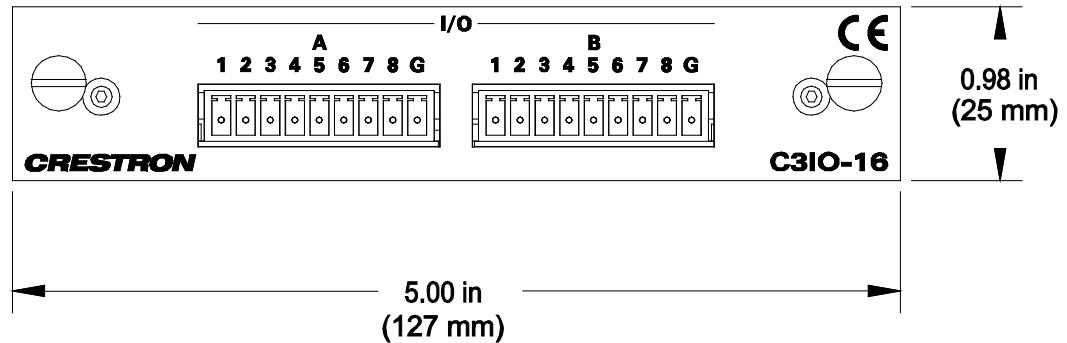
### *C3IO-16 Specifications*

<b>SPECIFICATION</b>	<b>DETAILS</b>
Environmental	
Temperature	41° to 113° F (5° to 45° C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	8 BTU/Hr
Dimensions	
Height	0.98 in (25 mm)
Width	5.00 in (127mm)
Weight	4 oz (114 g)

## Physical Description

The C3IO-16, shown below, is a circuit board fastened to a faceplate. The card is manufactured to easily fit into an unoccupied slot in a 3-Series Control System or 3-Series Card Interface.

### *C3IO-16 Faceplate*



The faceplate contains two identical 9-pin, 3.5 mm detachable terminal blocks comprising 16 “Versiport” digital input/output or analog input ports (referenced to ground (G)). Interface connectors for I/O ports are provided with the unit. Connector details are as follows:

- Digital input: Rated for 0-24 Volts DC, input impedance 20 k $\Omega$ , logic threshold >3.125V high/1 and <1.875V low/0.
- Digital output\* : 250 mA sink from maximum 24 Volts DC, catch diodes for use with “real world” loads.
- Analog input: Rated for 0-10 Volts DC, protected to 24 Volts DC maximum, input impedance 21 k $\Omega$  with pull-up resistor disabled.
- Programmable 5 Volts, 2 k $\Omega$  pull-up resistor per pin.

\* Digital outputs are TTL values and may not work with devices requiring a “dry” contact closure (e.g. low voltage motor controllers).

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## Installation

Items required to install the C3IO-16 are already attached to the unit. The only tools required are a Phillips screwdriver and a grounding strap. Follow the assembly procedure below.

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**CAUTION:** The C3IO-16 contains electrostatic sensitive devices (ESD); observe precautions for handling ESDs to avoid damaging the card.

**NOTE:** If installing the C3IO-16 into an AV3, it is assumed that the CAGE3 Control Card Expansion Cage accessory has been installed.\*

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1. Disconnect power from the control system.
2. Use the Phillips screwdriver and remove two screws and blank faceplate from the control system.
3. Align the C3IO-16 with the card guides in the open slot and slide the expansion card into position.
4. Firmly press on both ends of the C3IO-16 faceplate to seat the expansion card into the control system connector.
5. Tighten the thumb screws to secure the C3IO-16 to the control system.
6. Reapply power to the control system.

\* The C3IO-16 is not compatible with the 2-Series PRO2/AV2/PAC2. Even installed in the CAGE3 Control Card Expansion Cage, the card is not compatible with any 2-Series control system.



## Problem Solving

### Troubleshooting

The following table provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

#### *C3IO-16 Troubleshooting*

<b>TROUBLE</b>	<b>POSSIBLE CAUSE(S)</b>	<b>CORRECTIVE ACTION</b>
C3IO-16 does not function.	Control system is not receiving power.	Verify power to the control system.
	Circuit card is not properly seated in slot.	Verify C3IO-16 is properly inserted into the control system slot per procedures in this guide.
	Cable from C3IO-16 to controlled equipment is incorrect.	Verify wiring. Connect only the required pins for each communication type.
Loss of functionality due to electrostatic discharge.	Improper grounding.	Check that all ground connections have been made properly.

## Further Inquiries

To locate specific information or to resolve questions after reviewing this guide, contact Crestron's True Blue Support at 1-888-CRESTRON [1-888-273-7876] or refer to the listing of Crestron worldwide offices on the Crestron Web site ([www.crestron.com/offices](http://www.crestron.com/offices)) for assistance within a particular geographic region.

To post a question about Crestron products, log onto the Online Help section of the Crestron Web site ([www.crestron.com/onlinehelp](http://www.crestron.com/onlinehelp)). First-time users must establish a user account to fully benefit from all available features.

## Future Updates

As Crestron improves functions, adds new features and extends the capabilities of the C3IO-16, additional information may be made available as manual updates. These updates are solely electronic and serve as intermediary supplements prior to the release of a complete technical documentation revision.

Check the Crestron Web site periodically for manual update availability and its relevance. Updates are identified as an “Addendum” in the Download column.

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## Return and Warranty Policies

### Merchandise Returns / Repair Service

1. No merchandise may be returned for credit, exchange or service without prior authorization from Crestron. To obtain warranty service for Crestron products, contact an authorized Crestron dealer. Only authorized Crestron dealers may contact the factory and request an RMA (Return Merchandise Authorization) number. Enclose a note specifying the nature of the problem, name and phone number of contact person, RMA number and return address.
2. Products may be returned for credit, exchange or service with a Crestron Return Merchandise Authorization (RMA) number. Authorized returns must be shipped freight prepaid to Crestron, 6 Volvo Drive, Rockleigh, N.J. or its authorized subsidiaries, with RMA number clearly marked on the outside of all cartons. Shipments arriving freight collect or without an RMA number shall be subject to refusal. Crestron reserves the right in its sole and absolute discretion to charge a 15% restocking fee plus shipping costs on any products returned with an RMA.
3. Return freight charges following repair of items under warranty shall be paid by Crestron, shipping by standard ground carrier. In the event repairs are found to be non-warranty, return freight costs shall be paid by the purchaser.

### Crestron Limited Warranty

Crestron Electronics, Inc. warrants its products to be free from manufacturing defects in materials and workmanship under normal use for a period of three (3) years from the date of purchase from Crestron, with the following exceptions: disk drives and any other moving or rotating mechanical parts, pan/tilt heads and power supplies are covered for a period of one (1) year; touch screen display and overlay components are covered for 90 days; batteries and incandescent lamps are not covered.

This warranty extends to products purchased directly from Crestron or an authorized Crestron dealer. Purchasers should inquire of the dealer regarding the nature and extent of the dealer's warranty, if any.

Crestron shall not be liable to honor the terms of this warranty if the product has been used in any application other than that for which it was intended or if it has been subjected to misuse, accidental damage, modification or improper installation procedures. Furthermore, this warranty does not cover any product that has had the serial number altered, defaced or removed.

This warranty shall be the sole and exclusive remedy to the original purchaser. In no event shall Crestron be liable for incidental or consequential damages of any kind (property or economic damages inclusive) arising from the sale or use of this equipment. Crestron is not liable for any claim made by a third party or made by the purchaser for a third party.

Crestron shall, at its option, repair or replace any product found defective, without charge for parts or labor. Repaired or replaced equipment and parts supplied under this warranty shall be covered only by the unexpired portion of the warranty.

Except as expressly set forth in this warranty, Crestron makes no other warranties, expressed or implied, nor authorizes any other party to offer any warranty, including any implied warranties of merchantability or fitness for a particular purpose. Any implied warranties that may be imposed by law are limited to the terms of this limited warranty. This warranty statement supersedes all previous warranties.



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**Installation Guide – DOC. 7303A  
(2032618)**

**06.12**

Specifications subject to  
change without notice.