

Crestron **CNXRY-16**
CNX Relay Output Expansion Card
Operations Guide



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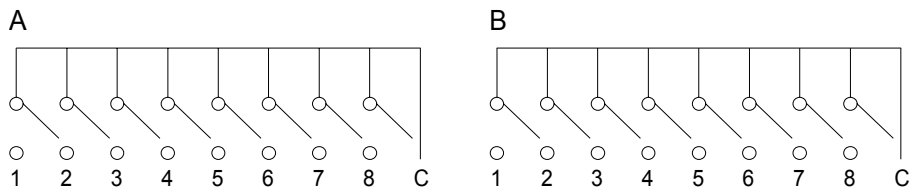
CNX Relay Output Expansion Card: CNXRY-16

Description

Functional Description

The CNXRY-16 Relay Output Expansion Card provides 16 isolated, normally open relay closures. The maximum rating per contact measures 1A, 30 VAC/VDC. There are MOV (metal oxide varistor) arc suppression devices across the contacts for use with “real world” loads. Refer to the schematic below.

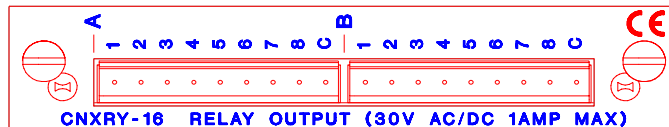
CNXRY-16 Schematic



Physical Description

The CNXRY-16, shown below, is a circuit board fastened to an aluminum faceplate. The card is manufactured to easily fit into an unoccupied slot in a Crestron CNX Generation Control System.

CNXRY-16 Faceplate



The faceplate contains two identical male, 9-pin connectors. There are eight relay pins and one common ground pin per connector. Silk screening is applied to the faceplate; relay pins are labeled A1 through A8 and B1 through B8. Common

ground pins are labeled with a C. Two supplied 9-position connectors can be wired and attached to connectors A and/or B.

Leading Specifications

The table below provides a summary of leading specifications for the CNXRY-16. Dimensions and weight are approximations rounded to the nearest hundredth unit.

Leading Specifications of the CNXRY-16

SPECIFICATION	DETAILS
Power Requirements	24 VDC, network power; 5 Watts
Maximum Rating per Contact	1A, 30 VAC/VDC
SIMPL Windows	Version 1.19.08 or later
CNX Operating System	Version 5.01.00 or later
CNX Monitor	Version 2.00 or later
Dimensions	Height: 0.98 in (2.49 cm) Width: 5.00 in (12.70 cm)

As of the date of manufacture, the unit has been tested and found to comply with specifications for CE marking.



Setup

Installation

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

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

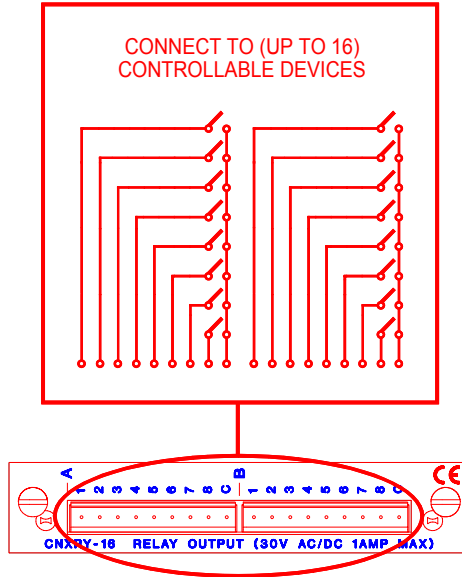
NOTE: If installing the CNXRY-16 into a CNMSX-AV, it is assumed that the CNXCAGE has been installed.

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

Preparation for Use

Connections are made to the 16 normally open, isolated relays of the CNXRY-16. The connectors are labeled A1 through A8 and B1 through B8. Refer to a sample hookup diagram below and aside from reapplying power to the control system last, complete the connections in any order.

Sample Hookup Connections for CNXRY-16



Programming with SIMPL Windows®

SIMPL (Symbol Intensive Master Programming Language) is an easy-to-use programming language that is completely integrated and compatible with all Crestron system hardware. The objects that are used in SIMPL are called symbols. SIMPL Windows offers drag and drop functionality in a familiar Windows® environment.

SIMPL Windows is Crestron Electronics' software for programming Crestron control systems. It provides a well-designed graphical environment with a number of workspaces (i.e., windows) in which a programmer can select, configure, program, test, and monitor a Crestron control system.

The next two subsections describe a sample SIMPL Windows program that utilizes the CNXRY-16. The first subsection details how the sample program works with a textual description and block diagram. The second subsection provides a broad description of how to actually create the SIMPL Windows program.

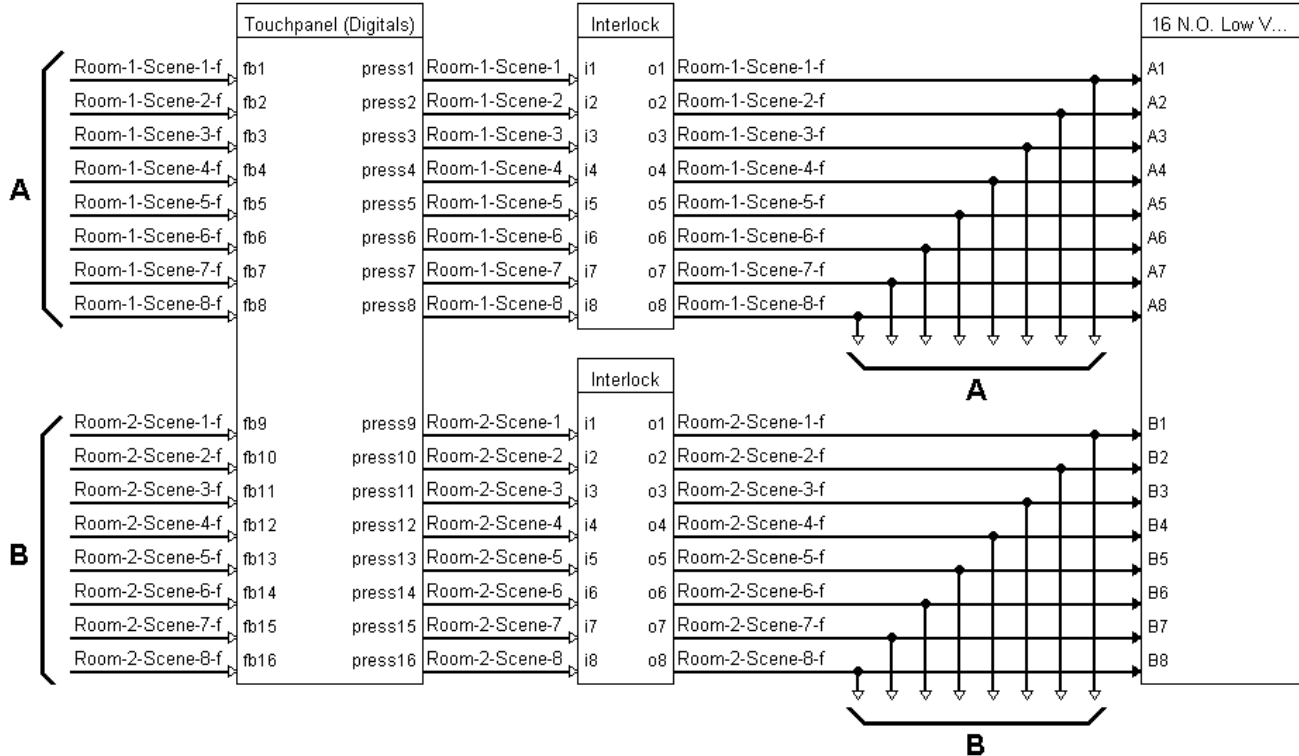
NOTE: The following description assumes that the reader has knowledge of SIMPL Windows. If not, please refer to the extensive help information provided with the software.

NOTE: There is no need to recreate the sample SIMPL Windows program. A copy of this program is available from Crestron's ControlCD (version 4.03 and later). Search for the CNXRY-16.SMW project in the SIMPL Windows Example Base.

How the Program Works

A basic CNXRY-16 SIMPL program is shown below in block diagram form. For this example, the CNXRY-16 occupies slot 1 of a CNMSX-PRO. Assume there are two rooms that have lighting systems that are controlled via relays. Each room can have up to eight scenes of lighting. A scene is engaged by latching a relay. Only one scene can be activated in a room at a time.

Block Diagram of CNXRY-16



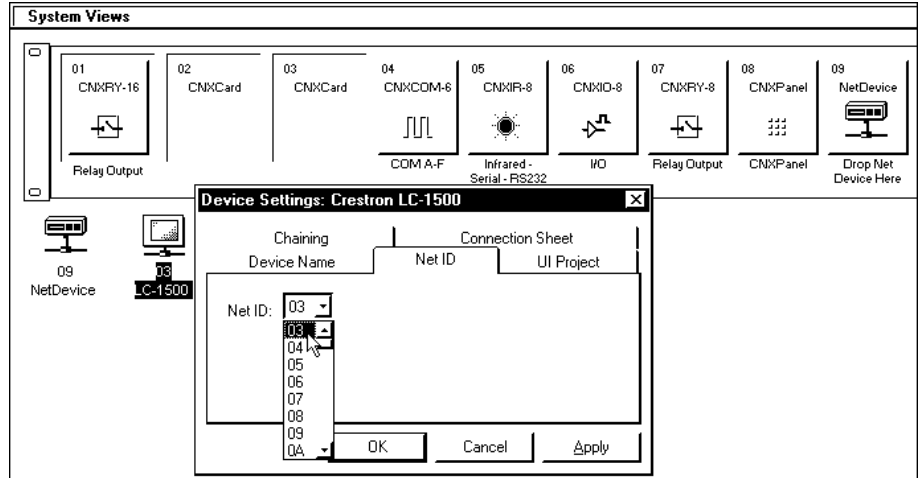
Room 1 uses relays A1 through A8; room 2 uses relays B1 through B8. When the user presses any of the buttons for room 1 (join numbers 1-8), the corresponding signal goes high on the input of the Interlock symbol for room 1. The corresponding output of the Interlock latches high. Since the Interlock is mutually exclusive, only that output is high. The corresponding relay then latches high on the CNXRY-16 card.

How to Create the Program

Use the Configuration Manager workspace in SIMPL Windows to select and configure all the devices that need to be included into the system. For this example, add a CNXRY-16 to slot #1 of the CNMSX-PRO. Also add a LC-1500 to the system; its NET ID must be set to 03, shown on the next page.

NOTE: SIMPL Windows v1.19.08 or later is required to program the CNMSX-PRO. If using an earlier version of SIMPL Windows, Crestron recommends a SIMPL Windows and operating system upgrade.

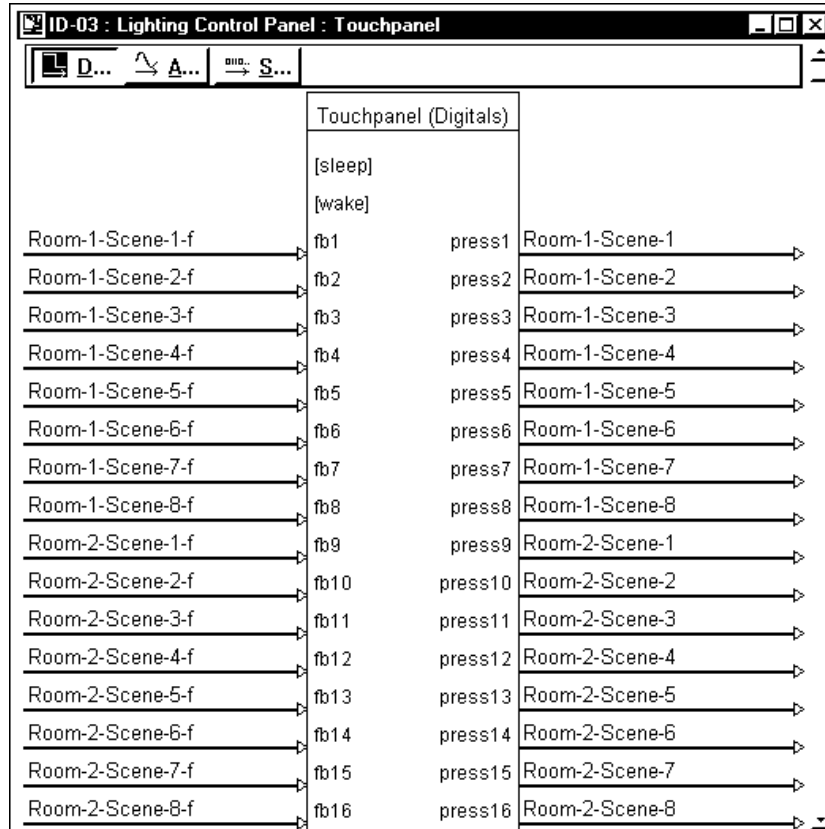
Graphical System View of CNXRY-16 and LC-1500 in SIMPL Windows' Configuration Manager



Use the Programming Manager workspace in SIMPL Windows to select symbols and assign their respective signals. For this example, a touchpanel and CNXRY-16 symbols were added automatically when the devices were added to the system in the Configuration Manager workspace. Expand the Network Modules folder and double click on the touchpanel for a detail view (alternatively CTRL+D or drag and drop into Detail View). Assign signals as shown below.

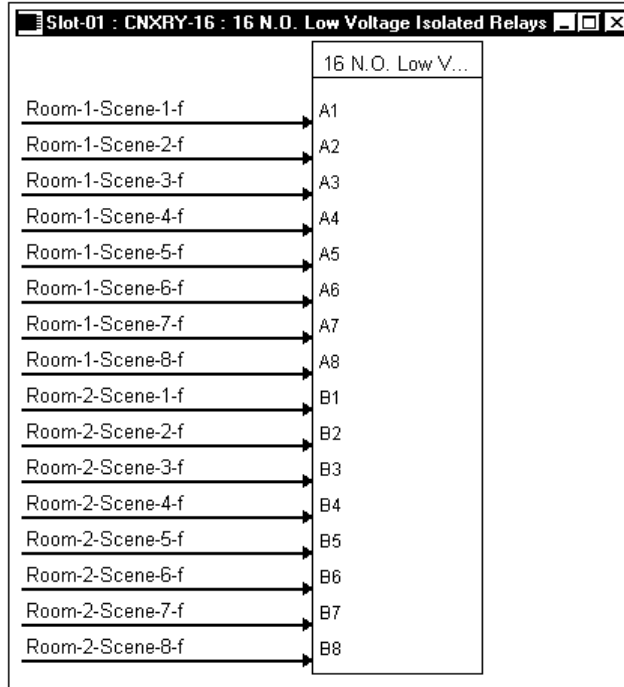
Graphical Detail View of Touchpanel in SIMPL Windows' Programming Manager

For a more descriptive symbol name, as shown in this illustration, right mouse click on the touchpanel icon in the Network Modules folder in Program View and select Edit Symbol Comment (alternatively, highlight the icon and depress Ctrl+R or Tab). Enter a new descriptive name in the "Enter Symbol Comment" dialog box and click OK.



Expand the Central Control Modules folder and double click on the CNXRY-16 for a detail view (alternatively CTRL+D or drag and drop into Detail View). Assign signals as shown below.

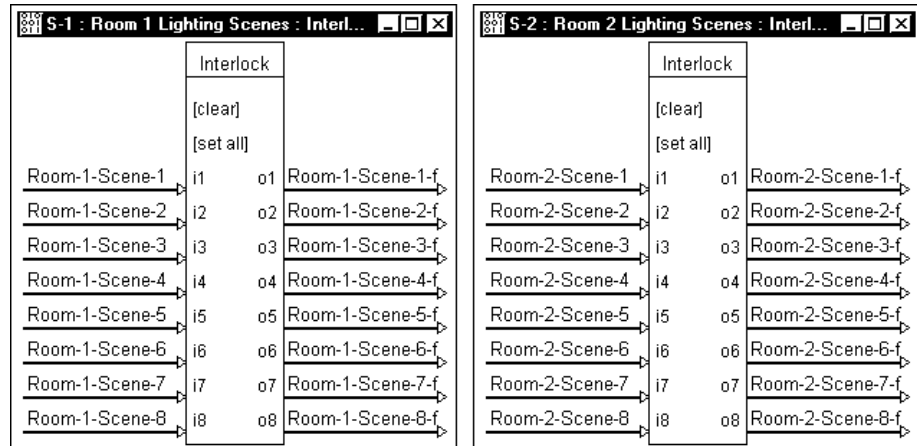
Graphical Detail View of CNXRY-16 in SIMPL Windows' Programming Manager



Expand the Logic folder and double click on both Interlock icons for a detail view (alternatively CTRL+D or drag and drop into Detail View). Assign signals as shown below.

Graphical Detail View of Interlocks (S-1 & S-2) in SIMPL Windows' Programming Manager

For a more descriptive symbol name, as shown in these illustrations, right mouse click on the Interlock icon in the Logic folder in Program View and select Edit Symbol Comment (alternatively, highlight the icon and depress Ctrl+R or Tab). Enter a new descriptive name in the "Enter Symbol Comment" dialog box and click OK.



Problem Solving

Troubleshooting

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

CNXRY-16 Toubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
CNXRY-16 does not function.	CNX Control System is not receiving power.	Verify power to CNX Control System.
	Circuit card is not properly seated in slot.	Verify CNXRY-16 is properly inserted into CNX Control System slot per procedures in this Operations Guide.
	Programming error.	Check SIMPL Windows program.

Further Inquiries

If after reviewing this Operations Guide for the CNXRY-16, you cannot locate specific information or have questions, please take advantage of Crestron's award winning customer service team by calling:

- In the US and Canada, call Crestron's corporate headquarters at 1-888-CRESTRON [1-888-273-7876] or 1-201-767-3400.
- In Europe, call Crestron International at +32-15-50-99-50.
- In Asia, call Crestron Asia at +852-2341-2016.
- In Latin America, call Crestron Latin America at +5255-5093-2160.
- In Australia and New Zealand, call Crestron Control Solutions at +61-2-9737-8203.

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 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; touchscreen 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 supercedes all previous warranties.

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