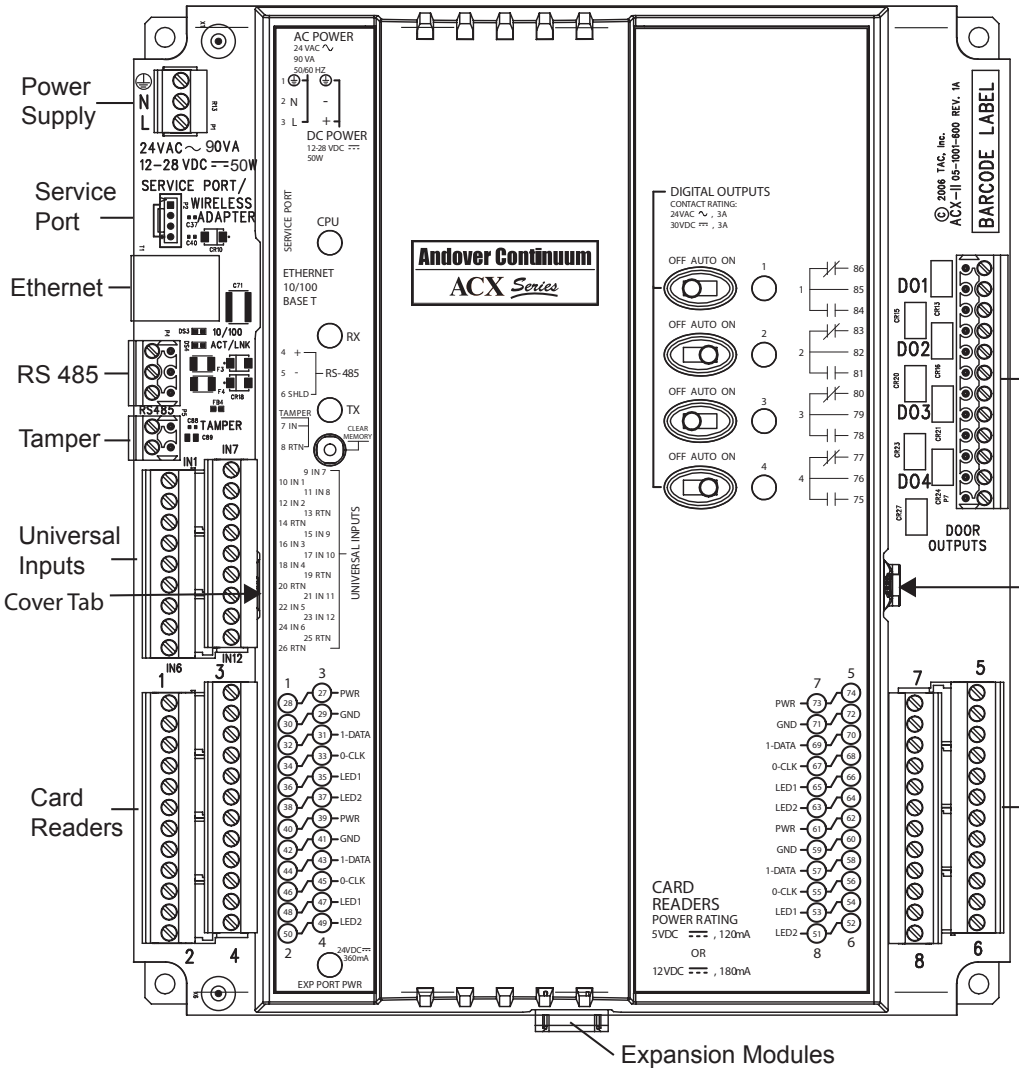
Andover Continuum

ACX 57xx Series Controller

Installation Instructions

30-3001-998
Rev D.1



Caution: Use care when moving and replacing the cover to avoid damaging components. To remove the cover, press the right side cover tab, lift up slightly and carefully free the left side. Reverse the order to replace the cover.

NOTE: The illustration shows a 5740 Series Model. The 5720 Series contains only 8 Universal Inputs, 4 Card Readers, and 2 Form C Digital Outputs.

Controller Installation (Models 5740 and 5720)

To install the controller, follow these steps:

1. Mount the controller to a panel using screws. (See the "Physical Dimensions" sections of this document.)

NOTE: Read the "Wiring Rules" section of this document before performing the next steps. Do not apply power to the controller until all connections are secured.

2. Connect the Ethernet, Service Port, and RS- 485 connections based on your requirements. (See the "Ethernet, Service Port and Comm Port Connections" section of this document.)

3. Connect the Tamper, Universal Inputs, Card Reader/Keypad, and Form C Digital Output connections based on your requirements. (See the corresponding sections of this document.)

4. (Optional) Connect the Expansion Modules based on your requirements. (See the *xP Expansion Module Reference*, 30-3001-840 and/or the *xPB Expansion Module Reference*, 30-3001-883.)

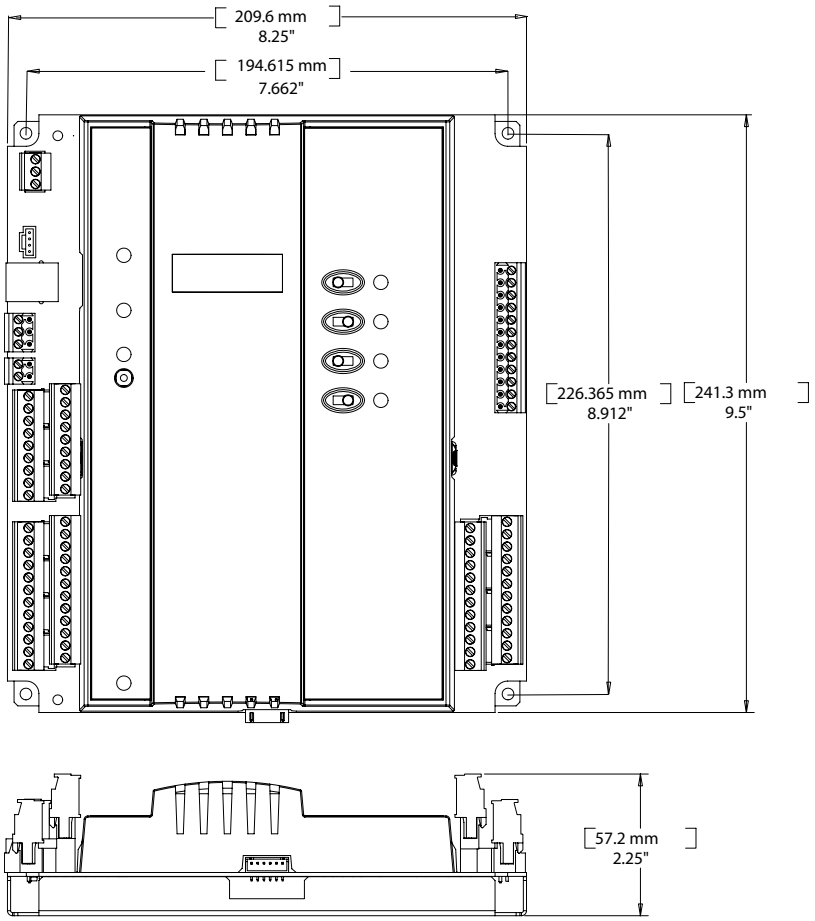
5. Connect the power supply connector of the controller to a UL Listed UL 294 or UL 603 power limited power supply. Access the PC board and connect the battery. (See the "DC Power and Battery Backup Connections" section.)

6. Apply power to the ACX 57xx Series controller.

7. Configure the controller using the controller's embedded WebServer pages and CyberStation. For more information, refer to the "Related Documentation" section at the end of this document.

Schneider Electric

Physical Dimensions



Wiring Rules

These modules are intended for installation within the UL Listed enclosure UL-ENCL for UL 294 and UL 1076.

For reliable operation, follow these wiring guidelines:

- Never lay wires across the surface of a printed circuit board.
- Use shielded wire.
- Terminate the shield of the wires at one end of the run only — preferably at the end where your ACX controller is located.
- When stripping wire, be careful not to drop small pieces of wire inside the cabinet.
- Don't run your wiring in the same conduit with AC power.
- Don't run your wiring in the same conduit with your output wiring.

Caution: Earth ground (⏚) must be connected to avoid module damage.

Grounding the Controller

To insure proper operation of the controller, the power supply must be connected to a good earth ground.

Inspecting the Ground

Be sure to have your grounds inspected before you begin the installation process.

Check your grounds as follows:

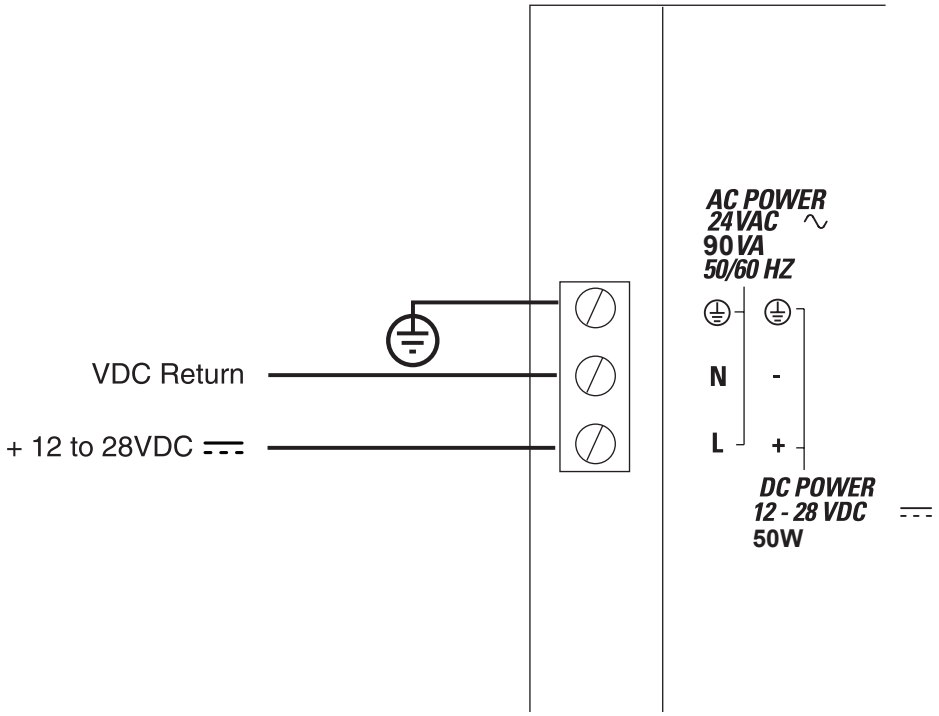
Inspect the building power distribution panel for earth-ground termination. If the ground termination is any of the following, it is not adequate and must be corrected:

- Does not exist
- Is connected to a corroded or galvinized pipe
- Is connected using a small gauge wire (less than 14 AWG).

Be sure your Andover Continuum cabinet is connected to the ground with a copper conductor that terminates at the distribution panel. For more information, see the "Related Documentation" section at the end of this document.

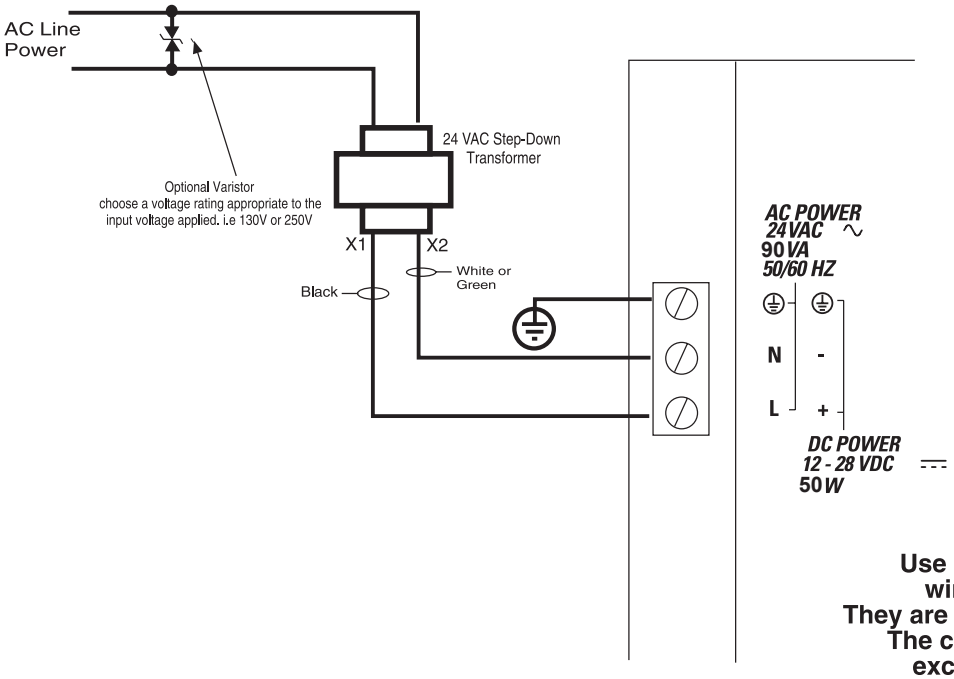
Power Supply and Battery Backup Connection

DC Power Supply Connections



AC Power Supply Connections*

* This method is not evaluated by UL.



Warning

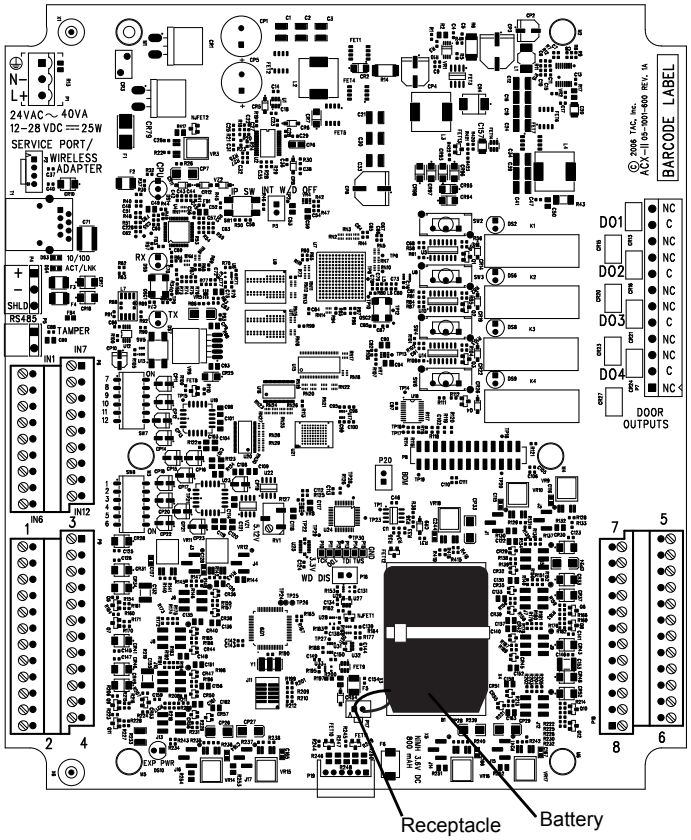
Use care when attaching power wiring to these connectors. They are not to be used as a strain relief. The connectors cannot withstand excessive bending or flexing.

Power Supply and Battery Backup Connection (Continued)

Internal Battery Connection

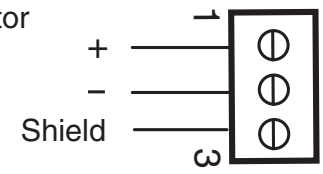
During shipment the internal battery pack has been disconnected to prevent it from draining prior to installation.

To activate the battery:
1. Locate the plastic tabs on the side panel of the controller. (See illustration on the first page of this document.)
2. Using your fingers, gently depress the right tab while lifting the cover. Remove the cover to access the main circuit board.
3. Connect the battery connector into the receptacle as shown in the illustration below.



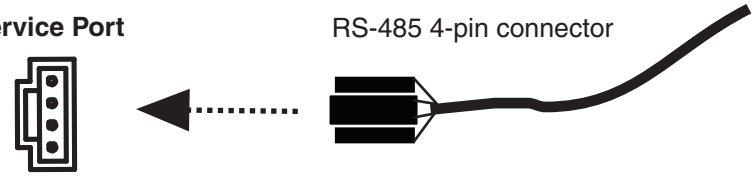
Ethernet, Service Port and Comm Port Connections

RS-485 Connector



Infinet field bus can be configured on the RS-485 port

Service Port



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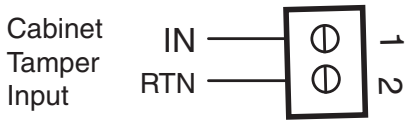
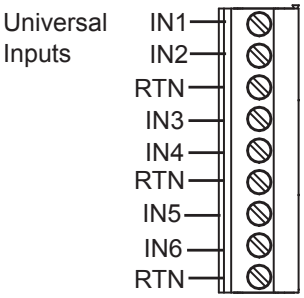
Cabinet Tamper Input Connections

The cabinet tamper input connects to cabinet tamper switches located on the cabinet door and wall. When the cabinet tamper input changes, the CabinetTamper system variable is updated and an access event is sent to CyberStation.

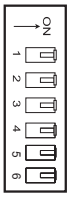


Universal Input Connections

Each universal input connector contains six inputs as illustrated below. Each input can be operated as a supervised or general purpose Universal Input. (Each input must be configured as a supervised input for UL 1076.) You can assign any input to any door or reader for any function, including: Door Switch input, Request to Exit (REX), Alternate Door Access (ADA) REX Input, Bond Sensor input, and ADA Entry Request input.

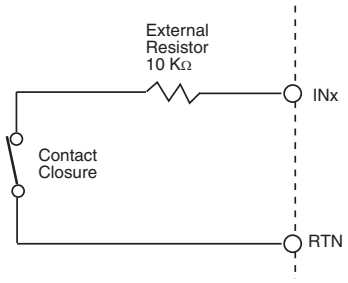


NOTE: DIP Switches (under the cover) allow you to select whether or not you want a pull-up resistor in the circuit. Default is set to ON for general use.

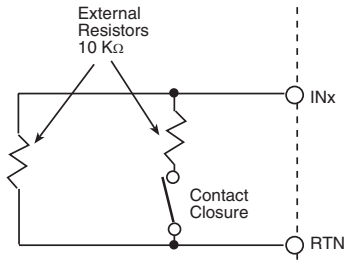


Supervised Input Connection Wiring

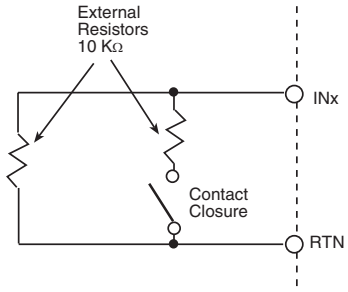
Normally Closed (NC) Series



Normally Closed (NC) Series Parallel



Normally Open (NO) Series Parallel

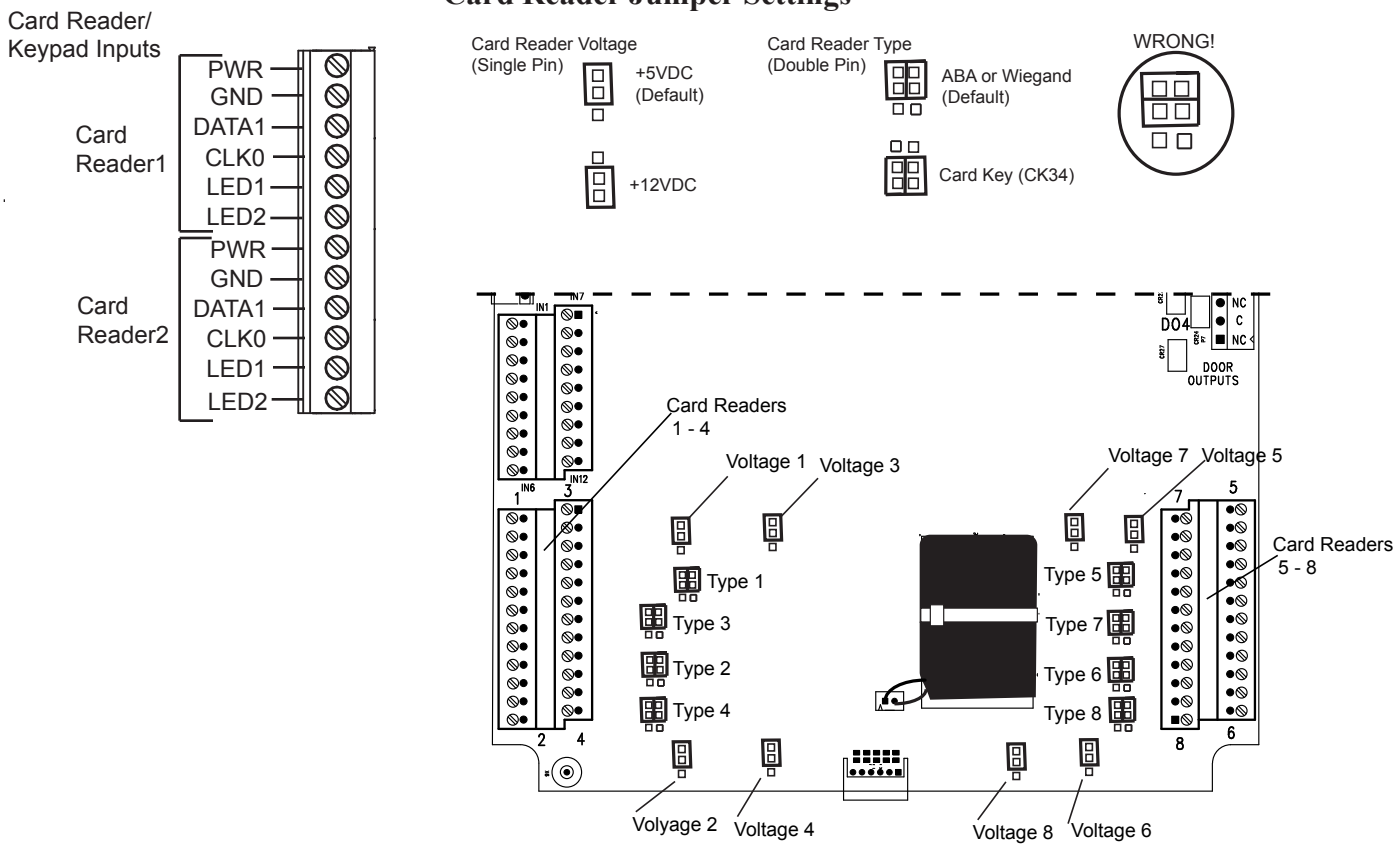


Card Reader/Keypad Connections

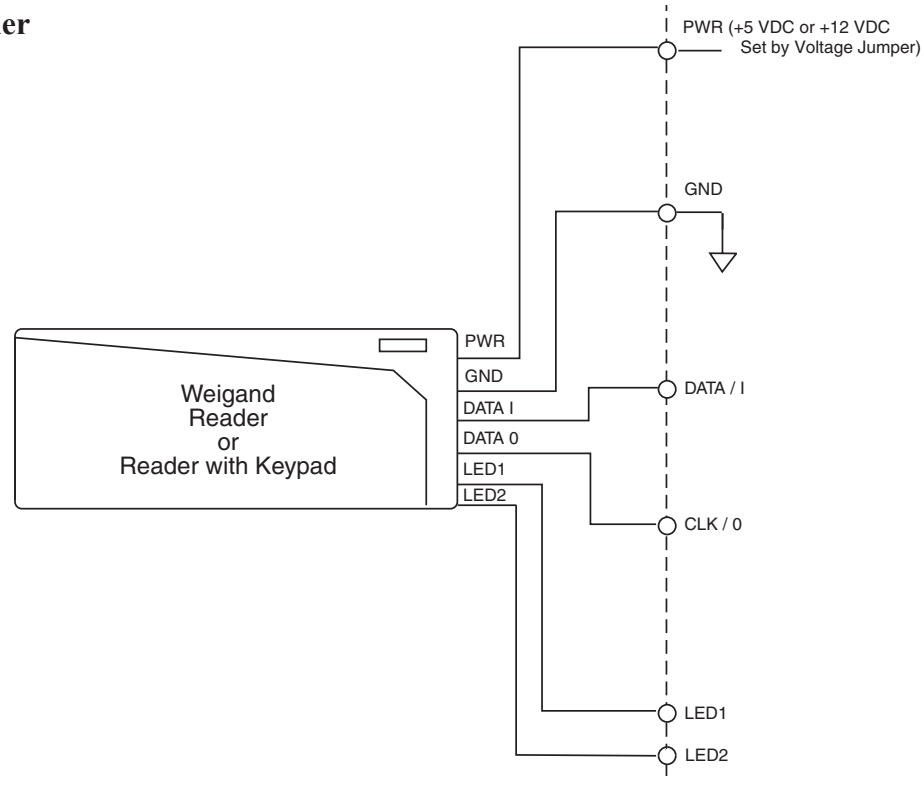
Each card reader/keypad connector contains two inputs as illustrated below. Each reader input can be connected to a card reader, dedicated keypad, or a reader/keypad combination. A Keyboard Interface Module (KIM*) is required to connect separate reader and keypad devices on the same reader input. Card reader voltage selection (+5 VDC or +12 VDC) and card reader type (CK34 or ABA/Wiegand*) are jumper selectable. The jumpers are located near the card reader connectors (under the cover) on the main board.

* KIM and card reader types CK34 and ABA/Wiegand are not evaluated by UL.

Card Reader Jumper Settings



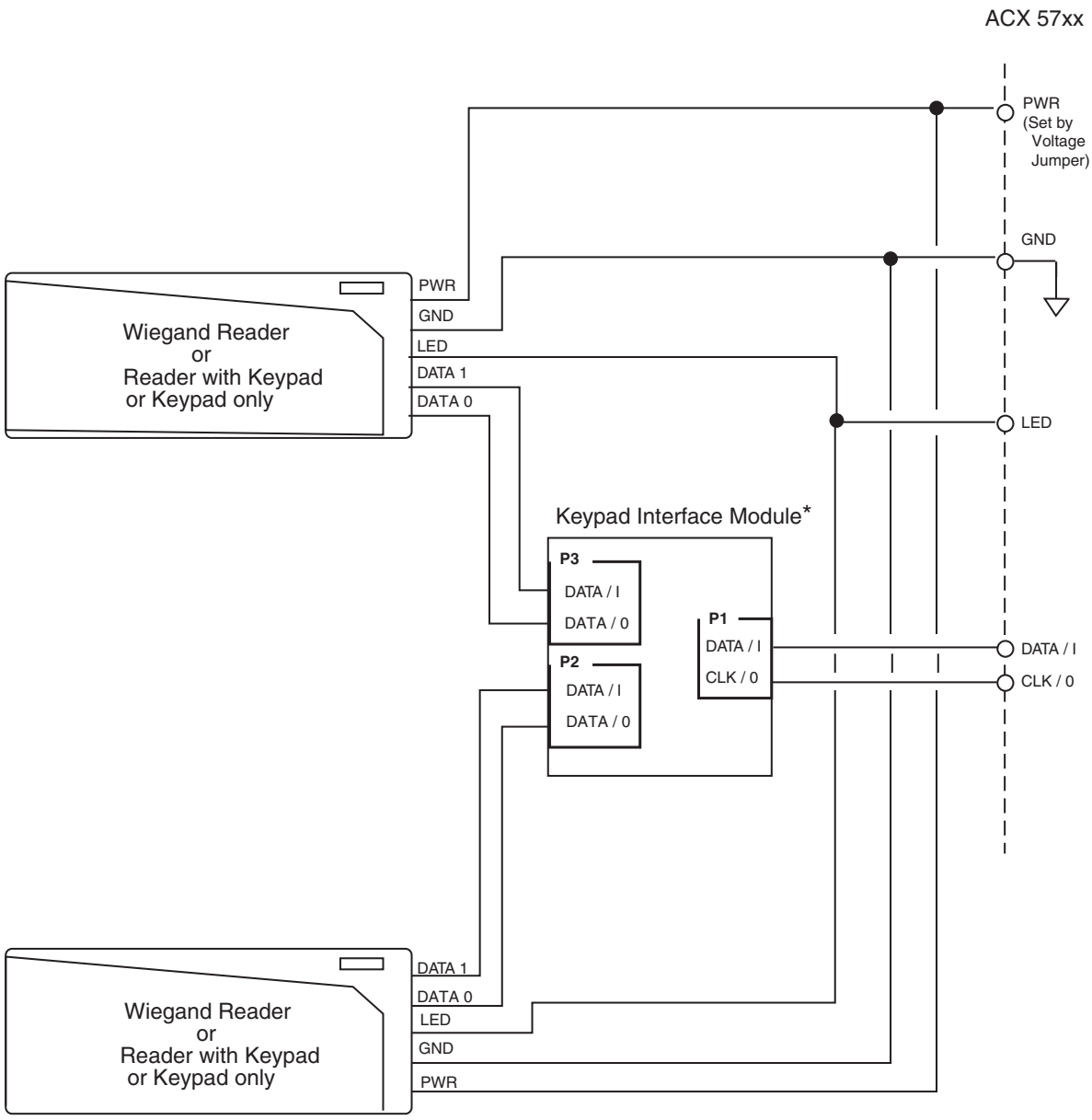
Connecting a Single Card Reader



Card Reader/Keypad Connections (Continued)

Connecting Two Readers or a Keypad and a Reader

With the addition of the Keypad Interface Module (KIM*), the controller can interface to both a keypad and a reader simultaneously. This assumes that they are both Wiegand devices of similar voltage range. The KIM module presents the ACX controller with one pair of signals.



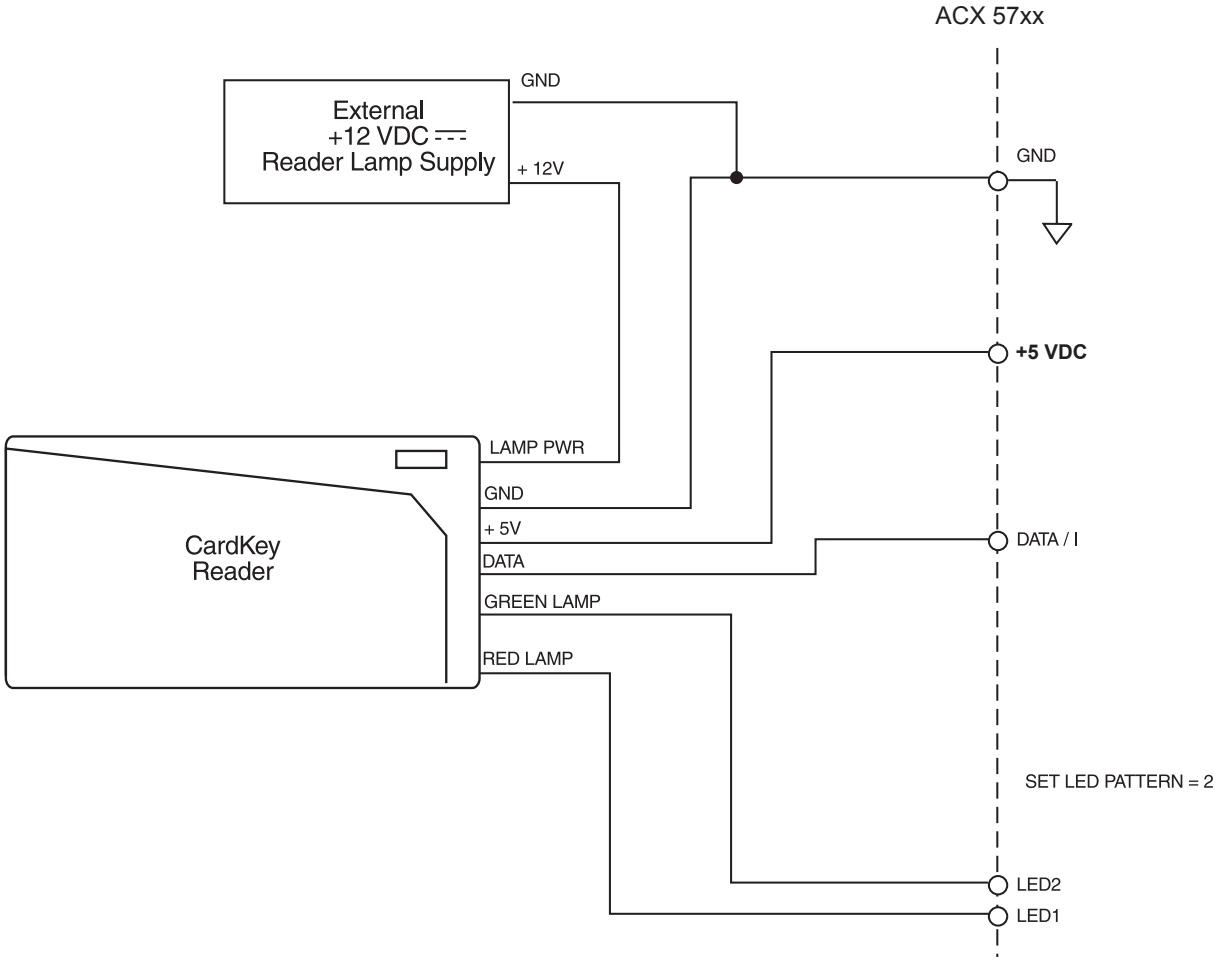
* This KIM configuration is not evaluated by UL.

Card Reader/Keypad Connections (Continued)

Connecting a CardKey Reader*

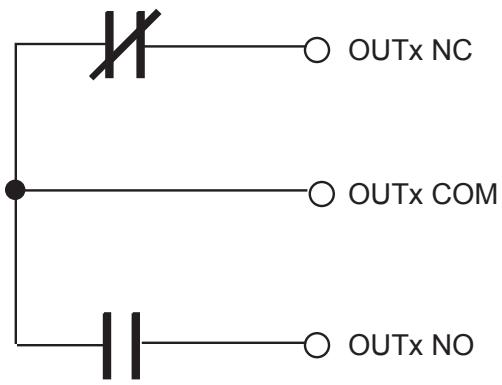
You can connect a CardKey reader directly to the ACX 57xx controller, however, the CardKey reader requires a +12 VDC supply for the red and green lamps. **NOTE**: In the illustration below, the PWR input from the controller is set to +5 VDC using the Card Reader Voltage jumper, and the Card Reader Type jumper is set to CK34.

* This configuration is not evaluated by UL.



Form C Digital Output Connections

The ACX 57xx Series controller includes either two (ACX 5720 model) or four (ACX 5740 model) Form C single-pole double-throw relay outputs. Form C relays contain both a normally open (NO) and a normally closed (NC) output. These output contacts operate as a standard relay, as described in the "Relay Operation" text box. The illustration below is a simplified schematic of each output channel.

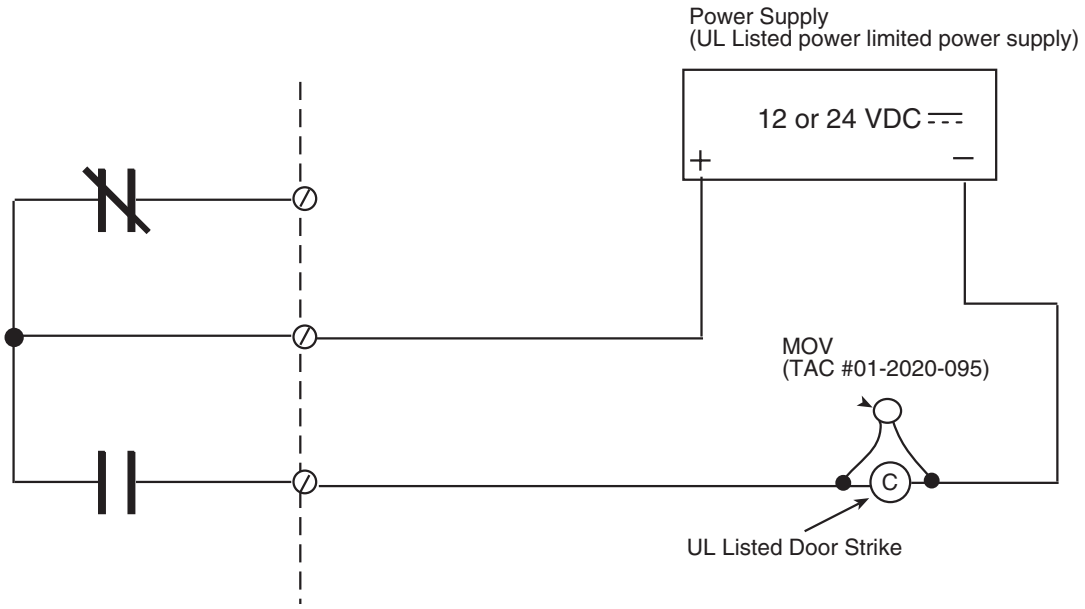


Relay Operation:
When the output is set to ON:
- NO contacts close
- NC contacts open

Form C Digital Output Connections (Continued)

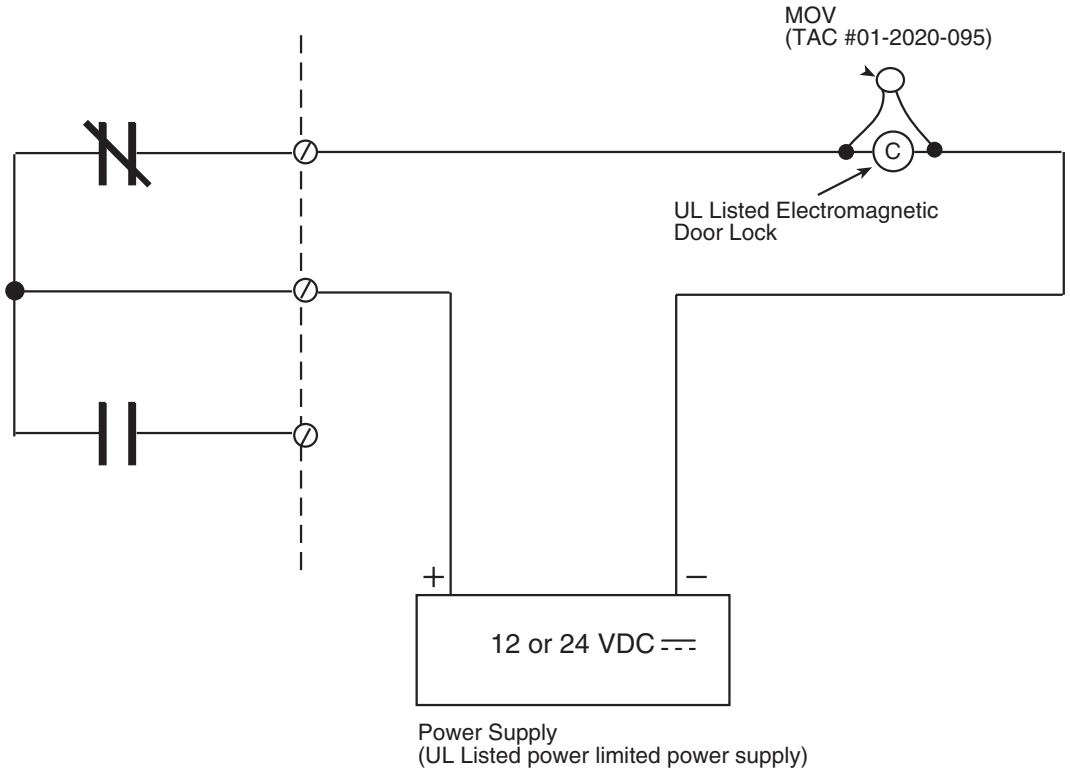
Wiring Door Outputs (NO Circuit)

The illustration below represents a typical door output installation when the circuit is normally open (NO). The figure shows a normally de-energized lock (when secured) in a fail secure mode. Always be sure to use "panic" hardware that allows emergency exit from the secured area. Note the location of the metal oxide varistor (MOV) and the Door Strike electric locking mechanism.



Wiring Door Outputs (NC Circuit)

The illustration below represents a typical door output installation when the circuit is normally closed (NC). The figure shows a normally de-energized lock (when secured) in a fail safe mode. If a power loss occurs, the lock opens. Note the location of the metal oxide varistor (MOV) and the electromagnetic door lock.



Configuring the ACX 57xx Series Controller

(**NOTE**: Check with your system administrator for assistance.)

1. Disable the DHCP Services on your PC.
2. Disconnect your computer from the network and set your IP address to 169.254.1.2 and your subnet mask to 255.255.0.0.
3. Using a CAT5 cable (straight-through or crossover), connect the PC Ethernet port to the ACX 57xx Ethernet port.
4. Run your web browser, then go to URL: http://169.254.1.1 to display the Andover Continuum Embedded WebServer page in the ACX 57xx Series controller.
5. Select **Controller Configuration** from the WebServer page.
6. Log on using the default Andover Continuum user name and password.
7. Enter relevant configuration parameters on the WebServer Configuration web pages.
8. After entering the parameters, click the **Commit Changes/Restart Controller** button on the WebServer page. (Restore the PC, and connect the controller to the network when it reboots.)

For more information, please see the online help in the NetController II embedded web pages and the "Related Documentation" section at the end of this document.

Specifications

Dimensions
8.25" W x 9.5" L x 2.25" H (209.6 x 241.3 x 57.2 mm)

Weight
1.73 lbs. (0.78 kg)

Enclosure Type
UL open class, flammability rating of UL94-5V, IP 10

Mounting
Andover Continuum UL Listed model UL-ENCL is available for UL 294 and UL 1076.

Operating Environment
Temperature: 32° to 122° F (0° to 50° C)
Humidity: 10 to 90% RH, non-condensing

Input Power
- 12–28VDC ⎓ @ 50W
- 24VAC ∿ @ 90VA, 50/60 Hz.

Universal Input Voltage Range
0-5 V

Internal Battery
NiMH, 3.6 VDC, 800 mAh

Real Time Clock
Battery-backed by an internal battery.

Ethernet LAN Interface
10/100 Ethernet: Ethernet cable with RJ-45 connector.

Serial Comm. Interface
One programmable port, software configurable as a wireless adapter, RoamIO, or third-party system. Infinet can be configured on the RS-485 port.
Service Port
RS-485, 3-Pin connector

Infinet Bus Length
4,000 ft (1,220m) standard for Infinet using approved shielded, twisted pair, low capacitance cable. InfiLink module allows extensions to longer distances.

Input Connections
ACX 57xx Series inputs types include: cabinet tamper, universal inputs, and card reader/keypad.
Cabinet tamper: 2-pin connector for cabinet tamper switches located on the cabinet door and wall.
Universal inputs: 6 (572x models) or 12 (574x models) universal inputs that can be operated as a supervised or general purpose UI.
Alarm Inputs: 6 (572x models) or 12 (574x models) supervised inputs. Single or double resistor supervision, series or parallel.
Input Protection: Transient voltage suppressor (TVS) on each input .
Card Reader/Keypad: 4 (572x models) or 8 (574x models) inputs. Each input can be connected to a card reader, dedicated keypad, or reader/keypad combination.

Card Reader/Keypad
Card Reader Type: Wiegand, ABA, or CardKey (jumper selectable)
Max Number of bits/Card: Up to 260 bits/card for FIPS (UL evaluated for up to 37 bits - Wiegand only)
Card Reader Power: +5 VDC @ 120 mA or +12 VDC @ 180 mA max power (jumper selectable)

Wiring Distance: (500 ft. (152.4 m) max. using 18 AWG)
(Card Reader to ACX) (200 ft. (60.96 m) max using 22 AWG)

Door Output Connections
ACX 57xx Series output types include: 2 (572x models) or 4 (574x models) Form C relays with a manual Override switch.
Door Outputs: Up to 4 Form C relays
Output Rating: 24 VAC/30 VDC @ 3 Amp
Reader LED Output: (2) each, open collector; up to 100 mA
Output Protection: 5000 V isolation 270 V MOVs on each output.
Overrides: 3-position manual override switch on each output for manual control of relay. LED override status indicator.

Power and Communications Connections
Power: 3-position connector on left side of module for connection to a power supply.
xP Power: 6-pin connector, 24 VDC 360 mA
Ethernet: RJ-45 connector for 10/100 Ethernet.
Service port: 4-pin connector for ROAM I/O_2 or Wireless Adapter
RS-485: 3-pin connector for Infinet field bus.

Status Indicator LEDs
System: CPU
RS-485: TX, RX
Ethernet: ACT/LINK, 10/100 Mbps
xP Pwr: Expansion module 24 VDC power

Push Button Switches
Clear Memory: RESET/Clear Memory
Reset IP Address: (On PC board) Resets Network address settings in flash memory and restores all non-volatile settings to factory defaults.

DIP Switches
Universal Inputs, 10 KOhm pull-up disable/enable

Regulatory Notices

Federal Communications Commission
FCC Rules and Regulations CFR 47, Part 15, Class A
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may cause undesired operation.

Caution: The user that changes or makes modifications not expressly approved by Schneider Electric for compliance could void the user's authority to operate the equipment.

Industry Canada
ICES-003
This is a Class A digital device that meets all requirements of the Canadian Interference Causing Equipment Regulations.

CE - Compliance to European Union (EU)
89/336/EEC - EMC Directive
This equipment complies with the rules of the Official Journal of the European Union specified in the EMC directive 89/336/EEC governing the Self Declaration of the CE Marking for the European Union.

N1831 **C-Tick (Australian Communications Authority (ACA))**
AS/NZS 3548
This equipment carries the C-Tick label and complies with EMC and radio communications regulations of the Australian Communications Authority (ACA), governing the Australian and New Zealand (AS/NZS) communities.

WEEE - Directive of the European Union (EU)
This equipment and its packaging carry the waste of electrical and electronic equipment (WEEE) label, in compliance with European Union (EU) Directive 2002/96/EC, governing the disposal and recycling of electrical and electronic equipment in the European community.

c UL us LISTED 58B2 **UL 916 Listed product for the United States and Canada, Open Energy Management Equipment**

SECURITY UL LISTED SUB-ASSEMBLY 2M69 c UL LISTED GENERAL SIGNALING EQUIPMENT SUB-ASSEMBLY 2M69 **UL 294 (Access Control System Unit Subassemblies for the United States) and UL 1076 (Proprietary Burglar Alarm System Unit Subassemblies for the United States) and C22.2 No. 205-M1893 (Signal Equipment for Canada)**

Note: Refer to the UL Listed Access Control Propietary Burglar Alarm System installation manual (the UL 294 Access Control and UL 1076 Proprietary Burglar Alarm Systems Reference, 30-3001-504) for specific wiring, operation, and compatibility information.

Related Documentation

The following related documentation provides more information on Andover Continuum products. These documents are neither required nor evaluated by Underwriters Laboratories (UL) for UL Listings.

Document	Document Number
ACX 57xx Series Operation and Technical Reference Guide	30-3001-999
Network Security Configuration Guide	30-3001-996
Andover Continuum CyberStation Access Control Essentials Guide	30-3001-405
Andover Continuum CyberStation online help	

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