

# 2004 and 2008 Foundation Series Fire Alarm Control Unit City Circuit Card Installation Guide

579-1419AC Rev A





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# 1 Cautions, Warnings, and Regulatory Information

**READ AND SAVE THESE INSTRUCTIONS** Follow the instructions in this installation manual. These instructions must be followed to avoid damage to this product and associated equipment. Product operation and reliability depend upon proper installation.



**DO NOT INSTALL ANY AUTOCALL™ PRODUCT THAT APPEARS DAMAGED** Upon unpacking your Autocall product, inspect the contents of the carton for shipping damage. If damage is apparent, immediately file a claim with the carrier and notify an authorized Autocall product supplier.



**ELECTRICAL HAZARD** Disconnect electrical field power when making any internal adjustments or repairs. All repairs should be performed by a representative or an authorized agent of your local Autocall product supplier.



**EYE SAFETY HAZARD** Under certain fibreoptic application conditions, the optical output of this device may exceed eye safety limits. Do not use magnification (such as a microscope or other focusing equipment) when viewing the output of this device.

## FCC RULES AND REGULATIONS – PART 15

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

## SYSTEM REACCEPTANCE TEST AFTER SOFTWARE CHANGES

To ensure proper system operation, this product must be tested in accordance with NFPA-72, after any programming operation or change in site-specific software. Reacceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring. All components, circuits, system operations, or software functions known to be affected by a change must be 100% tested. In addition, to ensure that other operations are not inadvertently affected, at least 10% of initiating devices that are not directly affected by the change, up to a maximum of 50 devices, must also be tested and proper system operation verified.

NFPA 72® is a registered trademark of the National Fire Protection Association.

## **2 Introduction**

This following sections describe the installation procedure for the City Circuit Card with Disconnect Switch A004-9909.

### **2.1 Inspecting the contents of shipment**

Upon unpacking your Autocall product, inspect the contents of the carton for shipping damage. If damage is apparent, immediately file a claim with the carrier and notify your local Autocall product supplier.

### 3 Overview

The A004-9909 city circuit card is used to annunciate alarms and other urgent indications to remote facilities. When the A004-9101 or A008-9101 control unit goes into alarm, the city card circuits are activated, and annunciation immediately occurs at the remote facility. Reverse polarity modules or local energy modules, for reaching the Public Service Fire Communications Center, receive annunciations at the remote site. The city circuit module has two circuits, which are configurable for alarm, trouble, or supervisory reporting. In the event of a CPU failure, a city card configured for a trouble output sends a trouble to the city circuit.

**Note:** Only one city circuit card can be installed for each system. Both outputs need to be programmed for the same service, both for Reverse Polarity or both for Local Energy.

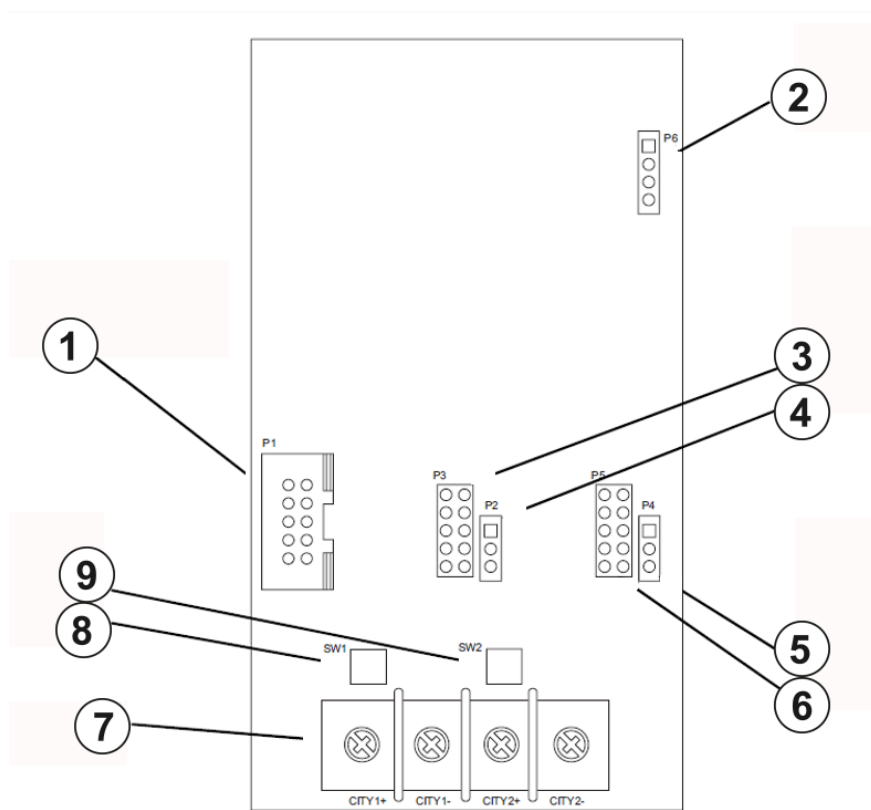


Figure 1: City circuit card

Table 1: City circuit card callouts and description

Callout	Description
1	P1, 10 position header connector to: 2250 (P18)
2	Alarm/trouble/supervisory jumper port (P6)
3	Reverse polarity/ local energy jumper ports for city circuit 1: P3
4	Reverse polarity/ local energy jumper ports for city circuit 1: P2
5	Reverse polarity/ local energy jumper ports for city circuit 2: P4
6	Reverse polarity/ local energy jumper ports for city circuit 2: P5
7	City circuits 1 and 2: TB1
8	City disconnect switch: SW1
9	City disconnect switch: SW2

#### 3.1 City circuit card specifications

Table 2 lists the city circuit card specifications.

Table 2: City circuit card specifications

City circuit card specifications	
Electrical specifications	
Input voltage	20 VDC to 32 VDC

**Table 2: City circuit card specifications**

<b>City circuit card specifications</b>	
Current	Standby current: 30mA Alarm current: 60mA
City output voltage	± 24 V nominal, 20 to 32 VDC, fused at 3 A
<b>Environmental specifications</b>	
Operating temperature	32°F to 120°F (0°C to 49°C)
Humidity	10% to 93% non-condensing at 90°F (32°C)



## 4 Mounting the city circuit card

To mount the city circuit card inside the cabinet, complete the following steps:

1. Remove the AC power at the breaker from the control unit.
2. Use the B-key to unlock the hinged door of the cabinet. Remove the black insulating cover. Keep the insulating cover in a secure location.
3. Disconnect the batteries and remove them. Keep the batteries in a secure location.
4. Using the three supplied screws, mount the card on the bottom right corner of the system board.

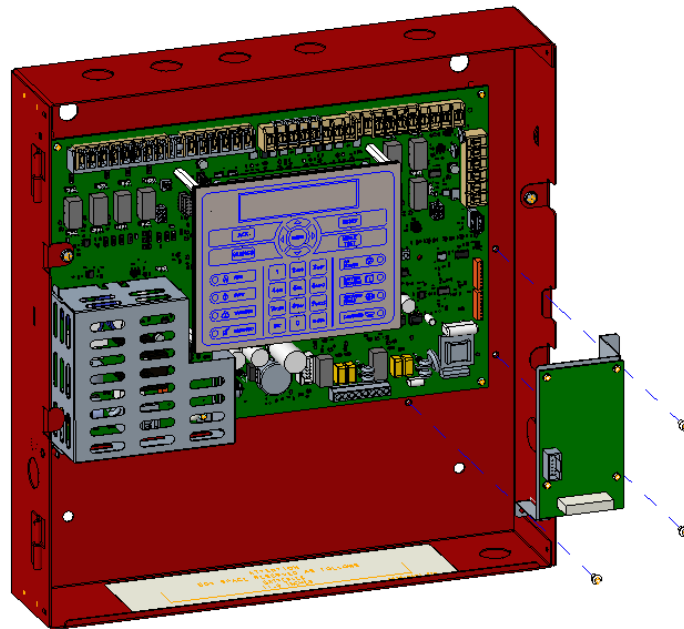


Figure 2: Mounting the city circuit card in the A008-9101 FACU

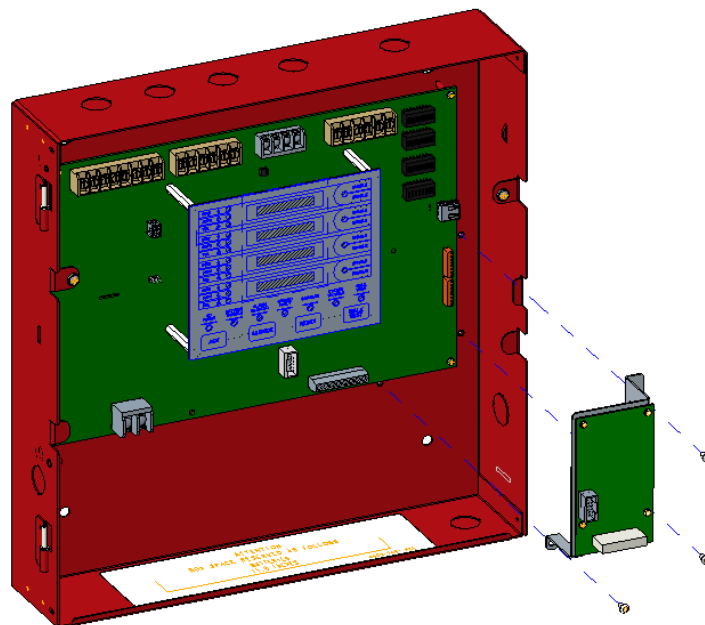


Figure 3: Mounting the city circuit card in the A004-9101 FACU

## 5 Communications and power connection

The city circuit card comes with a power and communication harness. You can use this harness for interfacing the city circuit card with the A004-9101 or A008-9101 control unit. To connect the harness, complete the following steps.

1. Connect one end of the power and communication harness to **P1** on the city circuit card.
2. Connect the other end of the power and communication harness to the connector labelled **P3** on the A004-9101 or A008-9101 control unit.
3. Place the batteries back inside the enclosure. Apply battery power.
4. Install the black insulating cover.
5. Apply AC power at the breaker.

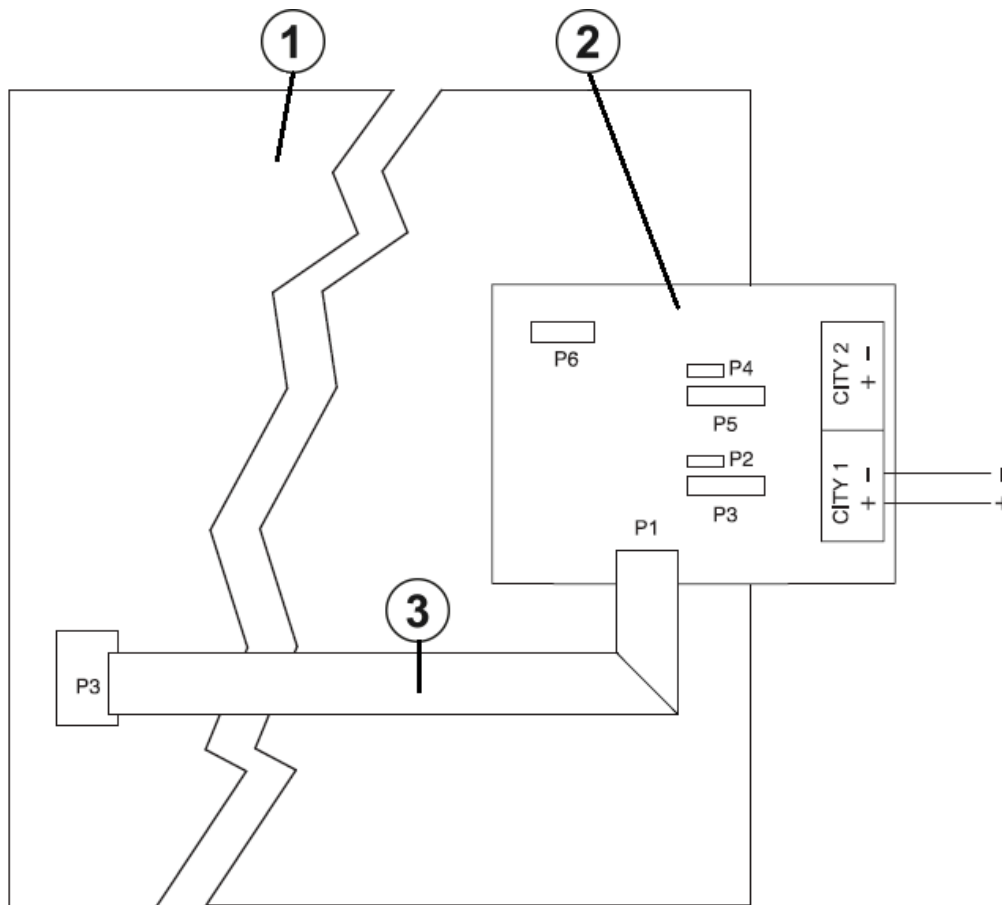


Figure 4: City circuit card connection to the FACU

Callout	Description
1	A004-9101 or A008-9101 FACU
2	City card
3	Connect to the FACU using the harness

## 6 City card configuration

### 6.1 Configuring the city circuit card

For the city circuit cards, use the information in Table 3 and [Setting P6](#) to set the jumper positions for reverse polarity and local energy operations.

**Table 3: Jumper positions**

City circuit card	Reverse polarity	Local energy
City circuit 1	P3: 1-2, 3-4, 5-6 P2: 2-3	P3: 7-8, 9-10 P2: 1-2
City circuit 2	P5: 1-2, 3-4, 5-6 P4: 2-3	P5: 7-8, 9-10 P4: 1-2

### 6.2 Setting P6

You must select either supervisory or trouble operation for the second circuit by setting P6.

- To configure city circuit 2 for supervisory activation, install jumpers on port P6 to positions 1 and 2 and another to positions 3 and 4. City circuit 1 sends a trouble to the city by dropping circuit power when reverse polarity is selected.
- To configure city circuit 2 for trouble activation, install a jumper on port P6 in positions 2 and 3. City circuit 1 sends alarms only to the city.

### 6.3 Disconnect settings of the city circuit card

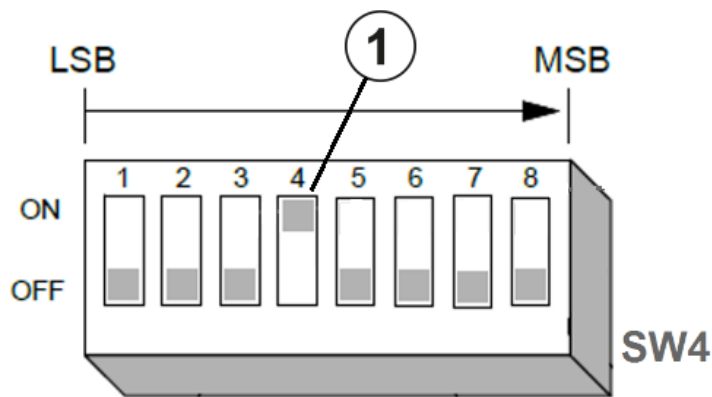
The A004-9909 city circuit card has two disconnect switches: **SW1** for city circuit 1 and **SW2** for city circuit 2.

Turn the switches to the ON position for normal operation and to the OFF position to test the system without transmitting alarms to the city.

### 6.4 Configuring the city circuit card for the A004-9101 FACU

Enables the city circuit card using **SW4-4** DIP switch.

- 0/Off state - City circuit card is disabled (default)
- 1/On state - City circuit card is enabled



**Figure 5: Dip switch setting at A004-9101 FACU**

Callout	Description
1	Default: Switch is in <b>Off</b> state. Change the state to <b>On</b> to enable the city circuit module.

### 6.5 Configuring the city circuit card for the A008-9101 FACU

Add the city circuit card to the system configuration. For more information on adding the modules to the system configuration refer to the *2008 Foundation Series Fire Alarm Control Unit Operation Guide 579-1401AC* and the *2004 and 2008 Foundation Series Fire Alarm Control Units PC Programmer Installation Guide and Programming Instructions 579-1409AC*.

## 7 Field wiring city card circuits

### 7.1 City circuit card guidelines

For successful wiring, ensure you adhere to the following guidelines:

- All wiring is supervised, but not power-limited.
- Conductors test free of all grounds before you connect the city card to the system.
- Wiring for reverse polarity is between 20 AWG minimum and 12 AWG maximum.
- Wiring for local energy is between 18 AWG minimum and 12 AWG maximum.

### 7.2 City card circuits wiring

To wire the city circuit card for reverse polarity or to a local energy master box, see Figure 6 and the [notes on city circuit card wiring](#). All wiring is terminated at TB1 on the city card. Leave the 2.2 KOhm, 1/2 W resistor, part number 378-038, installed from the + to the - terminals of unused circuits on TB1.

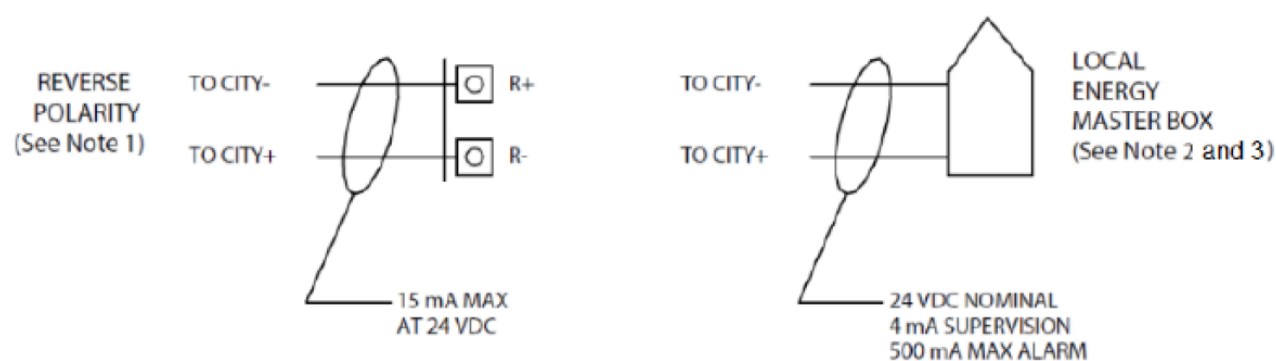


Figure 6: City circuit card wiring

**Note:**

1. The city circuit card is intended for connection to a polarity reversal circuit of a remote station receiving unit that has compatible ratings: 19 VDC to 32 VDC, 2 V peak to peak ripple maximum.
2. The city card is intended for connection to a 14.5 ohm trip coil.
3. For Masterbox supervision, connect its relay output back to panel IDC circuit configured for SUPV function type.