

Foundation Series A606-9101 LCD Annunciator Installation Guide

579-1434AC Rev B



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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.

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.

2 Introduction

The LCD Annunciator for the A008-9101, A050-9101, and A250-9101 panels provide remote annunciation of the fire alarm control unit (FACU) status. The LCD display and LEDs indicate the visual status. The piezo sounder provides audible annunciation. You can enable or lock access to the Annunciator switch functions using the keyswitch, see [Accessing the user interface](#).

You can install a maximum number of four annunciators on the A008-9101 FACU and a maximum number of eight annunciators on the A050-9101 and A250-9101 FACUs.

Note: From this point on, both the A050-9101 and the A250-9101 FACUs are referred as A250, unless stated otherwise.

2.1 Compatibility

The A008 FACU needs to be at revision 1.07 and the A250 FACU needs to be at revision 1.03 or higher to support the A606-9101 LCD Annunciator. The LCD Annunciator must be at revision 1.01 or greater when used with A250 and A008 FACUs.

2.2 Reference documents

Refer to the following documents for more information on how to program and use the remote Annunciator.

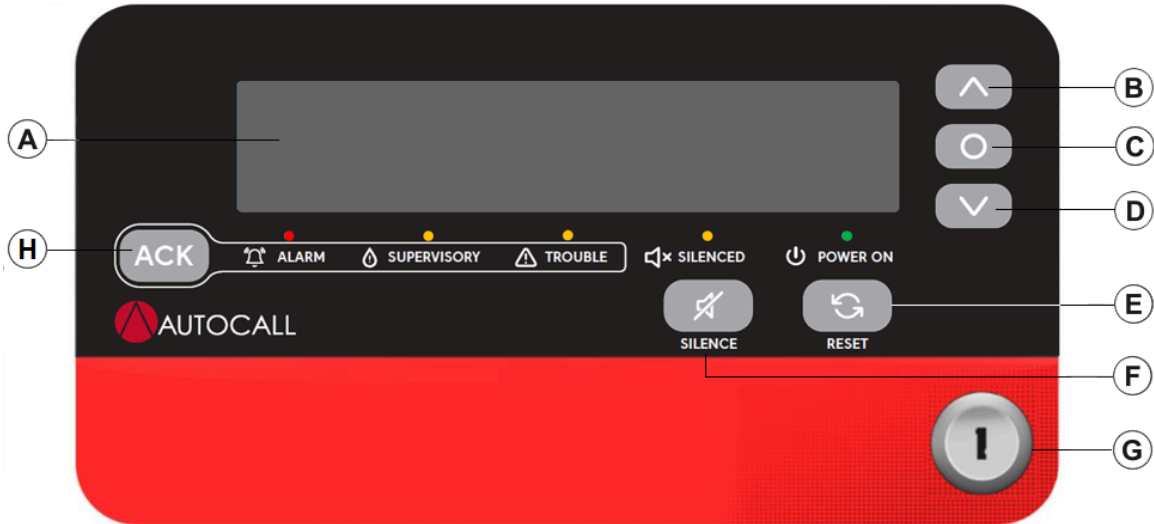
Table 1: Document reference guide

Document number	Title
579-1401AC	A008 Foundation Series Fire Alarm Control Unit Operation Guide
579-1409AC	A004 and A008 Foundation Series Fire Alarm Control Units PC Programmer Installation Guide and Programming Instructions
579-1404AC	A050 and A250 Foundation Series Fire Alarm Control Units Installation Guide
579-1405AC	A050 and A250 Foundation Series Fire Alarm Control Unit Operation Guide
579-1421AC	A050 and A250 Foundation Series Fire Alarm Control Units PC Programmer Installation Guide and Programming Instructions

3 Module overview

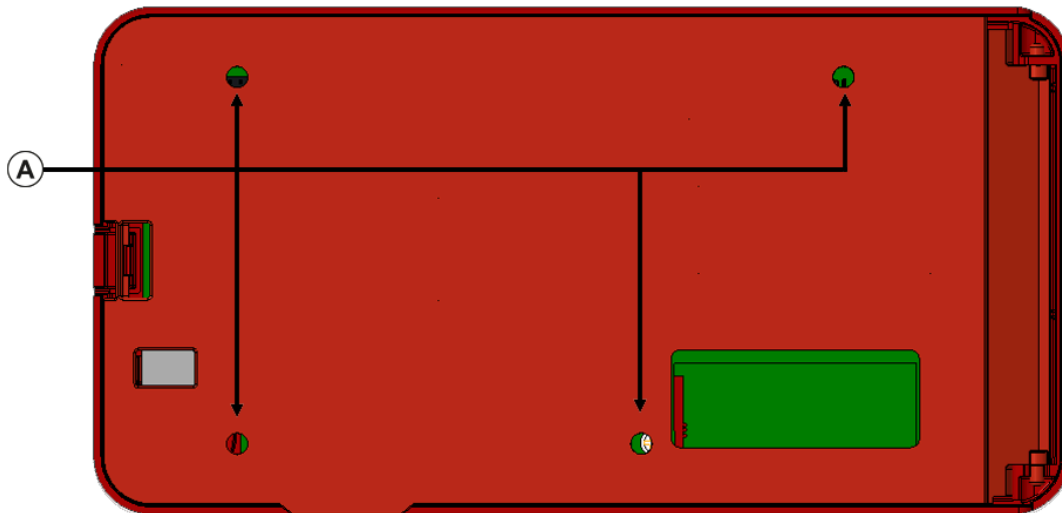
See Figure 1 for the remote Annunciator front view and see Figure 2 for the back layout.

Figure 1: Remote Annunciator front view



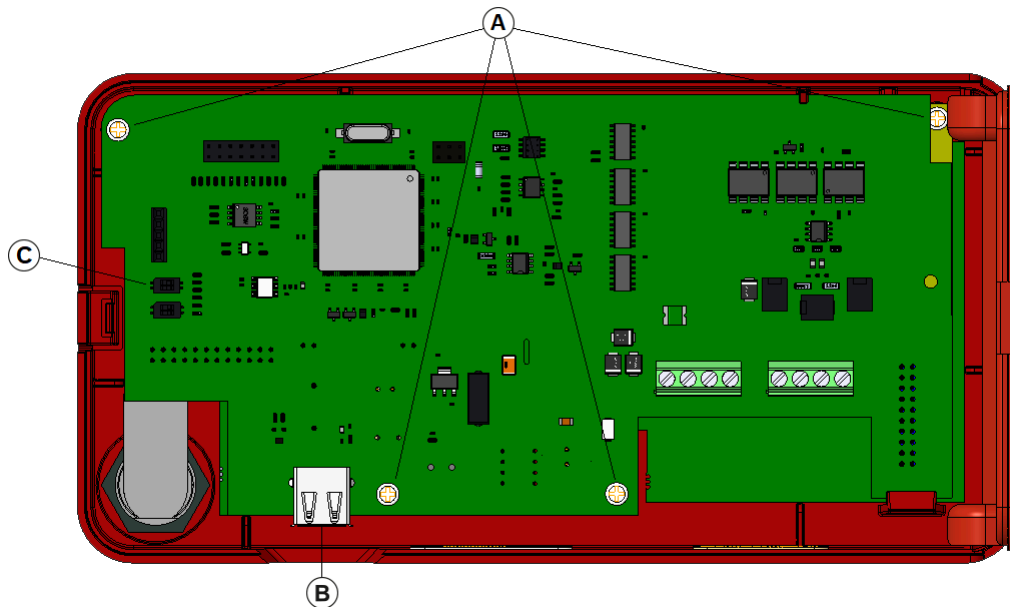
Callout	Description	Callout	Description
A	LCD display	E	RESET
B	Up	F	NAC silence
C	Enter	G	Key switch
D	Down	H	Alarm acknowledgement and buzzer silence

Figure 2: Remote Annunciator back view



Callout	Description
A	Mounting screw locations

Figure 3: USB location, Annunciator rear view



Callouts	Description
A	Screw locations
B	USB location
C	SW9

Table 2: Remote Annunciator main back components

Components	Description
USB port (J1)	Use for firmware upgrade. To access the USB port, remove the back plate. For more information contact technical support.
Address switch SW9.1	<p>Use this switch to select the conventional or addressable FACU for the LCD Annunciator.</p> <p>CAUTION: After the Annunciator is configured successfully, it is not recommended to change the personality of the Annunciator from addressable to conventional or conventional to addressable as it will not match the configuration settings.</p> <ol style="list-style-type: none"> To select the Addressable LCD Annunciator: <ol style="list-style-type: none"> For addressable mode, face SW9.1, then change the position of SW9.1 to the right side, horizontally in the ON state. Press and hold the RESET key on the Annunciator UI. Apply power to the Annunciator. Wait 5 seconds, then release the RESET key or wait until the Annunciator UI displays the first screen. To select the conventional LCD Annunciator: <ol style="list-style-type: none"> For conventional mode, face SW9.1, then change the position of SW9.1 to the left side, horizontally in the OFF state. Press and hold the RESET key on the Annunciator UI. Apply power to the Annunciator. Wait 5 seconds then release the RESET key or wait until the Annunciator UI displays the first screen.

3.1 Specifications

- For use indoors in a dry location.
- All connections are power-limited and supervised.

Table 3: Measurements

Height	Length	Depth
5 3/8 in.	6 7/8 in.	1 3/8 in.
13.65 cm	17.46 cm	3.49 cm

Table 4: Power requirements and environmental limitations

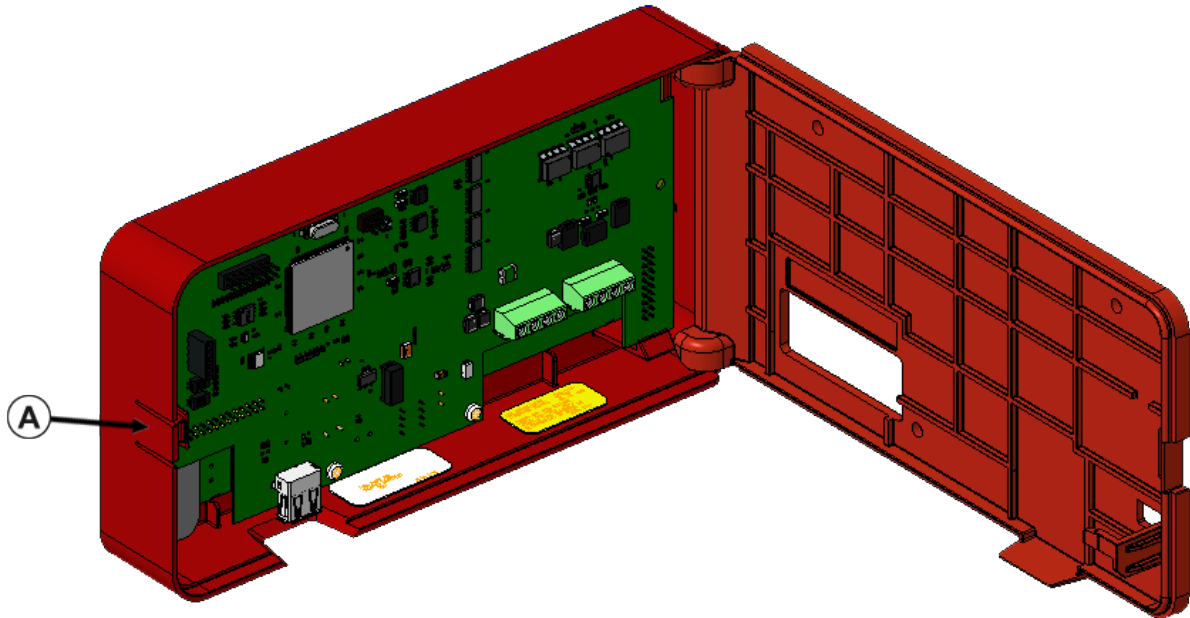
Measurement type	Item	Range
Voltage	24 VDC power supply	Nominal 24 VDC:
		Compatibility range, 16 to 30 VDC
Current	Maximum current value	When the LCD back-light is off:
		Alarm current: 48 mA
		Standby current: 40 mA
		When the LCD back-light is on:
		Alarm current: 72 mA
		Standby current: 65 mA
Temperature	Operating range	32°F to 120°F (0°C to 49°C)
	Storage range	-4°F to 158°F (-20°C to 70°C)
Humidity	Relative humidity	The equipment operates normally under non-condensing humidity conditions up to 93% relative humidity at 90°F (32°C).

4 Mounting instructions

To mount the Annunciator, complete the following steps:

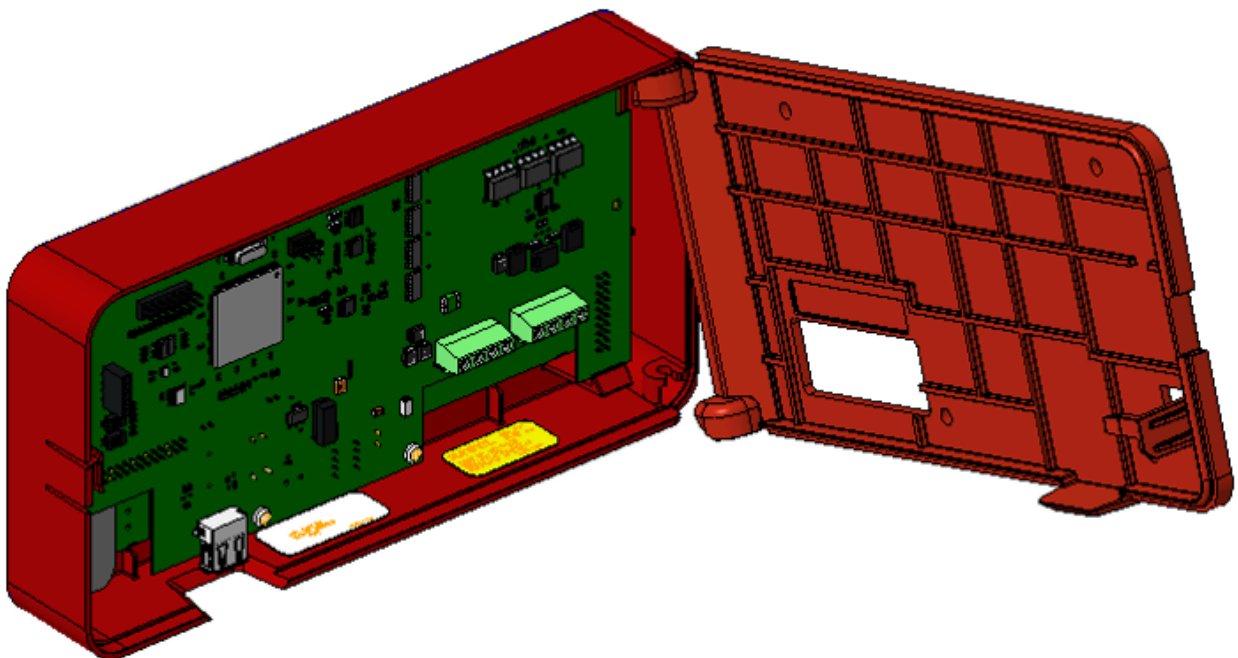
1. Unlock the Annunciator using the B-key provided and press location A to open the backplate as shown in Figure 4.
2. Remove the back plate from housing. To remove the back plate, position the back plate at 90° to the housing as shown in Figure 4 and then tilt and detach the bottom interface of plate from housing first as shown in Figure 5.

Figure 4: Opening the back plate



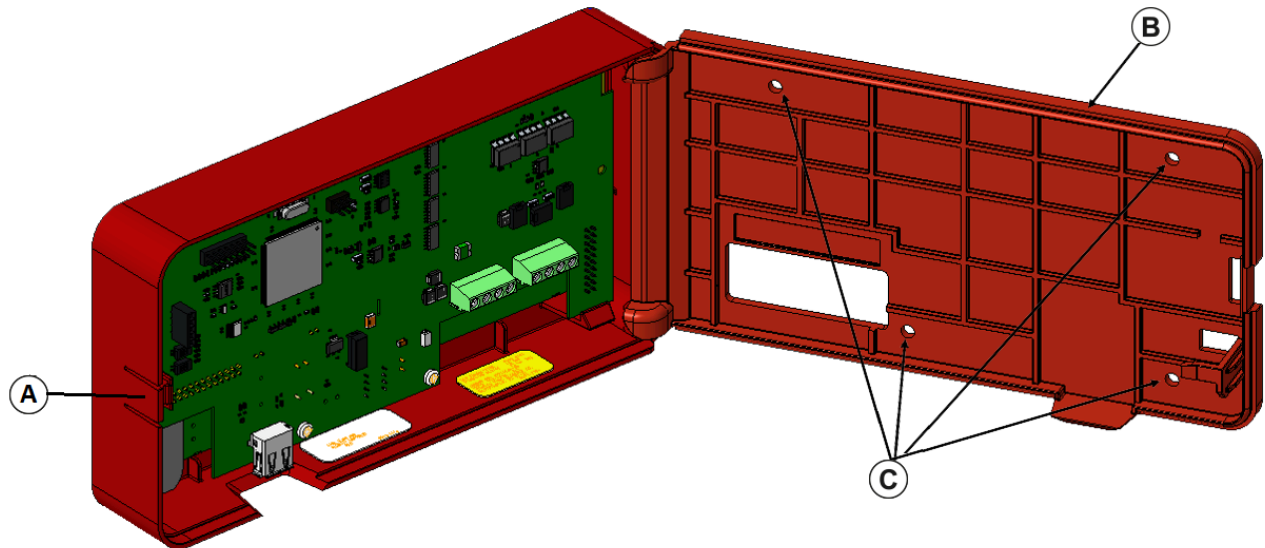
See Table in step 3 for callout description.

Figure 5: Detaching the back plate



- Place the back plate on the mounting surface and mark the location of the four screw holes.

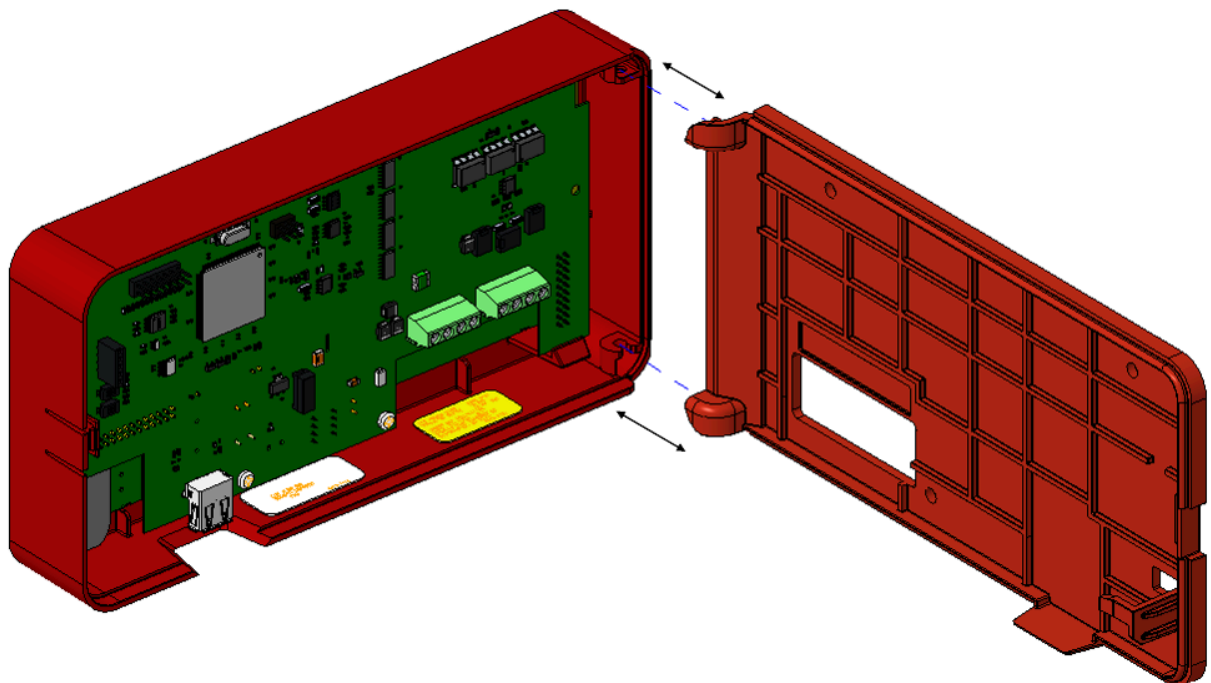
Figure 6: Marking the location of the screw holes



Callouts	Description
A	Press here
B	Back plate
C	Screw locations

- Using the four provided screws, mount the Annunciator back plate on the wall or mounting surface.
- To attach the back plate to the housing, follow step 2 in reverse, see Figure 7.

Figure 7: Mounting the Annunciator back plate



4.1 Mounting the Annunciator using the surface mount box

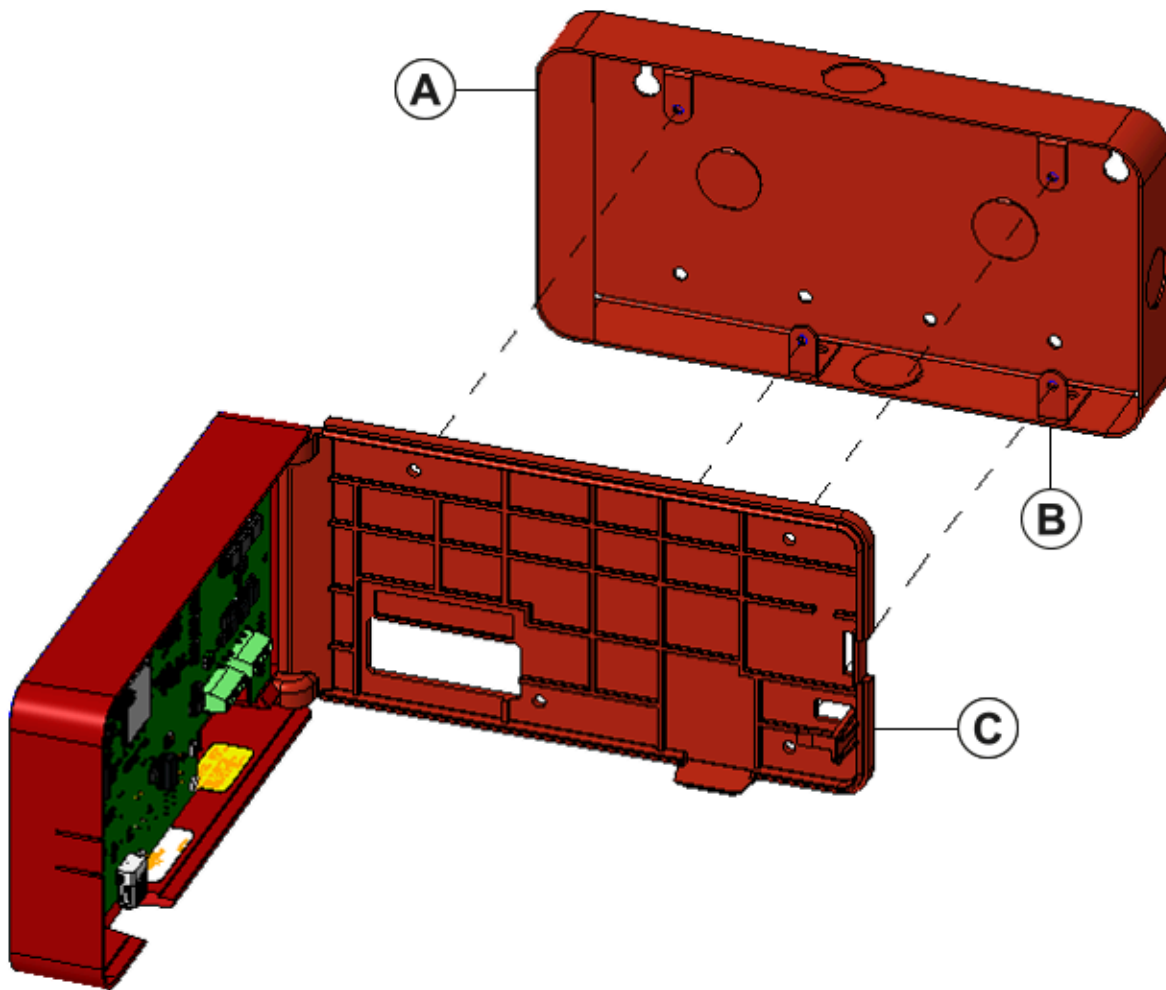
To mount the Annunciator using the surface mount box, complete the following steps

1. Place the Annunciator on the surface mount box.
2. Carefully align the mounting holes on the Annunciator wall plate with the surface mount box as shown in image
3. Use the four #6-32 screws to mount the wall plate on the surface mount box.
4. UL listed RACO 698 3-1/2D 4 GANG MASONRY BOX must be used for wall mounting application or 2975-9239 for surface mount applications.

Note:

- Do not over tighten.
- Surface mount box is ordered separately, Ordering ID: 2975-9239.

Figure 8: Mounting the Annunciator using the surface mount box



Callouts	Description
A	Mounting plate
B	Screw locations
C	Press to release

5 Installing the LCD Annunciator

To install the LCD Annunciator with the A008 and A250 FACU, complete the following step:

1. Terminate the annunciators RS485 COMM and power line as shown in Figure 9 and Figure 10 .

Figure 9: Terminating the COMM and power lines with addressable panel

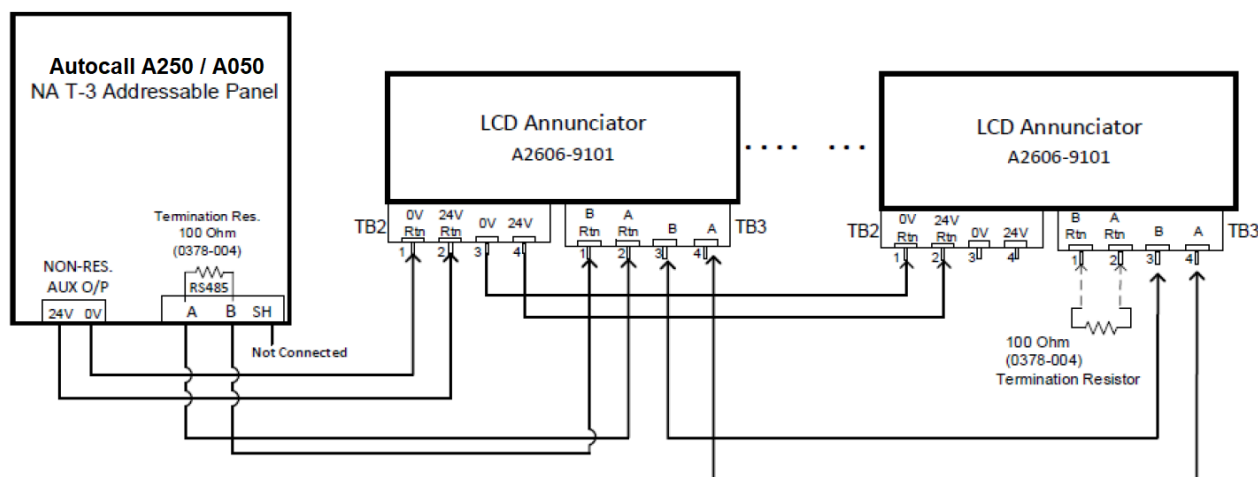
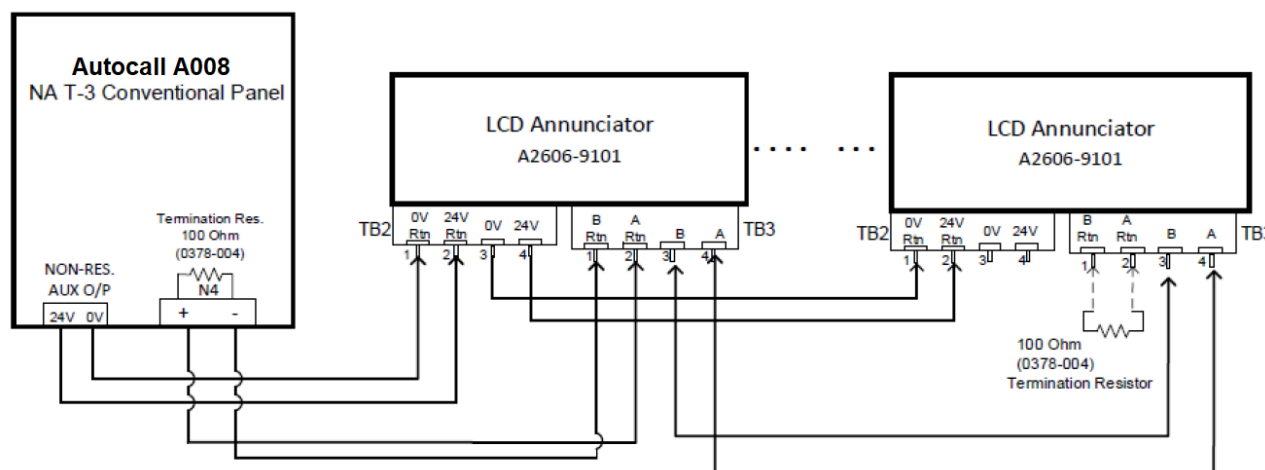


Figure 10: Terminating the COMM and power lines with conventional panel



Note: At the last Annunciator, use a 100 Ohm termination resistor between A Rtn. and B Rtn. of TB3. One termination resistor is connected to the last Annunciator and the other is at the fire panel terminal block (RS485 / N4 terminal). Termination resistor part number: 0378-004.

2. A maximum of eight annunciators are supported on A250 and A050 panels.
3. A maximum of four annunciators are supported on a A008 panel.

5.1 Configuring the A008 LCD Annunciator

5.1.1 Powering the Annunciator in conventional mode.

1. Address switch SW9-1 must be in the OFF position. That is, conventional mode.
2. Insert the key into the key switch and rotate it 90 degrees anticlockwise.
3. For the first time that power is applied:
 - a. Ensure that the communication cable is not connected between the FACU and the Annunciator.
 - b. Press and hold the **RESET** key before power is applied.
 - c. Connect the Annunciator to the power supply or to the panel.
 - d. After the Annunciator is powered up, wait 5 seconds, then release the **RESET** key.
 - e. Wait until **Comm Failure** message is displayed.

5.1.2 Annunciator configuration menu

CAUTION: To ensure that you do not make any unintended changes, a timeout of 30 seconds is implemented. If you do not press any key in less than 30 seconds, you are automatically logged out.

1. To enter the configuration menu, press and hold the **ENTER** key for at least 5 seconds.
2. After the **ENTER** key is released, the Annunciator displays the configuration menu. Use the **Up** and **Down** keys to scroll through configuration menus. For example the following screen shows the option to set the Annunciator's address.



```

MENU:
Set Annunc Address
    
```

3. The configuration options are:
 - Set Annunc Address
 - Set Ann. Language
 - Software Rev
 - Contrast
 - Brightness
 - Exit
4. After a configuration option is displayed, press and hold the **ENTER** key for at least 2 seconds. After the **ENTER** key is released after at least 2 seconds, actual setting options are displayed.
5. Use the **Up** and **Down** keys to set different values. For example, change the address. The address range is 4 to 7.
6. After the chosen value is set, to save the settings, press the **ENTER** key.

5.1.3 Changing the address of the A008 LCD Annunciator address using the LCD Annunciator

Valid address values are from four to seven. If the Annunciator ID is not set in the Annunciator or there is a communication error between the FACU and the Annunciator, the Annunciator UI displays error message **Comm Failure**.

5.1.4 Changing the language of the LCD Annunciator

From the menu, you can select the language to be Spanish, English or Portuguese.

5.1.5 Checking the software version of the LCD Annunciator

The Annunciator displays the software version on the LCD screen. For the software version, no other configuration needs to be done.

5.1.6 Changing the display contrast of the LCD Annunciator

The Annunciator displays the current contrast value on the LCD screen. You can vary the contrast level from 0% to 100% in steps of 10%.

5.1.7 Changing the display brightness of the LCD Annunciator

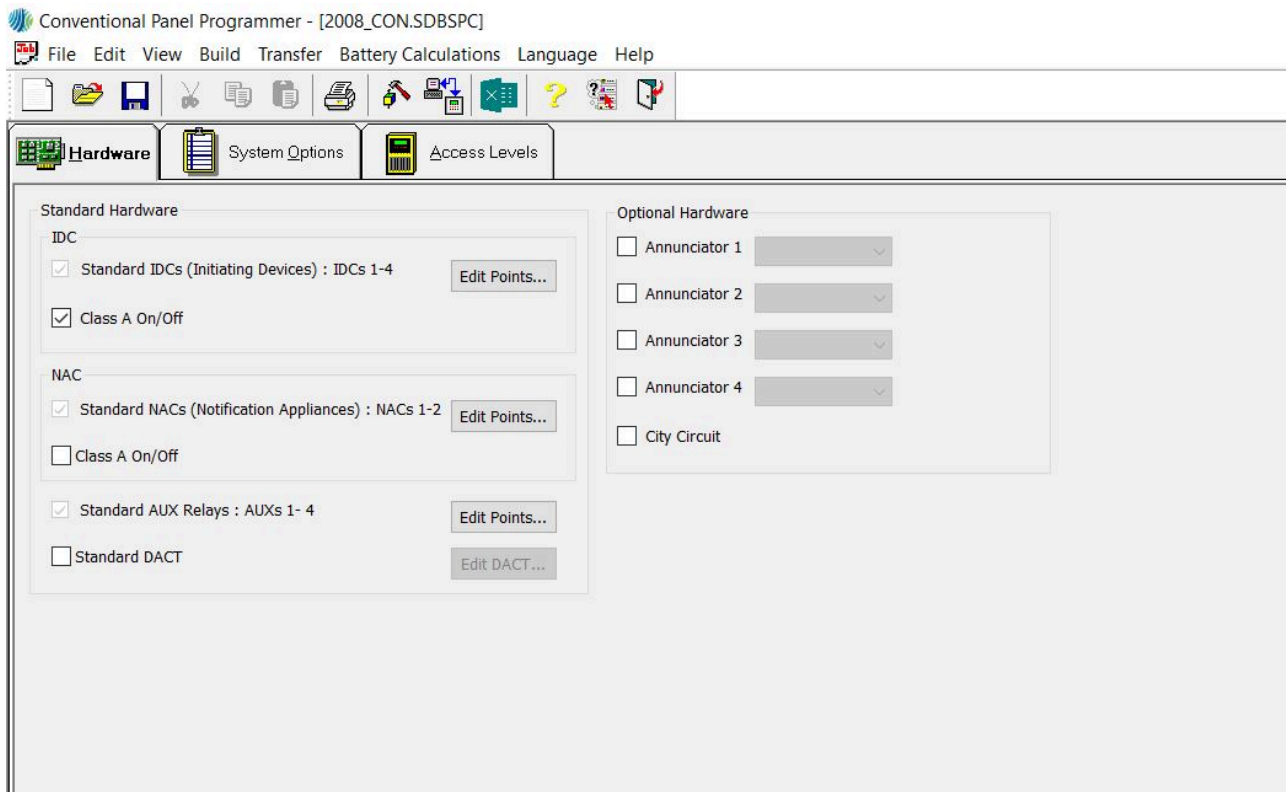
The Annunciator displays the current brightness value on the LCD screen. You can vary the brightness level from 0% to 100% in steps of 10%

5.2 Configuring A008 FACU for LCD ANN using Panel PC Tool

There is no option to configure the annunciators in the Conventional Panel Programmer (CPP). You can use the personal computer tool to enable or disable annunciators that are connected to the A008 FACU. To enable or disable annunciators that are connected to the FACU, complete the following step:

- In the **Hardware** tab, under the **Optional hardware** section select the appropriate check box to enable or disable the annunciators connected to the FACU.

Figure 11: Enabling annunciators using the PC tool



The reference address for the respective annunciators are also visible if the data is read over the CPP UI.

5.3 Configuring A250 and A050 LCD Annunciator using Annunciator UI

5.3.1 Powering the Annunciator in addressable mode

1. Insert the key into the key switch and rotate it 90 degrees anticlockwise.
2. Address switch **SW9-1** must be in the ON position. That is, addressable mode.
3. For the first time power is applied to the annunciator:
 - a. Connect power to the Annunciator.
 - b. Ensure that the communication cable is not connected between the FACU and the Annunciator.
 - c. Press and hold the **RESET** key, then apply power to the Annunciator.
 - d. After the Annunciator is powered up, wait for 10 seconds, then release the **RESET** key.
 - e. Wait until the LCD screen displays **serial link is DOWN** (wait time is approximately 30 seconds).

Note: Do not press any key until **serial link DOWN** is displayed.
 - f. Press and release the **ENTER** key, the Annunciator prompts to enter an address.
 - g. Use **Up** or **Down** key to change the address. The address varies from one to eight.
 - h. After address is selected, to save the settings press the **ENTER** key.
 - i. Power off the Annunciator.
 - j. Connect the communication cable between the FACU and the Annunciator.
 - k. The Annunciator is ready to be enrolled.

5.3.2 Enrolling an Annunciator from a A050 or A250 panel

To enable communication with the panel, enroll the annunciators from a A050 or A250 panel.

1. In the panel, go to **Program menu**.
2. Press **1-Auto**

Enrolling starts and the Annunciators gets enrolled. After the Annunciator is successfully enrolled with the FACU and the panel is fault-free, the Annunciator's LCD displays information including time and date similar to the following example.

```
AUTOCALL 2250
      SYSTEM NORMAL
10:50:55 20 Apr 2023
```

5.3.3 Annunciator configuration options

1. Press and hold the **ENTER** key for at least 5 seconds, then release the **ENTER** key. The Annunciator displays multiple configuration options as shown in the following screen.

```
Annunciator ID      lev.1 :MAIN A1
View list           AUTOCALL A050-9101
View Log            NOT CONFIGURED
> LCD Settings      04:00:58 25 Dec 2019
```

2. Use the **Up** and **Down** keys to select different settings. For example:
 - Annunciator ID
 - LCD Settings
3. To enter detailed settings for any of these options, press and release the **ENTER** key.

5.3.4 Address configuration

Use the **Up** and **Down** keys to allocate an addresses from one to eight to the Annunciator.

5.3.5 LCD settings

5.3.5.1 LCD backlight

To configure the LCD backlight follow these steps.

1. Use the **Up** or **Down** keys to select **Set Backlight** option from **Menu**. Press and release the **ENTER** key to enter the backlight menu.
2. Use the **Up** and **Down** keys to set the required backlight intensity. For each **Up** or **Down** key press the LCD backlight intensity varies and a new set value is saved in the Annunciator's memory.
3. To exit and go back to the previous menu, press and hold the **ENTER** key for at least 5 seconds.

5.3.5.2 LCD contrast

1. Use the **Up** and **Down** keys to select **Set Contrast** option from **Menu**. Press the **ENTER** key to enter the contrast menu.
2. Use the **Up** and **Down** keys to set required backlight intensity. For each **Up** or **Down** key press the LCD contrast intensity varies and a new set value is saved in the Annunciator's memory.
3. To exit and go back to the previous menu press and hold the **ENTER** key for at least 5 seconds.

Note:

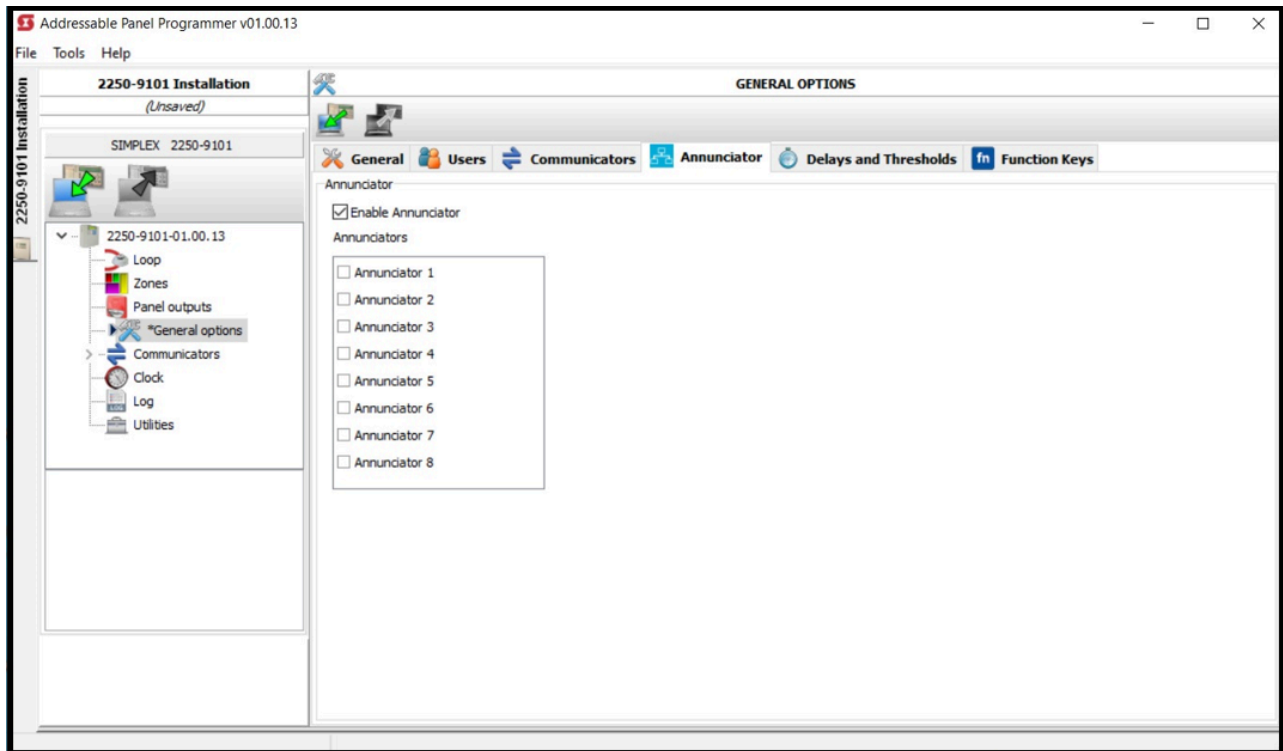
- If you press any key the Annunciator LCD backlight turns on for 30 seconds.
- In the case of any event, the LCD's backlight turns on and remains on until the event is handled by the panel. In the case of AC supply failure, after reporting any event, the backlight turns off after 30 seconds.
- If communication between the FACU and the annunciator is disconnected for more than 60 seconds, the Annunciator displays **Serial Link Down** and the Annunciator's buzzer activates. Press the **ACK** key to silence the buzzer.

5.4 Configuring A250 and A050 FACUs for LCD Annunciator using PC tool

To configure the A250 FACU using the PC tool, complete the following steps:

1. From the console list, select **General Options**.
2. From the **General Options** menu, select the **Annunciator** tab.
3. To configure the Annunciator select the **Enable Annunciator** checkbox.

Figure 12: The Enable Annunciator checkbox



You can connect a maximum number of eight annunciators to one FACU.

6 Wiring guidelines

This section contains the wiring guidelines for the LCD Annunciator.

6.1 General wiring guidelines

- All wiring must be copper conductors only.
- Do not use wire lengths in excess of the maximum lengths.
- Underground wiring must be free of water.
- Wires must not be run through elevator shafts.
- You can splice provided you do the following:
 - All such connections are soldered with a rosin-core solder, crimped in metal sleeves, or encapsulated with an epoxy resin.
 - When solder or crimped metal sleeves are used, the junction is insulated with a high-grade electrical tape as sound as the original insulating jacket.
 - The shield's continuity is maintained throughout the cable's length.
- Only system wiring can share the same conduit, see Figure 10 .

6.2 Specific wiring guidelines

- 24 V power wiring must be power limited and communication wiring is supervised and power limited.
- The Remote Annunciator cannot be used with wiring that goes outside the building, above or below ground, unless over voltage suppression is provided at both ends for both the communication and the power wiring. Communication and power wiring must meet requirement:
 - Model Autocall A2081-9044 overvoltage protectors (200 mA or less).
- For maximum wire lengths with or without circuit protectors, see Table 6.
- If the interconnected control unit is not used to provide operating power to the annunciator, a regulated power-limited, UL-listed 24 VDC power supply for fire protective signaling must be used.
- 14 AWG to 22 AWG twisted pair wiring is required for RS485 communications.

6.3 Wire lengths

- When using multiple annunciators and runs, the total of all runs must not exceed 4000 ft. for bus style wiring.
- For A050 and A250 panels, when using multiple annunciators and runs, the total of all runs must not exceed 2500 ft. for T-Tap style wiring.
- Four A2081-9044 Over Voltage Protectors is the maximum number that can be on any single communication loop.

6.3.1 Calculation of Annunciator wiring distance

In general, the wire length is limited by resistance but for small AWG wires the capacitive component dominates and becomes the limiting factor. The resistance for each 1000 ft. wire with respect to its AWG, is shown in the following table:

Table 5: Resistance for each 1000 ft wire with respect to AWG

AWG	Resistance (ohm) for each 1000 ft, Rref
22	16.14
20	10.15
18	6.385
16	4.016
14	2.25

The LCD ANN maximum distance supported is 4000 ft. (1200 m) regardless of gauge used. This distance decreases as the connected Annunciator number increases (increase in worst case current consumption). You can use the following formula to find the maximum supported distance for the used case:

$$\text{Maximum wire length} = (3V / (R_{ref} \times MIC)) \times 1000 \text{ ft.}$$

Where MIC (Maximum Instantaneous Current) can be found out by:

$$MIC = (0.075 \times \text{Number of annunciators}) \text{ Amps}$$

For instance, number of Annunciator selected = 6; AWG = 18 AWG

$$MIC (\text{Maximum Instantaneous Current}) = 0.075 \times 6 = 0.600 \text{ A}$$

$$\text{Maximum wire length} = (3V / (6.385 \times 0.600)) \times 1000 \text{ ft.} = 1044 \text{ ft.}$$

The following table summarizes maximum distance supported for respective AWG with number of annunciators connected:

Table 6: Maximum distance supported for respective AWG for Annunciator quantity

Maximum Annunciator QTY	Maximum distance (ft) w/ 22 AWG	Maximum distance (ft) w/ 20 AWG	Maximum distance (ft) w/ 18 AWG	Maximum distance (ft) w/ 16 AWG	Maximum distance (ft) w/ 14 AWG
8	310	493	783	1244	1980
7	354	563	895	1421	2263
6	413	657	1044	1658	2640
5	496	788	1253	1990	3168
4	620	985	1566	2488	3960
3	826	1314	2088	3317	4000
2	1239	1970	3132	4000	4000
1	2478	3941	4000	4000	4000

Note:

1. A maximum of eight annunciators are supported on A250 and A050 panels.
2. A maximum of four annunciators are supported on A008 panels.

7 Checkout procedure

When the installation is complete, verify that the remote Annunciator is working correctly:

1. Execute a lamp test to verify that the LEDs and the LCDs are working, see [Executing the lamp test](#).
2. Verify that the Annunciator communicates correctly with the FACU by observing the remote Annunciator. The Annunciator displays error messages and emits an audible signal if it is not wired correctly and is not communicating with the FACU. The FACU also displays a card communication failure trouble.

Note: For Programming changes, refer to the relevant FACU programming manual.

7.1 Executing the lamp test

To execute the lamp test, complete the following steps:

1. Insert the key into the keyswitch.
2. Turn the key anticlockwise until it is in the unlock position, see Figure 13.
3. Press and hold the **RESET** key for at least 10 seconds to execute the lamp test.

8 Accessing the user interface

Access to the user interface is disabled when the keyswitch is in a vertical position, see Figure 13.

Figure 13: Using the keyswitch to enable access to the Annunciator switch

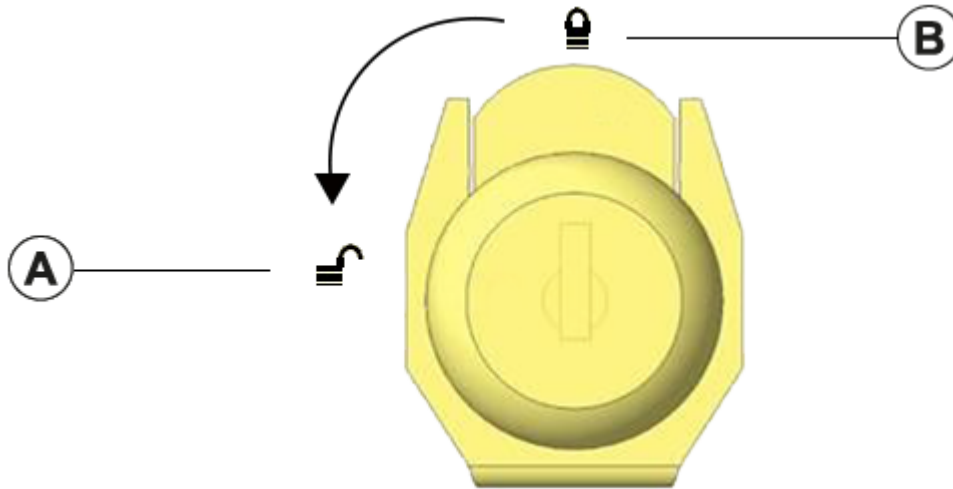


Table 7: Key lock callouts and description

Callouts	Description
A	Annunciator Un-lock: Insert the key and rotate it in anticlockwise direction at 90 degrees. Then press the tab on the edge of the door as shown in Figure 8, to open release the door. The Annunciator door opens enabling the user interface access. You cannot remove the key when the Annunciator is in un-lock state. The key is removable only if the Annunciator is in a locked state.
B	Annunciator Lock State: User interface access is disabled when in a vertical position.

8.1 Enabling access to the user interface

To enable access to the user interface, complete the following steps:

1. Insert the key into the keyswitch.
2. Turn the key anticlockwise until it is in the unlock position, see Figure 13.

The Annunciator door opens, and enables access to the user interface.

8.2 Disabling access to the user interface

To remove the key and disable access to the user interface, complete the following steps:

1. Turn the key clockwise until it is in the lock position, see Figure 13.
2. Remove the key.

Note: You can not remove the key when it is in the unlock position.

9 Maintenance

Create a log book of reference data. Use this log book to record all maintenance test results and details of any faults or problems that arise. Enter the details of the maintaining company. Perform the functional tests daily, weekly, quarterly, and annually.

- Daily: check for normal operation
- Weekly: testing of at least one sensor, MCP or zone to check the panel and audible alarms
- Quarterly: check log book entries or actions, battery state or charger voltage, remote manned center links and perform weekly tests
- Annually: test all devices and perform visual inspection of cable fittings and equipment.

Table 8: Reference data

Details	
Name:	
Address:	
Responsible person:	
	Date:
Responsible person:	
	Date:
Responsible person:	
	Date:
Responsible person:	
	Date:
The system was installed by:	
The system was maintained by:	
Telephone number:	

9.1 Cleaning

You can clean the FACU periodically by wiping with a soft, damp lint-free cloth. Do not use solvents.

