Simplex

# Foundation Series 2606-9101 LCD Annunciator Installation Guide

579-1434 Rev C

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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 SIMPLEX™ PRODUCT THAT APPEARS DAMAGED** Upon unpacking your Simplex 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 Simplex 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 Simplex 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 2008-9101, 2050-9101, and 2250-9101 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 2008-9101 FACU and a maximum number of eight annunciators on the 2050-9101 and 2250-9101 FACUs.

**Note:** From this point on, both the 2050-9101 and the 2250-9101 FACUs are referred as 2250, unless stated otherwise.

## 2.1 Compatibility

The 2008 FACU needs to be at revision 1.07 and the 2250 FACU needs to be at revision 1.03 or higher to support the 2606-9101 LCD Annunciator. The LCD Annunciator must be at revision 1.01 or greater when used with 2250 and 2008 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 |
|---|---|
| 579-1401 | 2008 Foundation Series Fire Alarm Control Unit Operation Guide |
| 579-1409 | 2004 and 2008 Foundation Series Fire Alarm Control Units PC Programmer Installation Guide and Programming Instructions |
| 579-1404 | 2050 and 2250 Foundation Series Fire Alarm Control Units Installation Guide |
| 579-1405 | 2050 and 2250 Foundation Series Fire Alarm Control Unit Operation Guide |
| 579-1421 | 2050 and 2250 Foundation Series Fire Alarm Control Units PC Programmer Installation Guide and Programming Instructions |

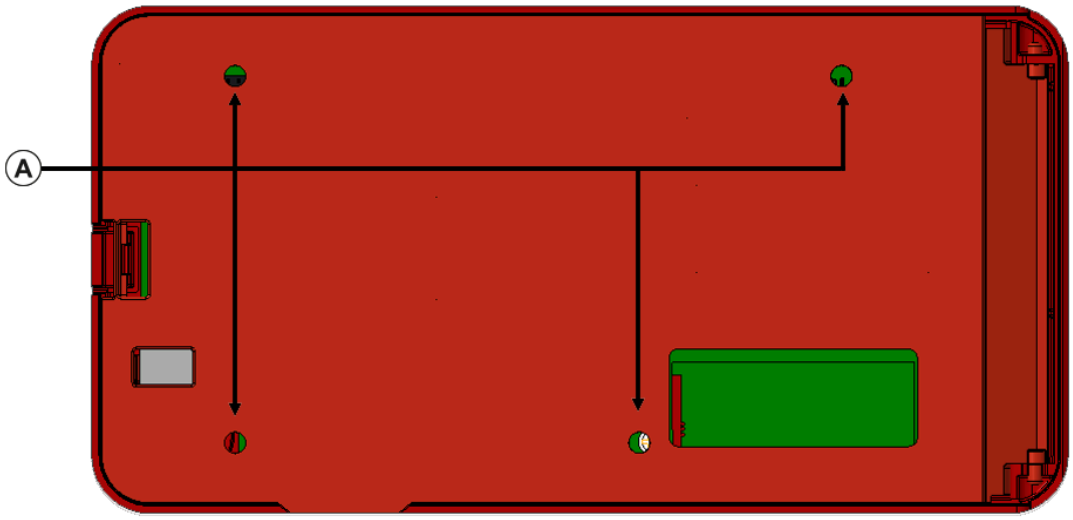
# 3 Module overview

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

**Figure 1: Remote Annunciator front view**

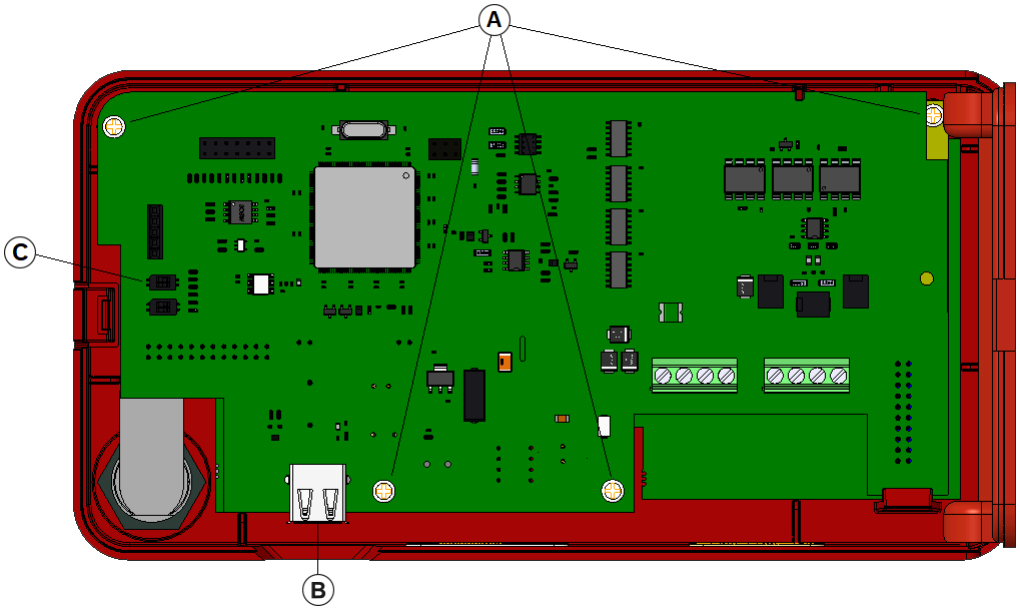
| Callout | Description | Callout | Description |
|---|---|---|---|
| A | LCD display | E | RESET |
| B | Up | F | NAC silence |
| C | Enter | G | Key switch |
| D | Down | H | Alarm acknowledgement and buzzer silence |

**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 | Use this switch to select the conventional or addressable FACU for the LCD Annunciator.<br>**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.<br>1. To select the Addressable LCD Annunciator:<br>a. For addressable mode, face SW9.1, then change the position of SW9.1 to the right side, horizontally in the ON state.<br>b. Press and hold the **RESET** key on the Annunciator UI.<br>c. Apply power to the Annunciator.<br>d. Wait 5 seconds, then release the **RESET** key or wait until the Annunciator UI displays the first screen.<br>2. To select the conventional LCD Annunciator:<br>a. For conventional mode, face SW9.1, then change the position of SW9.1 to the left side, horizontally in the OFF state.<br>b. Press and hold the **RESET** key on the Annunciator UI.<br>c. Apply power to the Annunciator.<br>d. 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**

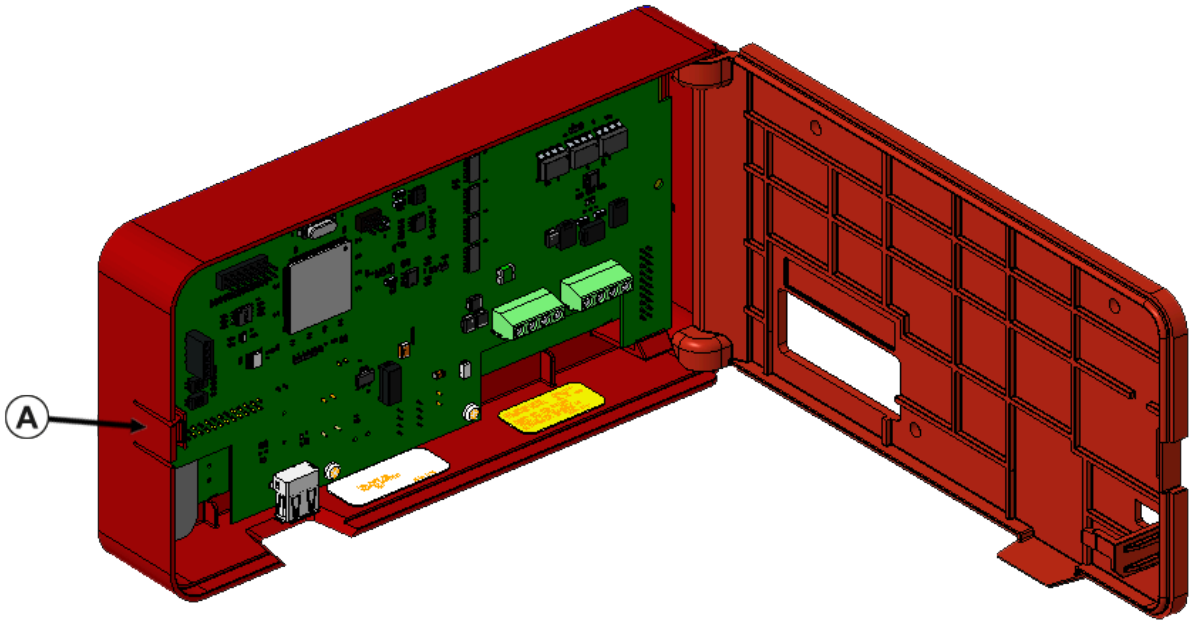
| Measurement type | Item | Range |
|---|---|---|
| Voltage | 24 VDC power supply | Nominal 24 VDC:<br>Compatibility range, 16 to 30 VDC |
| Current | Maximum current value | When the LCD back-light is off:<br>Alarm current: 48 mA<br>Standby current: 40 mA |
| | | When the LCD back-light is on:<br>Alarm current: 72 mA<br>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:

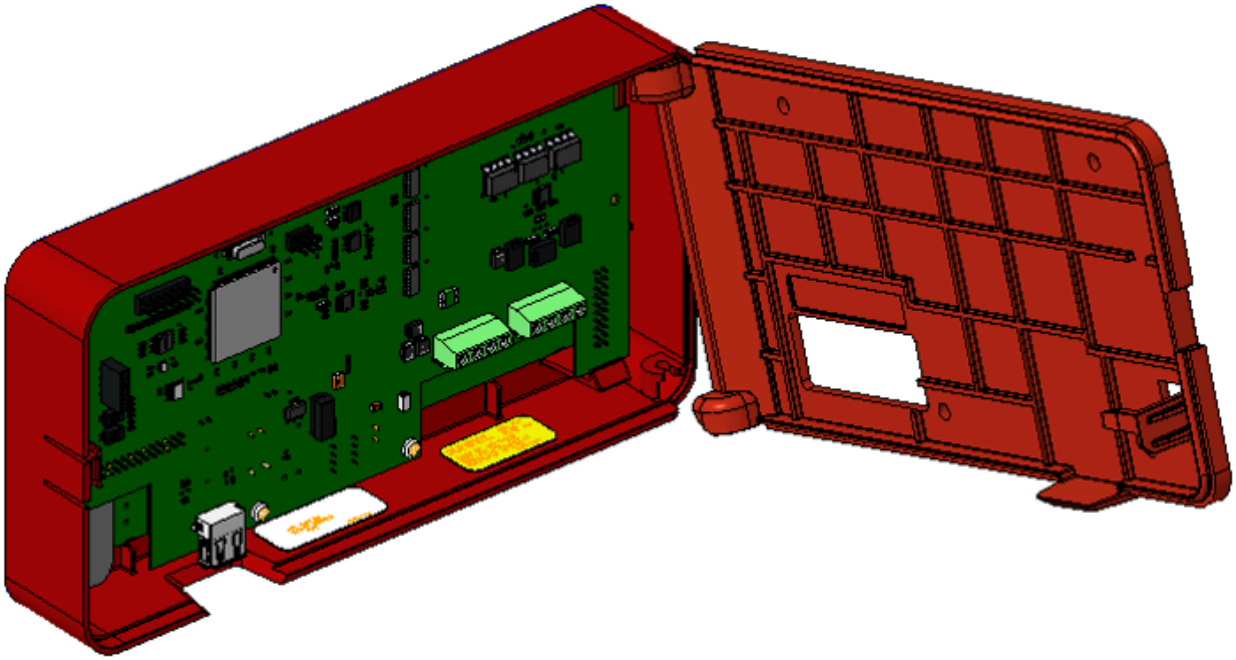
1. Unlock the Annunciator using the B-key provided and press location A to open the backplate as shown in Figure 4.
2. Remove the back plate from housing. To remove the back plate, position the back plate at 90° to the housing as shown in Figure 4 and then tilt and detach the bottom interface of plate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

**Figure 4: Opening the back plate**



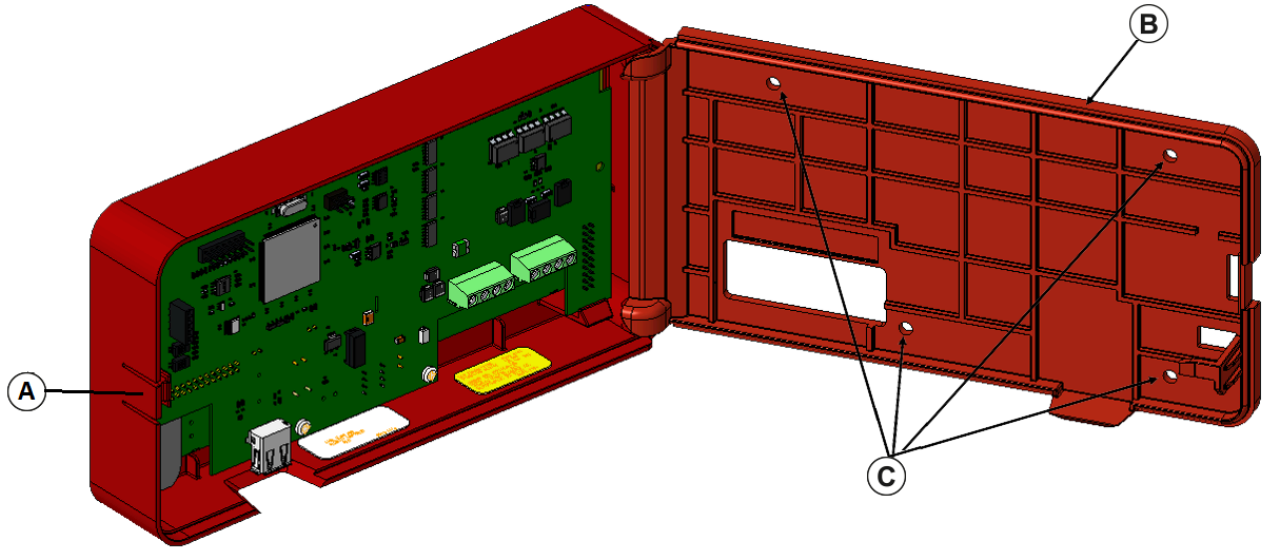

See Table in step 3 for callout description.

**Figure 5: Detaching the back plate**



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

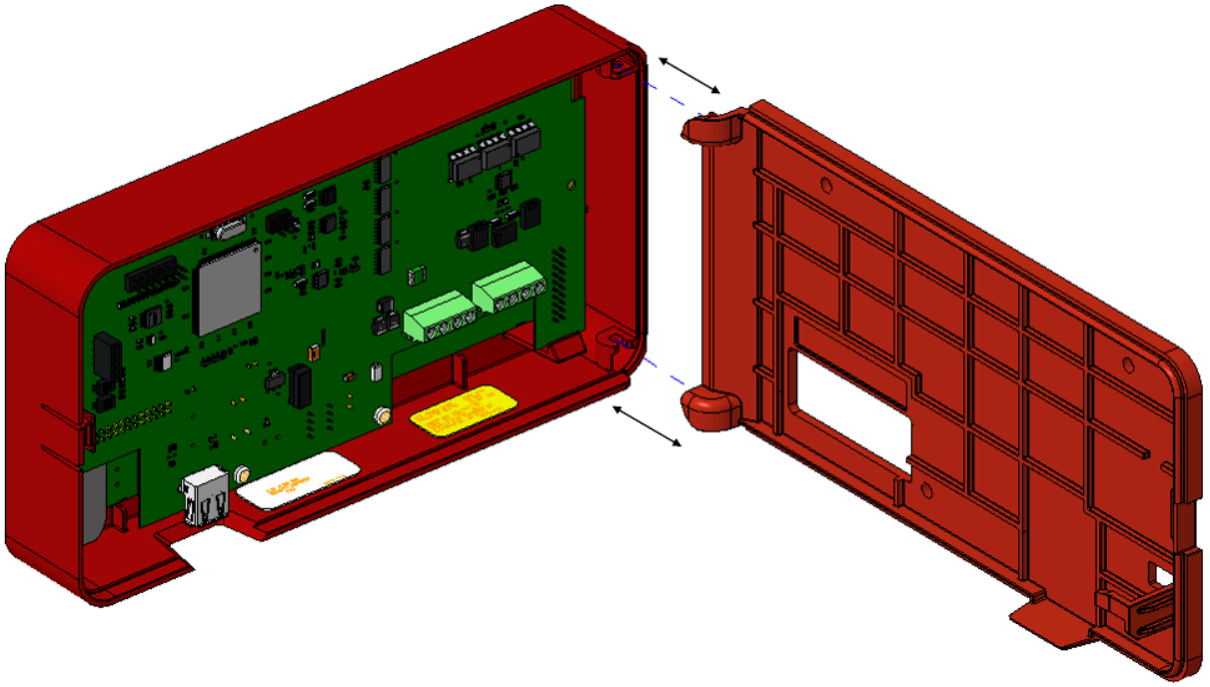
**Figure 6: Marking the location of the screw holes**




| Callouts | Description |
|---|---|
| A | Press here |
| B | Back plate |
| C | Screw locations |

4. Using the four provided screws, mount the Annunciator back plate on the wall or mounting surface.
5. 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

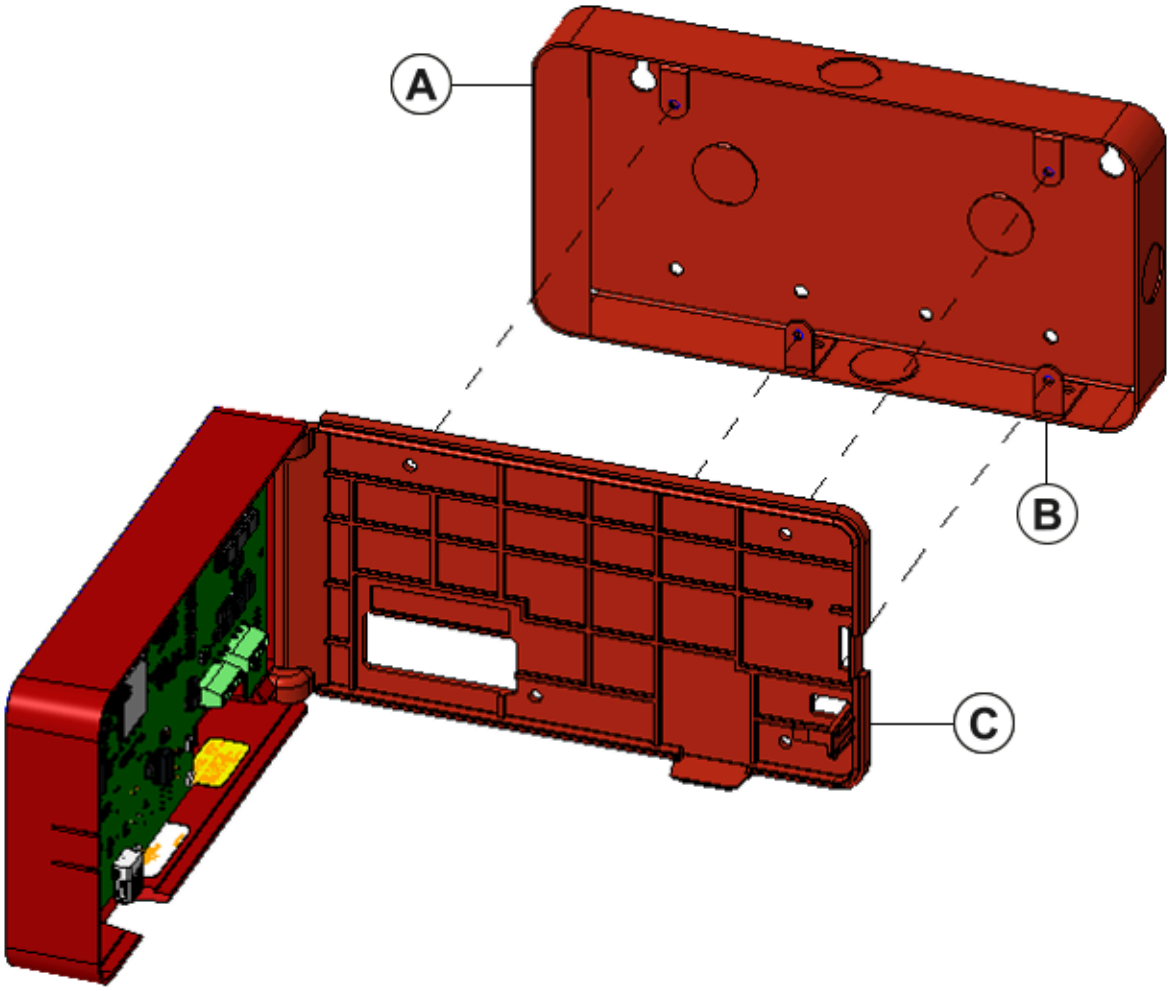
To mount the Annunciator using the surface mount box, complete the following steps

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 2008 and 2250 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**

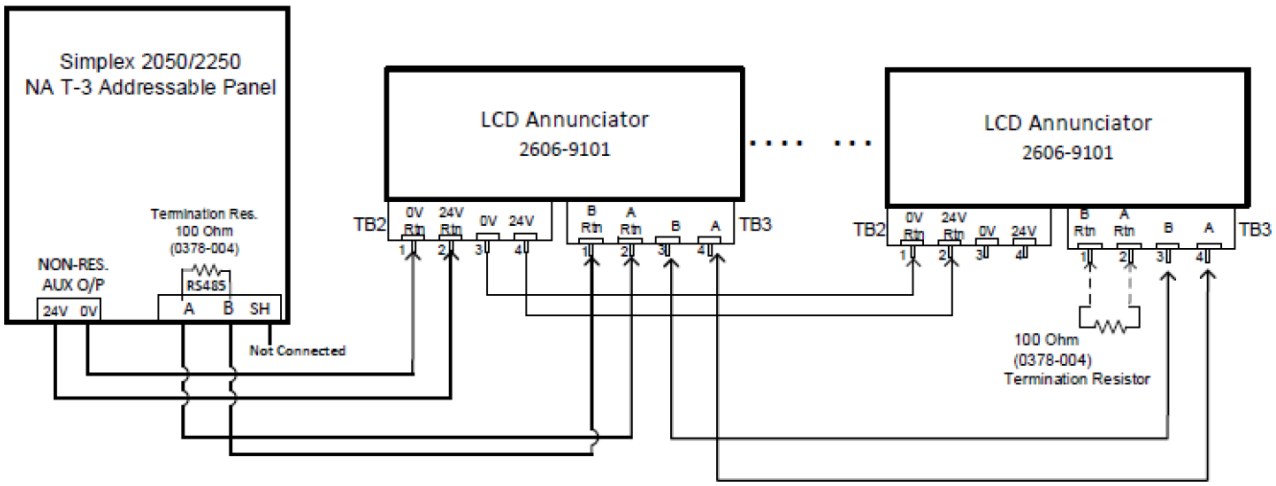
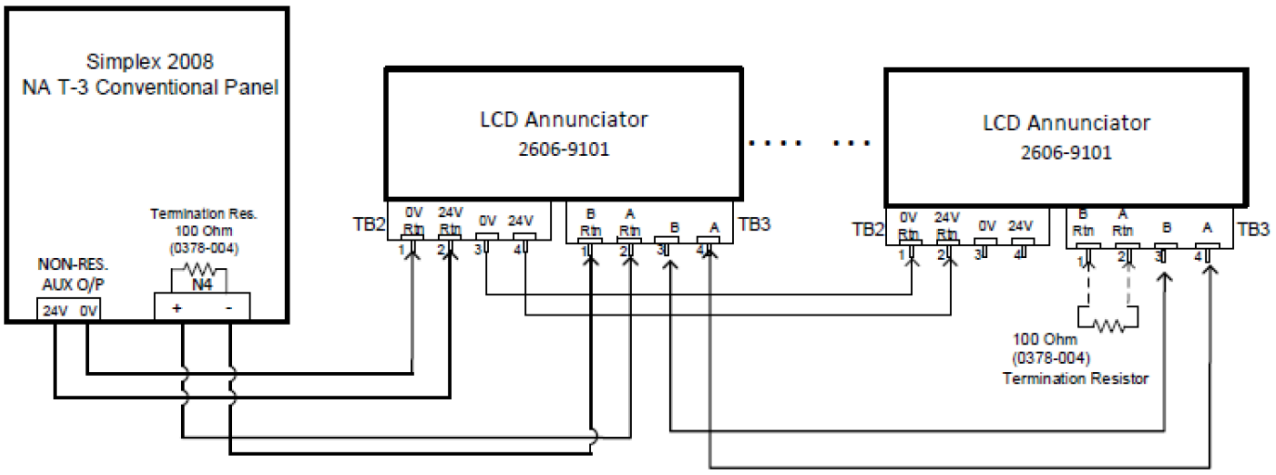



**Figure 10: Terminating the COMM and power lines with conventional panel**




**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 2250 and 2050 panels.
3. A maximum of four annunciators are supported on a 2008 panel.

## 5.1 Configuring the 2008 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 2008 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

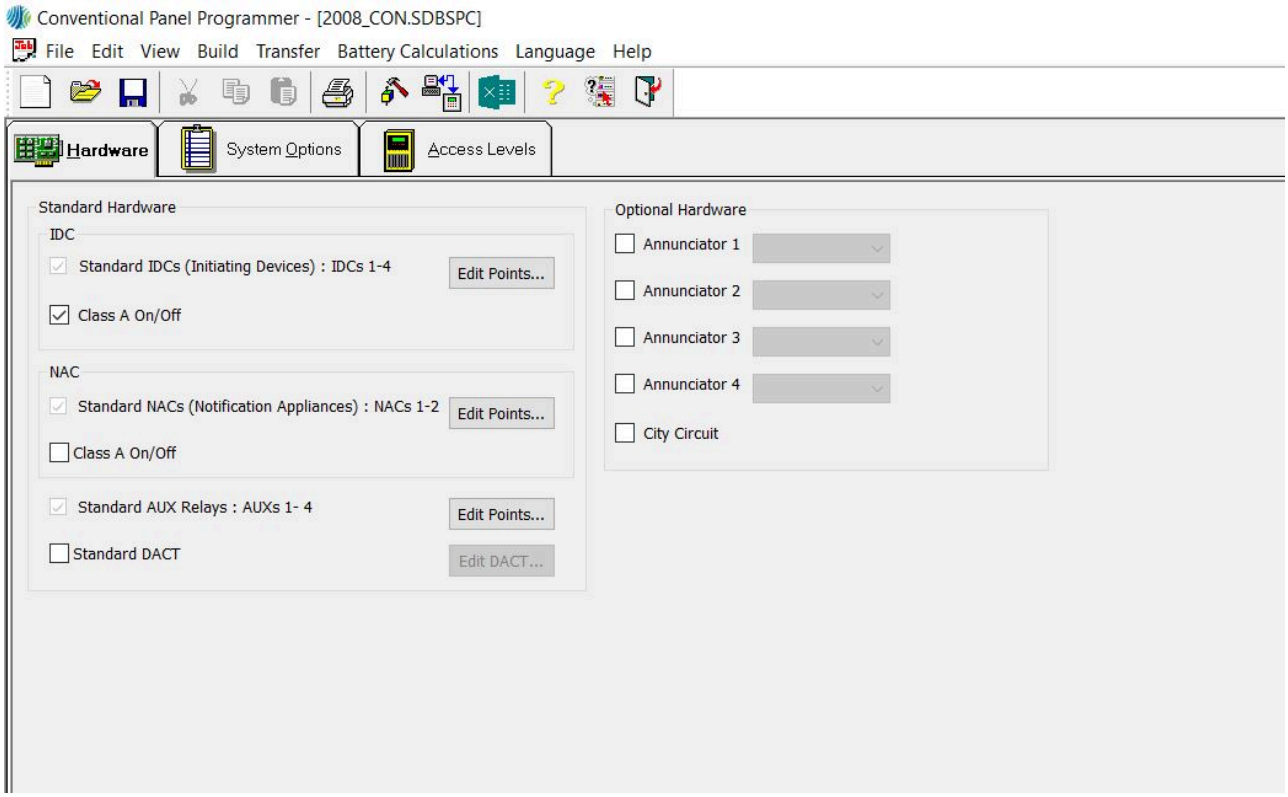
The Annunciator displays the current brightness value on the LCD screen. You can vary the brightness level from 0% to 100% in steps of 10%

## 5.2 Configuring 2008 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 2008 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 2250 and 2050 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 2050 or 2250 panel

To enable communication with the panel, enroll the annunciators from a 2050 or 2250 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.

```
SIMPLEX 2250
            SYSTEM NORMAL
        10:05:55 18 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           SIMPLEX 2050-9101
  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:**

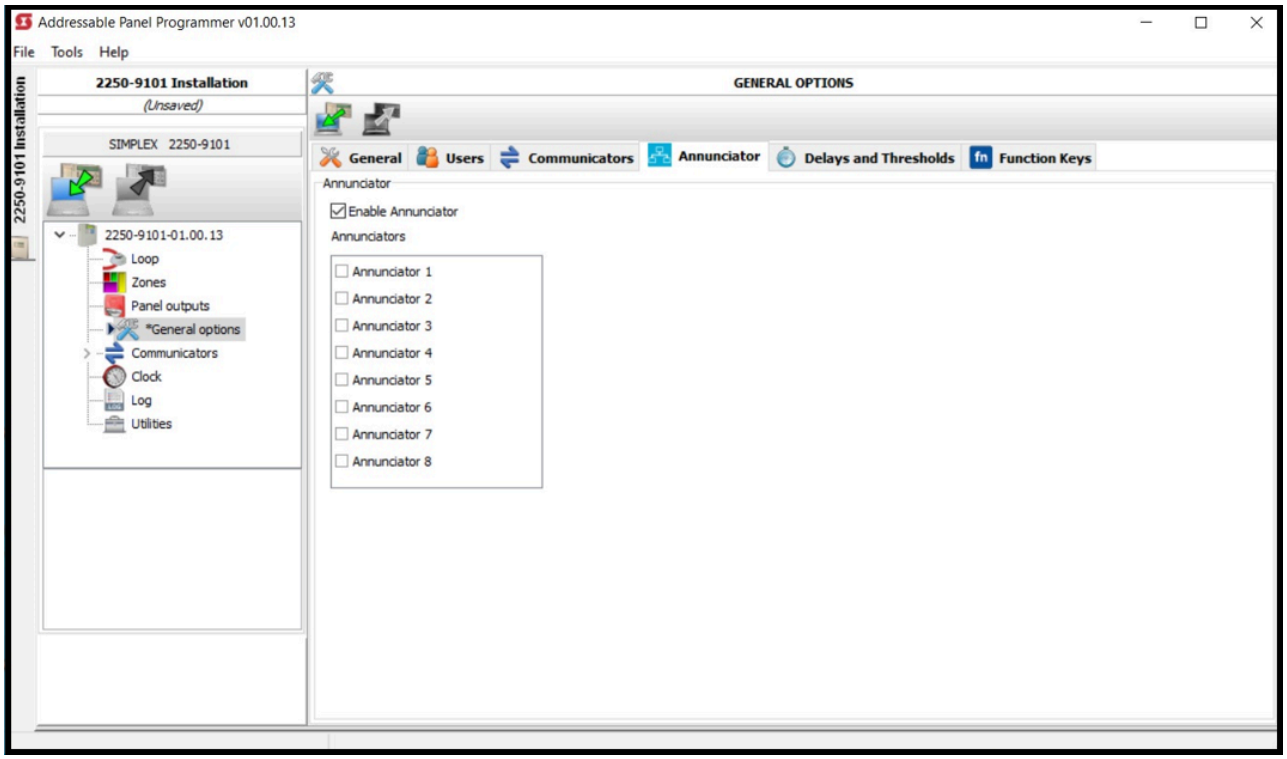
- If you press any key the Annunciator LCD backlight turns on for 30 seconds.
- In the case of any event, the LCD's backlight turns on and remains on until the event is handled by the panel. In the case of AC supply failure, after reporting any event, the backlight turns off after 30 seconds.
- If communication 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 2250 and 2050 FACUs for LCD Annunciator using PC tool

To configure the 2250 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.

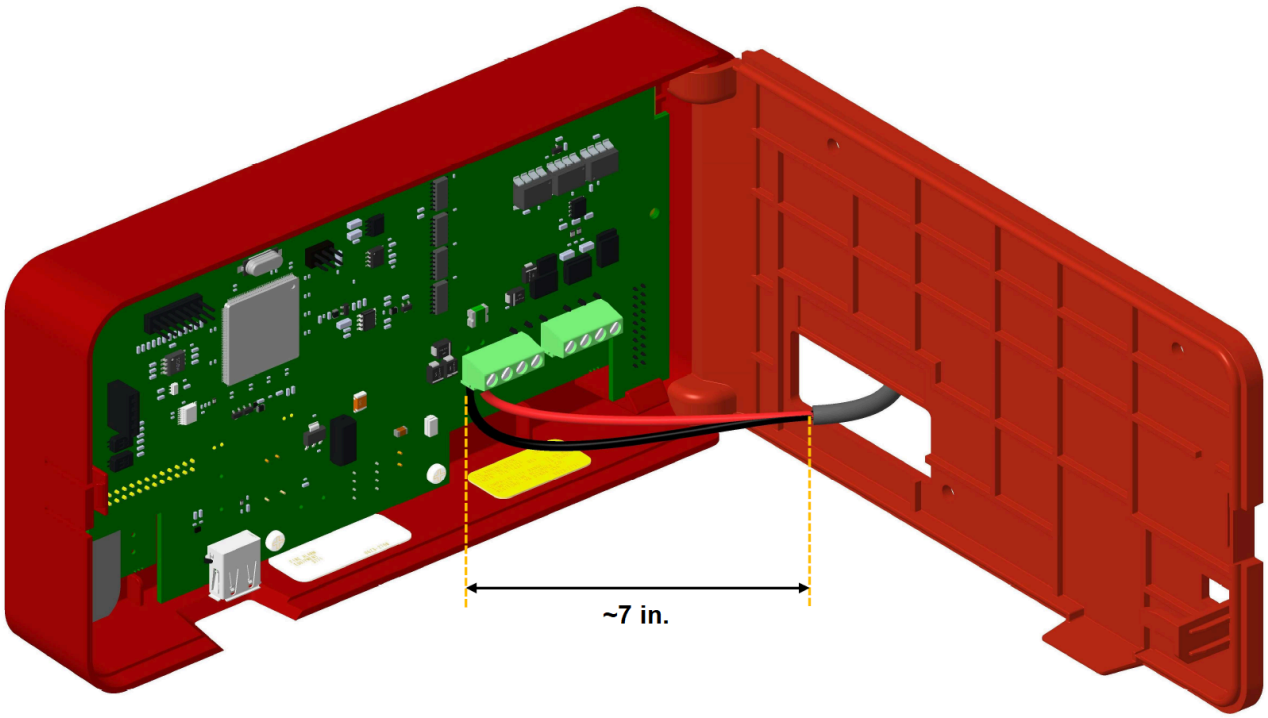
## 6.1 General wiring guidelines

- 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 Simplex 2081-9044 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.
- In accordance with NFPA 70, article 250, a dedicated Earth ground connection must be provided to the metal back box.
- The length of the wire from terminal blocks TB2 and TB3 to the backplate should be sufficient so that you can open or close the Annunciator without causing strain on the wire and terminal blocks. See Figure 13 for recommended wire length and wire route.

**Figure 13: Backplate wire length**




**Note:** During installation, use approximately 7 in. of free wire length between the backplate and the connector.

## 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 2050 and 2250 panels, when using multiple annunciators and runs, the total of all runs must not exceed 2500 ft. for T-Tap style wiring.
- Four 2081-9044 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:

**Maximum wire length = (3V / (Rref x MIC)) x 1000 ft.**

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

**MIC = (0.075 x Number of annunciators) Amps**

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

MIC (Maximum Instantaneous Current) = 0.075 x 6 = 0.600 A

Maximum wire length = (3V / (6.385 x 0.600)) x 1000 ft. = 1044 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 2250 and 2050 panels.
2. A maximum of four annunciators are supported on 2008 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 14.
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 14.

**Figure 14: Using the keyswitch to enable access to the Annunciator switch**

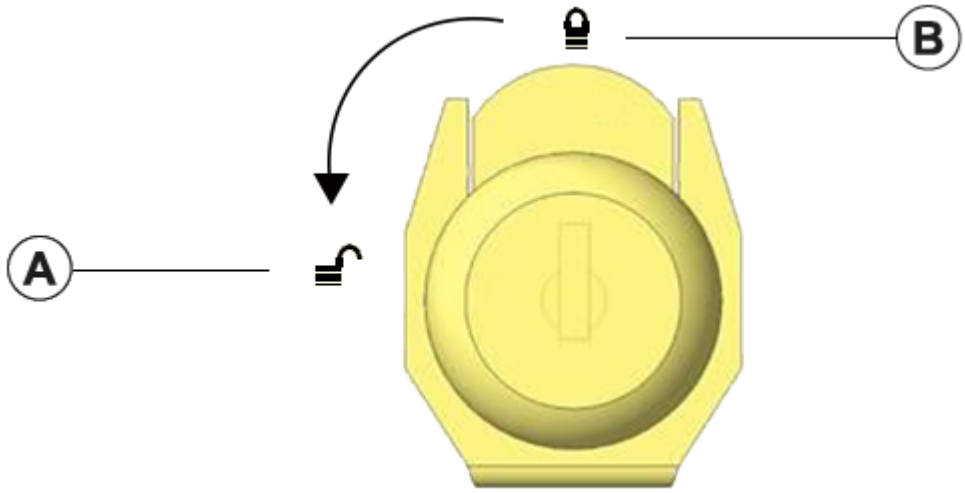



**Table 7: Key lock callouts and description**

| 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.<br>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 14.

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 14.
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.

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