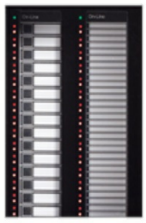
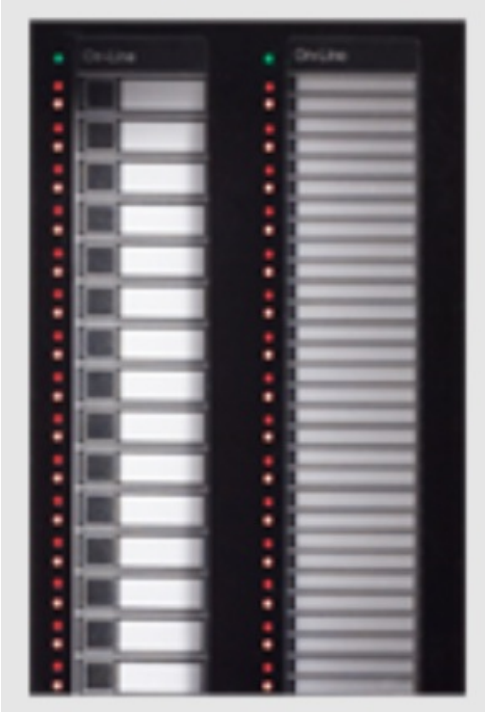


Notifier ACM-30 Annunciator Control Module Instruction Manual

Contents

sides or rear. Before making modifications, verify that they will not interfere with battery, transformer, or printed circuit board location. Do not tighten screw terminals more than 9 in-lbs. Over-tightening may damage threads, resulting in reduced terminal contact pressure and difficulty with screw terminal removal. This system contains static-sensitive components. Always ground yourself with a proper wrist strap before handling any circuits so that static charges are removed from the body. Use static sup- pressive packaging to protect electronic assemblies removed from the unit. Units with a touchscreen display should be cleaned with a dry, clean, lint free/microfiber cloth. If additional cleaning is required, apply a small amount of Isopropyl alcohol to the cloth and wipe clean. Do not use detergents, solvents, or water for cleaning. Do not spray liquid directly onto the display. Follow the instructions in the installation, operating, and program- ming manuals. These instructions must be followed to avoid damage to the control panel and associated equipment. FACP operation and reliability depend upon proper installation.

Notifier ACM-30 Annunciator Control Module Instruction Manual



Fire Alarm & Emergency Communication System Limitations

While a life safety system may lower insurance rates, it is not a substitute for life and property insurance!
An automatic fire alarm system—typically made up of smoke detectors, heat detectors, manual pull stations, audible warning devices, and a fire alarm control panel (FACP) with remote notification capability—can provide early warning of a developing fire. Such a system, however, does not assure protection against property damage or loss of life resulting from a fire.

An emergency communication system—typically made up of an automatic fire alarm system (as described above) and a life safety communication system that may include an autonomous control unit (ACU), local operating console (LOC), voice communication, and other various interoperable communication methods—can broadcast a mass notification message. Such a system, however, does not assure protection against property damage or loss of life resulting from a fire or life safety event.The Manufacturer recommends that smoke and/or heat detectors be located throughout a protected premises following the recommendations of the current edition of the National Fire Protection Association Standard 72 (NFPA 72), manufacturer's recommendations, State and local codes, and the recommendations contained in the Guide for Proper Use of System Smoke Detectors, which is made available at no charge to all installing dealers. This document can be found at **http://www.systemsensor.com/appguides/.** A study by the Federal Emergency Management Agency (an agency of the United States government) indicated that smoke detectors may not go off in as many as 35% of all fires. While fire alarm systems are designed to provide early warning against fire, they do not guarantee warning or protection against fire. A fire alarm system may not provide timely or adequate warning, or simply may not function, for a variety of reasons:

Smoke detectors may not sense fire where smoke cannot reach the detectors such as in chimneys, in or behind walls, on roofs, or on the other side of closed doors. Smoke detectors also may not sense a fire on another level or floor of a building. A second-floor detector, for example, may not sense a first-floor or basement fire.

Particles of combustion or "smoke" from a developing fire may not reach the sensing chambers of smoke detectors because:

- Barriers such as closed or partially closed doors, walls, chimneys, even wet or humid areas may inhibit particle or smoke
- Smoke particles may become "cold," stratify, and not reach the ceiling or upper walls where detectors are

located.

- Smoke particles may be blown away from detectors by air outlets, such as air conditioning vents.
- Smoke particles may be drawn into air returns before reaching the

The amount of “smoke” present may be insufficient to alarm smoke detectors. Smoke detectors are designed to alarm at various levels of smoke density. If such density levels are not created by a developing fire at the location of detectors, the detectors will not go into alarm.

Smoke detectors, even when working properly, have sensing limitations. Detectors that have photoelectronic sensing chambers tend to detect smoldering fires better than flaming fires, which have little visible smoke. Detectors that have ionizing-type sensing chambers tend to detect fast-flaming fires better than smoldering fires. Because fires develop in different ways and are often unpredictable in their growth, neither type of detector is necessarily best and a given type of detector may not provide adequate warning of a fire.

Smoke detectors cannot be expected to provide adequate warning of fires caused by arson, children playing with matches (especially in bedrooms), smoking in bed, and violent explosions (caused by escaping gas, improper storage of flammable materials, etc.).

Heat detectors do not sense particles of combustion and alarm only when heat on their sensors increases at a predetermined rate or reaches a predetermined level. Rate-of-rise heat detectors may be subject to reduced sensitivity over time. For this reason, the rate-of- rise feature of each detector should be tested at least once per year by a qualified fire protection specialist. Heat detectors are designed to protect property, not life.

IMPORTANT! Smoke detectors must be installed in the same room as the control panel and in rooms used by the system for the connection of alarm transmission wiring, communications, signaling, and/or power. If detectors are not so located, a developing fire may damage the alarm system, compromising its ability to report a fire.

Audible warning devices such as bells, horns, strobes, speakers and displays may not alert people if these devices are located on the other side of closed or partly open doors or are located on another floor of a building. Any warning device may fail to alert people with a disability or those who have recently consumed drugs, alcohol, or medication. Please note that:

- An emergency communication system may take priority over a fire alarm system in the event of a life safety
- Voice messaging systems must be designed to meet intelligibility requirements as defined by NFPA, local codes, and Authorities Having Jurisdiction (AHJ).
- Language and instructional requirements must be clearly dissemi- nated on any local displays.
- Strobes can, under certain circumstances, cause seizures in peo- ple with conditions such as
- Studies have shown that certain people, even when they hear a fire alarm signal, do not respond to or comprehend the meaning of the signal. Audible devices, such as horns and bells, can have dif- ferent tonal patterns and frequencies. It is the property owner’s responsibility to conduct fire drills and other training exercises to make people aware of fire alarm signals and instruct them on the proper reaction to alarm
- In rare instances, the sounding of a warning device can cause temporary or permanent hearing

A life safety system will not operate without any electrical power. If AC power fails, the system will operate from standby batteries only for a specified time and only if the batteries have been properly maintained and replaced regularly.

Equipment used in the system may not be technically compatible with the control panel. It is essential to use only equipment listed for service with your control panel.

Alarm Signaling Communications:

- **IP connections** rely on available bandwidth, which could be lim- ited if the network is shared by multiple users or if ISP policies impose restrictions on the amount of data transmitted. Service packages must be carefully chosen to ensure that alarm signals will always have available bandwidth. Outages by the ISP for maintenance and upgrades may also inhibit alarm signals. For added protection, a backup cellular connection is
- **Cellular connections** rely on a strong Signal strength can be adversely affected by the network coverage of the cellular car- rier, objects and structural barriers at the installation location. Uti- lize a cellular carrier that has reliable network coverage where the alarm system is installed. For added protection, utilize an external antenna to boost the signal.
- **Telephone lines** needed to transmit alarm signals from a premise to a central monitoring station may be out of service or temporarily For added protection against telephone line failure, backup alarm signaling connections are recommended.

The most common cause of life safety system malfunction is inadequate maintenance. To keep the entire life safety system in excellent working order, ongoing maintenance is required per the manufacturer's recommendations, and UL and NFPA standards. At a minimum, the requirements of NFPA 72 shall be followed.

Environments with large amounts of dust, dirt, or high air velocity require more frequent maintenance. A maintenance agreement should be arranged through the local manufacturer's representative. Maintenance should be scheduled as required by National and/or local fire codes and should be performed by authorized professional life safety system installers only. Adequate written records of all inspections should be kept.

Limit-F-2020

Installation Precautions

Adherence to the following will aid in problem-free installation with long-term reliability:

WARNING – Several different sources of power can be con- nected to the fire alarm control panel. Disconnect all sources of power before servicing. Control unit and associated equipment may be damaged by removing and/or inserting cards, modules, or inter- connecting cables while the unit is energized. Do not attempt to install, service, or operate this unit until manuals are read and under- stood.

CAUTION – System Re-acceptance 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. Re-acceptance 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.

This system meets NFPA requirements for operation at 0-49º C/32- 120º F and at a relative humidity 93% ± 2% RH (non-condensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15-27º C/60-80º F.

Verify that wire sizes are adequate for all initiating and indicating device loops. Most devices cannot tolerate more than a 10% I.R. drop from the specified device voltage.

Like all solid state electronic devices, this system may operate erratically or can be damaged when subjected to lightning induced transients. Although no system is completely immune from lightning transients and interference, proper grounding will reduce susceptibil- ity. Overhead or outside aerial wiring is not recommended, due to an increased susceptibility to nearby lightning strikes. Consult with the Technical Services Department if any problems are anticipated or encountered.

Disconnect AC power and batteries prior to removing or inserting circuit boards. Failure to do so can damage circuits.

Remove all electronic assemblies prior to any drilling, filing, ream- ing, or punching of the enclosure. When possible, make all cable entries from the sides or rear. Before making modifications, verify that they will not interfere with battery, transformer, or printed circuit board location.

Do not tighten screw terminals more than 9 in-lbs. Over-tightening may damage threads, resulting in reduced terminal contact pressure and difficulty with screw terminal removal.

This system contains static-sensitive components. Always ground yourself with a proper wrist strap before handling any circuits so that static charges are removed from the body. Use static sup- pressive packaging to protect electronic assemblies removed from the unit.

Units with a touchscreen display should be cleaned with a dry, clean, lint free/microfiber cloth. If additional cleaning is required, apply a small amount of Isopropyl alcohol to the cloth and wipe clean. Do not use detergents, solvents, or water for cleaning. Do not spray liquid directly onto the display.

Follow the instructions in the installation, operating, and program- ming manuals. These instructions must be followed to avoid damage to the control panel and associated equipment. FACP operation and reliability depend upon proper installation.

FCC Warning

WARNING: This equipment generates, uses, and can radi- ate radio frequency energy and if not installed and used in accordance with the instruction manual may cause interfer- ence to radio communications. It has been tested and found to comply with the limits for Class A computing devices pur- suant to Subpart B of Part 15 of FCC Rules, which is designed to provide reasonable protection against such interference when devices are operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user will be required to correct the interference at his or her own expense.

Canadian Requirements

This digital apparatus does not exceed the Class A limits for radiation noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Depart- ment of Communications.

Le present appareil numerique n'emet pas de bruits radio- electriques depassant les limites applicables aux appareils numeriques de la classe A prescrites dans le Reglement sur le brouillage radioelectrique edicte par le

ministere des Communications du Canada

Software Downloads

In order to supply the latest features and functionality in fire alarm and life safety technology to our customers, we make frequent upgrades to the embedded software in our products. To ensure that you are installing and programming the latest features, we strongly recommend that you download the most current version of software for each product prior to commissioning any system. Contact Technical Support with any questions about software and the appropriate version for a specific application.

Documentation Feedback

Your feedback helps us keep our documentation up-to-date and accurate. If you have any comments or suggestions about our online Help or printed manuals, you can email us.

Please include the following information:

- Product name and version number (if applicable)
- Printed manual or online Help
- Topic Title (for online Help)
- Page number (for printed manual)
- Brief description of content you think should be improved or corrected
- Your suggestion for how to correct/improve documentation Send email messages to:

FireSystems.TechPubs@honeywell.com

Please note this email address is for documentation feedback only. If you have any technical issues, please contact Technical Services.

It is imperative that the installer understand the requirements of the Authority Having Jurisdiction (AHJ) and be familiar with the standards set forth by the following regulatory agencies:

- Underwriters Laboratories
- National Fire Protection Association

Before proceeding, the installer should be familiar with the following documents.

NFPA Standards

NFPA 72 National Fire Alarm Code NFPA 70 National Electrical Code
Underwriters Laboratories Documents:
UL 864 Standard for Control Units for Fire Protective Signaling Systems UL 2017 for General-Purpose Signaling Devices and Systems
UL 2610 Standard for Commercial Premises Security Alarm Units and Systems

Other:

EIA-232E Serial Interface Standard EIA-485 Serial Interface Standard NEC Article 250 Grounding
NEC Article 300 Wiring Methods
NEC Article 760 Fire Protective Signaling Systems Applicable Local and State Building Codes
Requirements of the Local Authority Having Jurisdiction (LAHJ)

This product has been certified to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864, 10th Edition. Operation of this product with products not tested for UL 864, 10th Edition has not been evaluated. Such operation requires the approval of the local Authority Having Jurisdiction (AHJ).
For product compliance, refer to the UL listing cards located on the UL online certification directory at https://iq.ulprospector.com/en/.\

Section 1: Product Overview

General

The ACM-30 annunciator provides the Fire Alarm Control Panel (FACP) or Network Control Displaywith remote, serially-connected annunciators. Arrays of LEDs indicate, at a remote location, the status of addressable points within the system. The ACM-30 annunciators are designed to serve as full function annunciators can both receive status information as well as transmit commands to the control panel. This allows the annunciator to remotely execute functions of the control panel in addition to displaying the status of the system.
Common system functions such as signal silence, system reset, and local annunciation controls (local acknowledge and lamp test) are con- trolled through switches on the annunciator's keypad.
Communication between the FACP or Network Control Display and these annunciators is accomplished over a power-limited, two-wire serial interface called AIO and can be connected to both the main and local bus. Power for the ACM-30 is provided via a separate power-lim- ited power loop from the control panel which is inherently supervised by these annunciators (loss of power results in an annunciator commu- nication failure at the control panel). These annunciators can also be powered from a power-limited and regulated remote power supply listed for fire-protective signaling use.

The FACP supports a maximum of 80 annunciators. Up to 10 ACM-30 annunciators can be configured as routers with each router supporting 15 ACM-30 peripheral annunciators.

The capacitive touch keypad of the ACM-30 has 32 touchpoints. Touchpoints 1-30 have two LEDs. Touchpoints 31 and 32 have one LED. The LEDs can be programmed for red, green, yellow, amber, blue, cyan or purple. The keypad has a system trouble LED, an On-line/Power LED, and a local piezo sounder with a silence/acknowledge switch for audible indication of alarm and trouble conditions at each annuncia- tor.

Power Requirements 18-30VDC, 93mA max current.

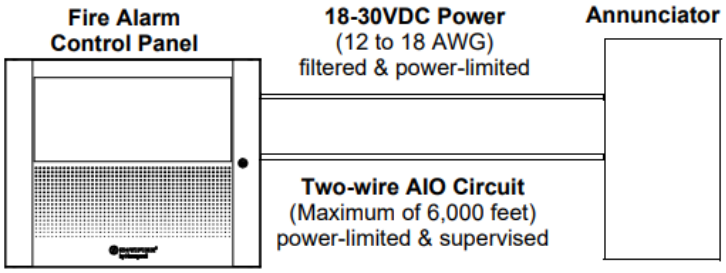
Limits

The AIO communication circuit can drive up to 80 annunciators including those set as routers and their peripherals. An end-of-line resistor must be installed or enabled on the last AIO device, router and peripheral, on

each local AIO bus. The number of annunciators that can engage in two-way communication depends on the number of addresses available with the given FACP. The actual number of AIO devices that can be powered in a particular system depends on the current available from the control panel's power supply. Refer to the FACP's installation manual for more details.

Wire Runs

Communication between the control panel and ACM-30 annunciators occurs over a power-limited 2-wire AIO serial interface. This commu- nication is supervised by the FACP. Each annunciator also requires a power-limited 24 VDC power connection. This power circuit is inher- ently supervised. Loss of power registers as a communication failure at the control panel. The ACM-30 can also be powered from a power- limited and regulated remote power supply listed for fire-protective signaling use.



AIO Wiring Specifications

Wire the AIO circuit as shown in Section 2.8, "Power and AIO Circuit Connections". All power must be turned off when connecting the annunciator. Wiring methods used shall be in accordance with Standard for Installation and Classification of Burglar and Holdup Alarm Systems, UL 681. These requirements must be followed:

- AIO wiring to the external bus of a control panel can be wired class A or class B.
- AIO wiring to the internal bus of a control panel can be wired class B
- The AIO circuit cannot be T-Tapped; it must be wired in a continuous fashion to function
- There is a maximum of 6,000 feet at 16 AWG between the panel and the last annunciator on the AIO circuit (subject to the system's power restrictions).
- The wiring size must be a 12 AWG to 18 AWG twisted shielded pair cable having a characteristic impedance of 120 ohms, +/- 20%.
- Each AIO circuit must have 18VDC with a max current of 93mA at each device.
- Do not run cable adjacent to, or in the same conduit as, 120 volts AC service, "noisy" electrical circuits that are powering mechanical bells or horns, audio circuits above 25 VRMS, motor control circuits, or SCR power
- If annunciators are to be mounted in a separate cabinet or powered by a remote power supply, see Figure 6, "Using Multiple Power Supplies with the AIO Circuit".

Annunciator Power Requirements & Electrical Ratings

Annunciators draw their power from the control panel and must be considered when calculating the primary and secondary power supply requirements for the system. Each annunciator module is accounted for in the power calculations outlined in the respective installation man- ual. However, if the current draw dedicated to the annunciators must be calculated as a separate figure, use the equations in Table 1.1.
Electrical RatingsInput Voltage: 18-30 VDC (must be power-limited and non-resettable).
Use a regulated, power-limited, compatible power supply that is UL/ULC-Listed for Fire Protective Signaling use.
Data Communications Port: AIO operating for the local AIO at 115.2 Kbps (must be power-limited) and for the

main AIO at 57.6Kbps (must be power limited)

Non-Fire Alarm Status A: On-line LED is on steady; all other LEDs are off

Number of ACM-30 modules [_____] X 0.030 = [_____] amps

Non-Fire Alarm Status B: On-line LED is on and illuminated white; other LEDs are also on and illuminated white

Number of ACM-30 modules
assumed to have points active simultaneously [_____] X 0.083= [_____] amps

Total Annunciator Standby Current = [_____] amps

Fire Alarm Status (All LEDs are assumed to be on and illuminated white with Piezo sounding)

Number of ACM-30 modules
assumed to be in alarm simultaneously [_____] X 0.093= [_____] amps

Note: This entry assumes that all LEDs are lit simultaneously. When the alarm system specification permits, calculations can be based on a 10% alarm loading capacity. For 10% capacity, enter 10% of the total number of modules multiplied by the number of remote annunciator locations, but do not enter less than one.

Total Annunciator Fire-Alarm Current = [_____] amps

Total Annunciator Standby Current +
Total Annunciator Fire-Alarm Current = [_____] amps

Section 2: Installation and Configuration

Installation Checklist

1. Use The programming tool associated with your FACP to create custom labels for the ACM-30 or cut labels from back of manual. (page 19)
2. Install labels into (Section 2.3)
3. Mount and ground the cabinet or Install annunciator onto dress panel. (Section 2.4).
4. Connect shield for AIO circuit (Section 5).
5. Connect Earth Ground to a mounting screw on the backbox or cabinet (Section 6).
6. Mount tamper switch and/or phone jack onto annunciators (Section 7).
7. Make all electrical connections:
    - Power circuit (Section 8)
    - AIO circuit & End-of-line resistor (Sections 2.8 and 9).
8. Set module addresses and switches (Section 10).
9. Program the ACM-30 annunciators. Set LED colors to correspond with panel-programming selections (Section 3).
10. Test annunciators (Section 9).

Connectors and Switches

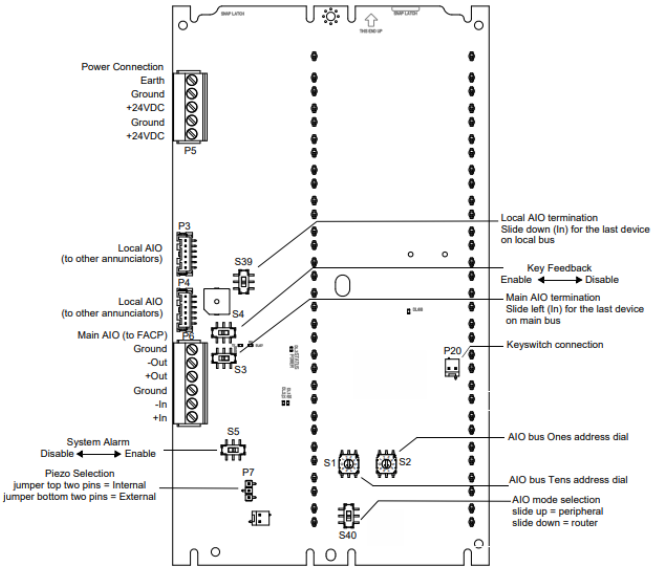


Figure 2.1 Rear View of ACM-30

Labeling Annunciators

Remove the last pages of this manual. Carefully cut out the labels. Custom labels can be created using The programming tool associated with your FACP. To ensure the best fit, cut directly along the line surrounding each label. Labels should measure 1.625” x 7.875” (4.13cm x 20cm).

CAUTION: STATIC SENSITIVE COMPONENTSTHE CIRCUIT BOARD CONTAINS STATIC-SENSITIVE COMPONENTS. ALWAYS GROUND YOURSELF WITH A PROPER WRIST STRAP BEFORE HANDLING ANY BOARDS SO THAT STATIC CHARGES ARE REMOVED FROM THE BODY. USE STATIC SUPPRESSIVE PACKAGING TO PROTECT ELECTRONIC ASSEMBLIES

1. Remove nut from plastic post on the back of the ACM-30.
2. Gently pull up on plastic cover and pull out the ACM-30
3. Insert the labels on top of the plastic label guard inside the

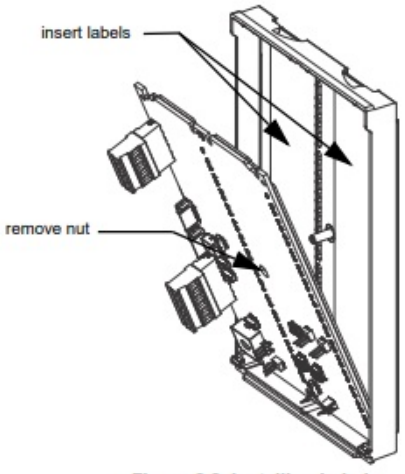


Figure 2.2 Installing Labels

Reassemble the ACM-30. Ensure the PCB is installed in the correct direction

Mount the Cabinet or Backbox and Install Annunciator

The ACM-30 annunciators must be mounted in special backboxes, the ABB Series, or in the CAB-4/5 series cabinets using a hinged dress panel, the DP-4A, DP-T2A, DP-4A-CB4, or DP-T2A-CB4. Refer to the ABB, CAB-4, or CAB-5 Series Installation Documents for enclo- sure mounting instructions.

Shielding the AIO Circuit

The AIO circuit must be wired using a twisted pair cable having a characteristic impedance of 120 ohms, +/- 20%. Do not run cable adjacent to, or in the same con- duit as, 120-volt AC service, noisy electrical circuits that are powering mechanical bells or horns, audio circuits above 25 Vrms, motor control circuits, or SCR power circuits.

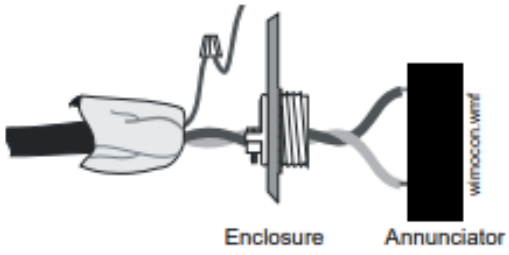


Figure 2.3 Terminating the Shield

NOTE: Shielded wire is not necessary but when it is used, the shield should be connected to system ground (not earth) at the FACP and ground on the Main AIO connector (P6) at the ACM-30. If the ACM-30 is using a remote power supply, the shield will serve as the AIO reference wire.

Earth Ground

Connect earth ground to a mounting screw on the backbox or cabinet. During mounting (see Section 2.4), the backbox or cabinet should have been connected to a solid earth ground such as a cold water pipe. Ground for the ACM-30 is on terminal P5

Connecting the Annunciator Security Tamper Switch

The Security Tamper Switch input on the router may be used to connect to a switch on the cabinet door to prevent the touchpoints on the router or any peripherals from being active until the door is open. Leave the jumper (P20) open to have the switch inputs always active. Con- nect a switch that will short the jumpers when the door is closed to disable the switch inputs.

To install the Security Tamper Switch, follow these steps (all parts identified are included in the STS-1 Kit):

1. Mount the tamper switch bracket (#50160134-001) onto the mounting stud in the upper left corner of the cabinet door using a #4-40 nut (#36045).
2. Install tamper magnet onto tamper switch
3. Install tamper switch with wire leads (#30113) onto the upper right corner of the dress plate on the
4. Use wire nuts (16-22AWG Blue UL 105C #36039) to connect wire leads from the dress plate to the wire assembly (#75148).

Plug the Annunciator Security Tamper Switch on the cabinet into the Security Tamper Switch connector (P20) on the ACM-30

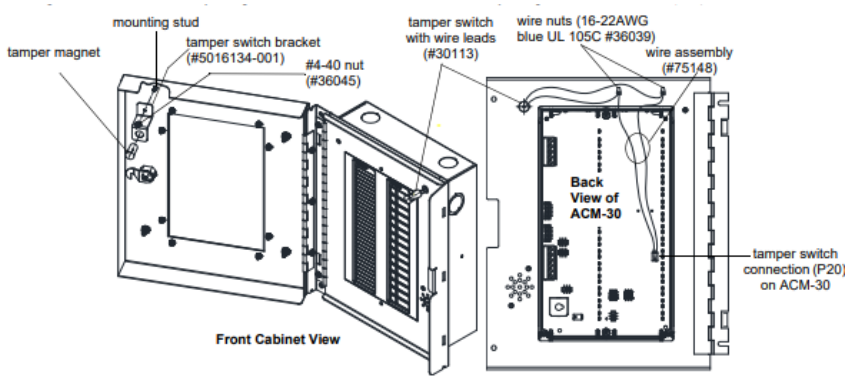


Figure 2.4 Connecting the Annunciator Security Tamper Switch

Power and AIO Circuit Connections

Select an appropriate knockout on the enclosure for the wiring to run through and snap it out. Pull all annunciator wiring into the enclosure. Connect annunciator wiring to the removable terminal blocks at this time. See Section 1.4 on page 7 for circuit requirements.

NOTE: All power must be turned off when connecting the 24 VDC power to the annunciator. Reapply power according to the instructions in the control panel manual.

The ACM-30 power source must be filtered, non-resettable, 24 VDC listed for fire-protective signaling use. Sources include FACP power supplies and auxiliary power supplies. The power run to the annunciator need not contain a power supervision relay because loss of power is inherently supervised through communication loss (AIO communication loss is registered at the control panel during loss of power to the annunciator).

Connector P6 is the Main AIO bus connection to wire the router to the FACP. Connectors P3 and P4 are used for the Local AIO bus to wire from the router to the peripherals. These connectors are interchangeable, providing both power and data from the router. Use the 6” local AIO cable to wire ACM-30 annunciators in the same row of the cabinet. Use the 48” local AIO cable to wire annunciators on different rows of cabinets.

An Optional Kit (Part number ACM-30CBL) can be obtained if additional rows of ACM-30 are required. The kit contains a longer cable to connect one row of ACMs to an adjacent row of ACMs and 4 interconnect cables (for connecting ACM in the same row).

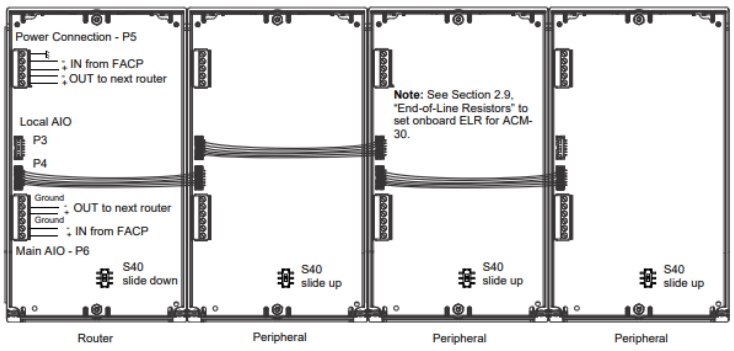


Figure 2.5 Power and AIO Circuit Connections

A common reference connection must be made between multiple power supplies for the AIO circuit to function properly.

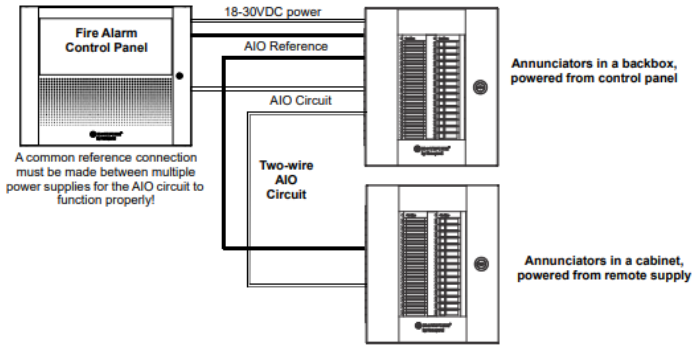


Figure 2.6 Using Multiple Power Supplies with the AIO Circuit

End-of-Line Resistors

Figure 2.6 Using Multiple Power Supplies with the AIO Circuit
The end-of-line termination resistor must be enabled at S3 on the last device on the Main AIO circuit. The end-of-line termination resistor must be enabled at S39 on the first and last devices on the Local AIO circuit. All other annunciators should have these switches set to dis- able. Refer to Figure 2.1 on page 9 for switch locations.

Setting Addresses and Switches

Addressing the ACM-30

Set the address with rotary switches SW1 and SW2 on the back of the annunciator. Turn the arrow with a small flat-head until it points to the correct digit. S1 selects the Tens digit of the address. S2 selects the Ones digit of the address. Refer to Figure 2.1 on page 9 for switch loca- tions. These addresses must match what is entered into the programming tool associated with your FACP's programming.
The system supports up to 10 router devices connected to the control panel using up to 10 unique addresses. Each router can have up to 15 peripheral devices connected to it. A total of 80 devices are allowed on the AIO circuit, including routers and peripherals.

Each device will have a router address and a peripheral address. For devices configured as routers, the peripheral address will be 0 and the router address will be what is selected by S1 and S2. For devices configured as peripherals, the peripheral address will be what is selected by S1 and S2 and the router address will be the address of the router it is connected to.
Refer to your control panel documentation for valid addresses.
Ensure the AIO mode switch, S40, is properly configured for Router or Peripheral device.

Keypad Feedback Piezo

If S4 is set to enable, The keypad feedback piezo allows for a sound when a touchpoint is pressed. Slide S4 left to enable and right to disable.

System Alarm Piezo

An onboard piezo will sound if the ACM-30 is in trouble or alarm. Ensure that the jumper on P7 is on the top two pins to select onboard piezo. Refer to Figure 2.1 on page 9 for jumper location.
Slide S5 right to enable the system alarm piezo, onboard or external, or left to disable the alarm.
In the programming tool associated with your FACP, under AIO Board Settings, each ACM-30 has a general setting for "Enable Piezo Oper- ation To Follow LED Blink Pattern." When that setting is checked, the System Alarm Piezo must be enabled. If the System Alarm Piezo is disabled when the operation is enabled in the programming tool associated with your FACP, the panel will generate an AIO ADDR n BUZZER SUPERVISORY trouble.

Section 3: Programming and Operations

Capabilities

Annunciators can be programmed to annunciate the status of addressable devices, general zones, logic zones, and several system control functions:

- Devices
  - Intelligent Detectors
  - Monitor and Control Modules
  - Addressable Manual Pull Stations
  - Wireless Devices
- Zones
- Logic Zones
- System Controls
  - None
  - Ack
  - Silence
  - Reset
  - Drill
  - Disable
  - Monitor
  - Control
  - All Call
  - Page Inactive
  - Page Evac
  - Page Alert
  - Telephone
  - Enable Paging
  - FFT-NFN
- XP Series Transponder System
  - Power and Audio Supply Supervision
  - XP Series Form-C Alarm and Trouble Relays
  - Control, Monitor, and Relay Module Circuits
- Monitor Speakers for mapped PAM points

Programming the Fire Alarm Control Panel for Remote Annunciation

Annunciator points must be programmed into the programming tool associated with your FACP before the annunciators will function. Refer to Section 2.10 for setting router and peripheral addresses. Each touchpoint on the ACM-30 can be programmed to either cooperate with its coordinating LEDs or to operate independently. All touchpoints and LEDs are customizable. There is no fixed system function on the ACM-

30. (For more information on how to program the annunciators into FACP memory, and to map system points and logic zones to annunciator points, refer to the *programming tool associated with your FACP's Help File*.)

Independent Mode of Operation Independent mode allows the touchpoint controls to work separately from each LED; each touchpoint and LED can be programmed for different points. Using Independent control, a single ACM-30 could have 62 point indicators.
Cooperate Mode of Operation Both LEDs perform indication for the point mapped to the touchpoint. The top LED annunciates the point active and the bottom LED annunciates the point in trouble or disabled.

Configurations for Specific Applications

The ACM-30 is a vital part of voice alarm applications. An ACM-30 allows for manual selection of speaker or telephone circuits and can provide common system annunciation of circuits and logic zones. Dedicated annunciators are required for each of the following specific types of applications:

- Common System Annunciation
- Speaker and Telephone Mode

Common System Annunciation

This remote annunciator must be programmed to annunciate the status of all points in the system, either by device/module, or by grouping points into general zones or logic zones and annunciating the status of those zones. Every point in the system must be represented by at least one annunciator point at each remote location.
NOTE: More than one monitor-type device may be programmed to a single annunciator point. This multiple-mapping of initiating devices will operate the point active and trouble LEDs of an annunciator point with Boolean “OR” functionality
Even Priority Programming and Operations

Speaker Mode with the FACP

The ACM-30 may be used as an interface for the audio system when the FACP is configured as a network node in network display mode. The ACM-30 may be used to map speaker circuits to monitor their status, map to PAM points for monitoring or control, telephone points, and All Call functions.

Even Priority

The panel will use the highest priority event in the system that is mapped to that annunciator to appropriately control the pattern played by that annunciator. The telephone will be at a priority above trouble, but below all other events.

LED and Keypad Functions

The ACM-30 can be programmed for paging and message routing functions, with status LEDs for certain functions, and 32 user-programma- ble annunciator-type touchpoints.
NOTE: The ACM-30 can only be installed in Fire Evacuation applications and is not suitable for UL2572 MNS applications.

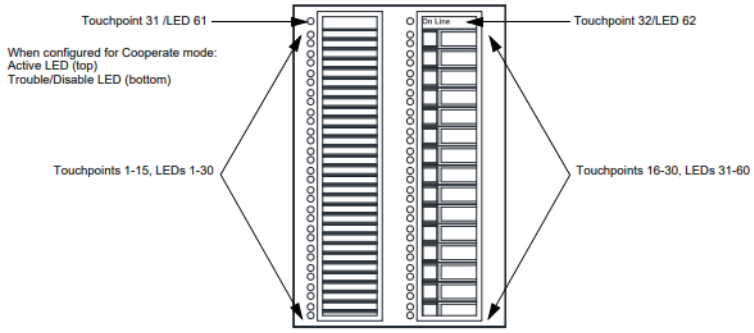


Figure 3.1 LED and Keypad-Switch Locations

Annunciator points “track” or follow those system points they are programmed to annunciate; the annunciator points do not latch. Table 3.1, below, lists how the ACM-30 annunciates various devices and functions

Point Type	**Active LED**	**Trouble LED**	**Disable LED**	**Control Switch**
Control Module, XPC Circuit, XPR Circuit, DVC PAM Point, Telephone Point, NAC Circuits, XP5-C Circuit	Indicates on/off status of module or circuit	Indicates trouble status of module or circuit	Indicates disable status of module or circuit	Turns point on/off
Monitor Module, XPM Circuit, DVC Speaker Circuits	Indicates alarm status of module or circuit	Indicates trouble status of module or circuit	Indicates disable status of module or circuit	Not used
Intelligent Detector	Indicates alarm status of detector	Indicates trouble status of detector	Indicates disable status of detector	Not used
Logic or General Zones	Indicates active status of zone	Not used	Indicates disable status of zones	Not used
All Call, Page Inactive, Page Evac, Page Alert, or Enable paging	Indicates on/off status of speaker circuit	Indicates trouble status of speaker circuit	Not used	Turns speaker circuit on/off
FFT-NFN	indicates on/off status of FFT	indicates trouble status of FFT	Not used	Turns phone circuit on/off

Acknowledge	Indicates System Al arm	Indicates System T rouble	Not used	Acts as ACKNOWLEDGE key
Signal Silence	Not used	Indicates Signals S ilence	Not used	Acts as SIGNAL SILENCE key
System Reset	Not used	Not used	Not used	Acts as SYSTEM RESET key
Lamp Test	Not used	Not used	Not used	Acts as LAMP TE ST key

NOTE: Control Switches marked “not used” will still function as local LAMP TEST switches for their respective LEDs.
NOTE: When the operation mode is set to cooperate, the top LED will function as the active LED and the bottom LED will be shared between trouble and disable. When the operation mode is set to independent only one LED per point will be utilized and it is shared between Active/Trouble/Disable.

On-line LED

LED 62 will operate as an On-line indicator when not assigned a specific programming function. As the On-line LED, this LED will light green when the ACM-30 is connected to the panel. When the ACM-30 is offline, all LEDs including LED 62 will flash yellow.
NOTE: When a firmware update from the FACP to the ACM-30 is in process all LEDs, including LED 62 will flash blue.

Point Active LED

The Point Active LED turns on steady to indicate an active point. After being acknowledged, it glows steady until reset.
NOTE: In Speaker and Telephone Mode, this LED will flash to indicate an active point.

Point Trouble LED

The Point Trouble LED flashes to indicate a trouble situation. After being acknowledged, it glows until reset. If communication with the control panel is broken, *all* trouble LEDs flash.

Lamp Test

If touchpoint 31 on the ACM-30 is pressed and held for 2 seconds, it performs a lamp test for the annunciator. LEDs flash white and piezo sounds for as long as the touchpoint is held down.

Selecting LED Colors

Use the programming tool associated with your FACP to set color of the point-active, trouble, and disable

functions of the LEDs. Color choices include red, yellow, green, amber, blue, cyan, and purple. Setting the LED to a blink pattern is also available. Refer to Section 2.10.3 for instructions on configuring the piezo to follow the blink pattern.

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Piezo Enable

Enable the piezo for acknowledgeable events such as Alarms, Supervisory and Troubles. Off-hook telephone points will activate the piezo irrespective of this setting. The piezo will be supervised if this is selected or telephone points are assigned.

Function	**Piezo**
Fire Alarm	Steady pattern for unacknowledged events
Security	8Hz pattern for unacknowledged events
Supervisory	4Hz pattern for unacknowledged events
CO Alarm, Pre-Alarm, CO Pre-Alarm	2Hz pattern for unacknowledged events
Critical Process, Hazard/Weather Alert	1Hz pattern for unacknowledged events
Disable, Trouble	1Hz pattern for unacknowledged events
Telephone	8Hz pattern for unanswered points
Non-Fire Events (Speaker Activations, Zone Activations , Output Device Activations)	Not used

Table 3.2 Piezo Operation for FACP Functions
NOTE: The audible pattern will only be active for unacknowledged/unanswered events.

ACM-30 Set as Router

The router node shall function as the piezo representative for all peripheral nodes connected to that router.
NOTE: If the peripheral is configured but is offline; the router will still indicate the event.

ACM-30 Set as Peripheral

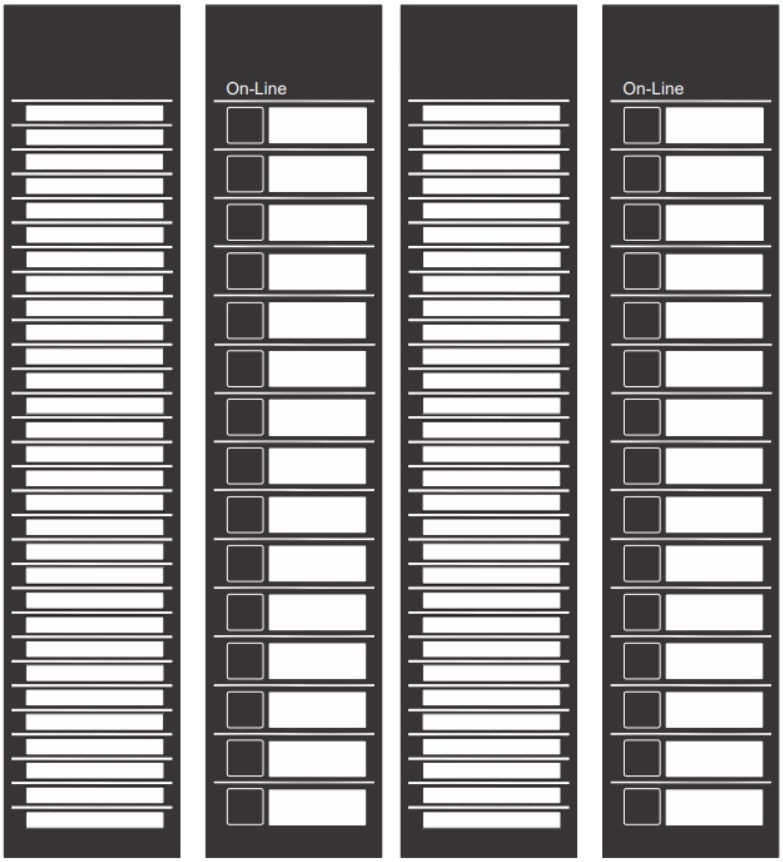
The piezo setting for the peripheral annunciator will control the router sounds for the events mapped to the peripheral.
NOTE: If the router or peripherals contain telephone points, or the peripherals have the piezo enabled for events, the router piezo must be supervised.

Testing the Annunciators

After programming, fully test the annunciator to ensure that each switch performs its intended function, that each LED lights in the correct color, and that the annunciators can perform the functions outlined in this manual. Perform a lamp test to ensure all LEDs light correctly.

Annunciator Label

The template below is a guide for the touchpoint/LED assignment on the ACM-30. Cut labels carefully. Each label should measure 1.625” x 7.875”.
Since the ACM-30 is fully customizable, custom labels can be created using the programming tool associated with your FACP.



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Documents / Resources

	**Notifier ACM-30 Annunciator Control Module** [pdf] Instruction Manual ACM-30 Annunciator Control Module, ACM-30, Annunciator Control Module, Control Module

References

- System Sensor | Honeywell Building Technologies
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