NOTIFIER®
by Honeywell

Remote LCD Display
RLD
Instruction Manual

Document LS10310-000NF-E Rev: D
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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 flow.
- 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 detector.

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 emergency.
- 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 disseminated on any local displays.
- Strobes can, under certain circumstances, cause seizures in people with conditions such as epilepsy.
- 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 different 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 signals.
- In rare instances, the sounding of a warning device can cause temporary or permanent hearing loss.

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 limited 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 recommended.
- **Cellular connections** rely on a strong signal. Signal strength can be adversely affected by the network coverage of the cellular carrier, objects and structural barriers at the installation location. Utilize 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 disabled. 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 connected 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 interconnecting cables while the unit is energized. Do not attempt to install, service, or operate this unit until manuals are read and understood.

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 susceptibility. 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, reaming, 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 suppressive 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 programming manuals. These instructions must be followed to avoid damage to the control panel and associated equipment. FACP operation and reliability depend upon proper installation.

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FCC Warning

WARNING: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual may cause interference to radio communications. It has been tested and found to comply with the limits for Class A computing devices pursuant 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 Department of Communications.

Le present appareil numerique n'emet pas de bruits radioelectriques 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.

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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.

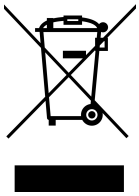
Please include the following information:

- 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.



This symbol (shown left) on the product(s) and / or accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling, contact your local authorities or dealer and ask for the correct method of disposal.

Electrical and electronic equipment contains materials, parts and substances, which can be dangerous to the environment and harmful to human health if the waste of electrical and electronic equipment (WEEE) is not disposed of correctly.

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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 681 Standard for Installation and Classification of Burglar and Holdup Alarm Systems
UL 864 Standard for Control Units for Fire Protective Signaling Systems
UL 2610 Standard for Commercial Premises Security Alarm Units and Systems
UL 2017 for General-Purpose Signaling Devices and Systems
ULC-S527-19 Standard for Control Units for Fire Alarm Systems
ULC S524 Standard for the Installation of Fire Alarm 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 Authority Having Jurisdiction (AHJ)

NOTIFIER Documents

Document Name	Document Number
N16 Series ULLD	LS10234-051NF-E
PMB-AUX Series	LS10242-000GE-E
SLM-318 Module	LS10243-000GE-E
Noti•Fire•Net Manual, Network Version 5.0 & Higher	51584
High Speed Noti•Fire•Net Manual	54013
HS-NCM High Speed Network Communications Module	54014

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 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

1.1 General

The RLD (Remote LCD Display) annunciator provides the N16 FACP (fire alarm control panel) or NCD (Network Control Display) with remote, serially-connected remote display. A 5" touch screen display will provide an alert bar providing indication and counters for the number of events in the system, an event display area will provide a scrollable display that shows four events simultaneously, and scrollable up to 50 of the highest priority events in the system. The RLD provides a key switch for user authentication that will then enable the control inputs for acknowledge, silence, reset, and activation. Custom action buttons are available via the menu for quick access to enabling/disabling as well as force on/off the state of addressable points. The header bar will flash for unacknowledged events.

Communication between the FACP or NCD and the RLD occurs over a power-limited (Class 2), two-wire serial interface called AIO (Annunciator Input/Output). Power for the RLD is provided via a separate power-limited (Class 2) power loop from the control panel which is inherently supervised by the RLD (loss of power results in an AIO communication 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 N16 FACP supports a maximum of 10 RLDs (remote display), configured as a router. These take up one of the 10 available router addresses on the AIO bus. Different types of AIO devices configured as routers may be mixed on the AIO bus, including ACM-30, RLD, and TM-8. Each RLD will occupy one “router” address. The RLD does not support peripheral annunciators.

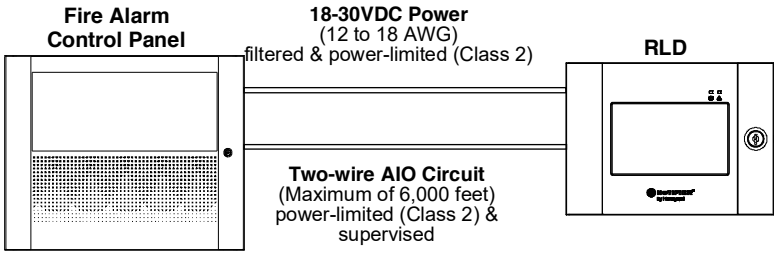
Power Requirements 18-30VDC, 200 mA max current.

1.2 Limits

An end-of-line resistor must be installed or enabled on the last AIO device. The number of annunciators that can engage in two-way communication depends on the number of addresses available with the given fire alarm control panel. 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.

1.3 Wire Runs

Communication between the control panel and annunciators occurs over a power-limited (Class 2) 2-wire AIO serial interface. This communication is supervised by the fire alarm control panel. Each annunciator also requires a power-limited 24 VDC power connection. This power circuit is inherently supervised. Loss of power registers as a communication failure at the control panel. The RLD can also be powered from a power-limited and regulated remote power supply listed for fire-protective signaling use. For UL 2610 applications, wiring methods used will be in accordance with UL 681, *Standard for Installation and Classification of Burglar and Holdup Alarm Systems*.



1.4 AIO Wiring Specifications

Wire the AIO circuit as shown in Section 2.7, “Power and AIO Circuit Connections”. All power must be turned off when connecting the annunciator. These requirements must be followed:

- AIO wiring to the external bus of a control panel can be wired Class A, Class B, DCLA or DCLB.
- The AIO circuit cannot be T-Tapped; it must be wired in a continuous fashion to function properly.
- 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 power restrictions).
- The wiring size must be a 12 AWG to 18 AWG twisted pair cable having a characteristic impedance of 120 ohms, +/- 20%.
- Each AIO circuit must have 18VDC with a max current of 200mA 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 V_{RMS}, motor control circuits, or SCR power circuits.
- If annunciators are to be mounted in a separate cabinet or powered by a remote power supply, see Figure 2.6, “Using Multiple Power Supplies with the AIO Circuit”.

1.5 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 manual. However, if the current draw dedicated to the annunciators must be calculated as a separate figure, use the equations in Table 1.1.

Electrical Ratings

- Input Voltage: 18-30 VDC (must be power-limited (Class 2) and non-resettable).
  Use a regulated, power-limited (Class 2), 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 (Class 2)) and for the main AIO at 57.6Kbps (must be power limited (Class 2).

Condition	Backlight set in range of 1% – 50%	Backlight set in range of 51% – 100%
Alarm Current (Piezo active)	160mA	225mA
Standby Current (AC Fail Operation = Normal)	150mA	200mA
Standby Current (AC Fail Operation = power save)	75mA	75mA

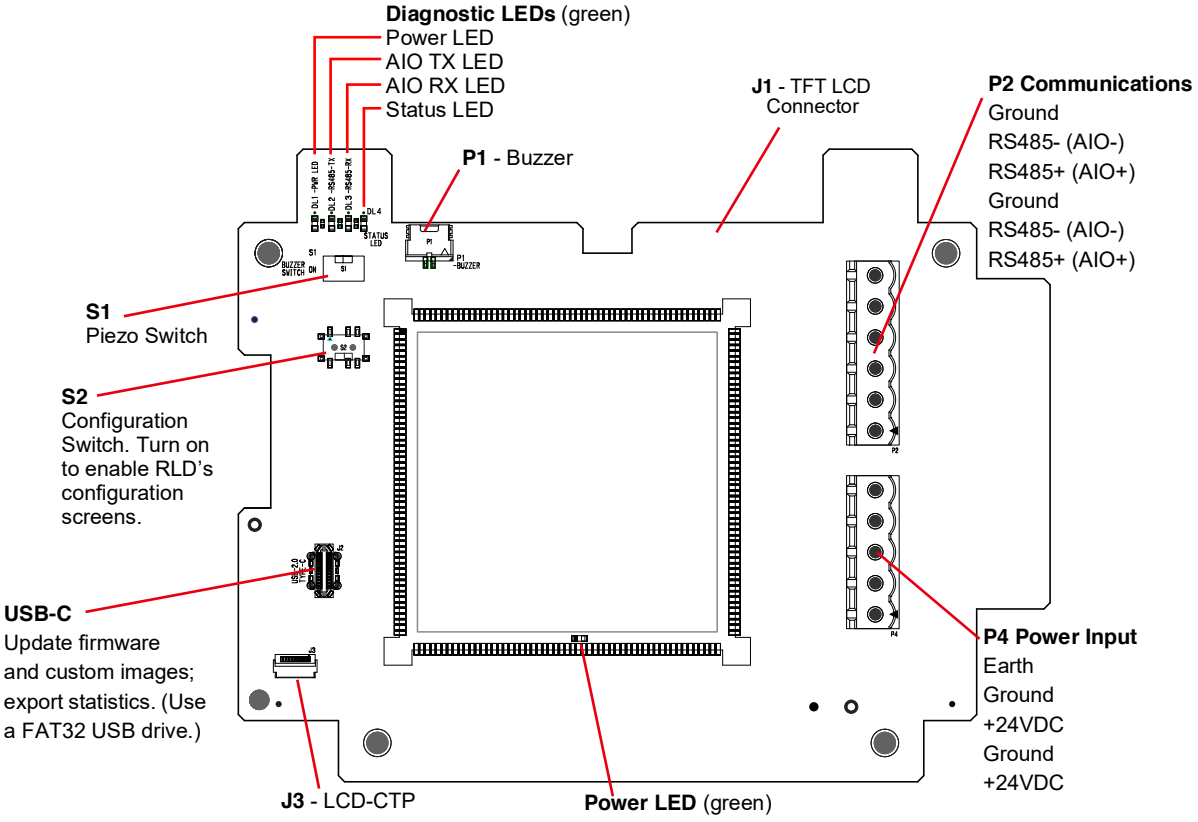
Table 1.1 Current Draw Calculations

Section 2: Installation and Configuration

2.1 Installation Checklist

1. Mount and ground the RLD in a standard 3 gang electrical box
2. Connect shield for AIO circuit (Section 2.4).
3. Connect Earth Ground to a mounting screw on the backbox or cabinet (Section 2.6).
4. Make all electrical connections:
   – Power circuit (Section 2.7)
   – AIO circuit & End-of-line resistor (Sections 2.7 and 2.8).
5. Set module addresses and termination via the on-screen menu (Section 2.9).
6. Program the RLD annunciators. (Section 3).
7. Test annunciators (Section 3.7).

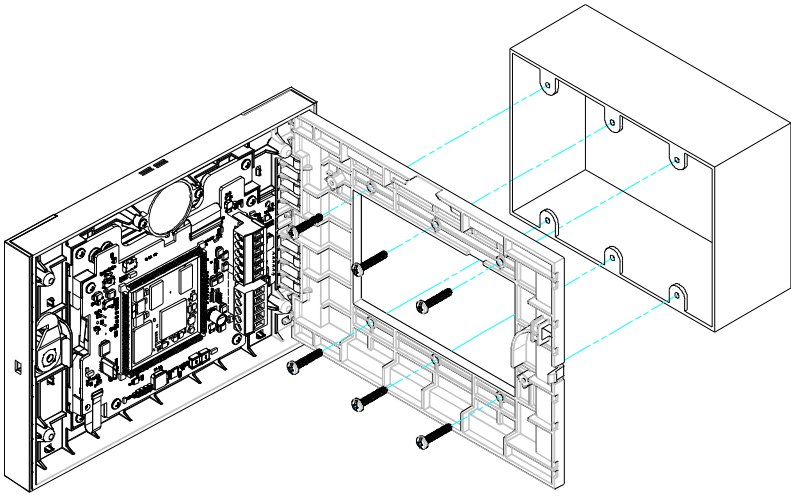
2.2 Connectors and Switches



2.3 Mount Enclosure and Install Annunciator

Remote LCD Display annunciators are mounted free-standing on a standard 3-gang electrical box. (See Figure 2.1).

Use adapter plates to mount in CAB-5 or CAB-4 series enclosures, ABF-1DB, and ABS-2D. Figure 2.2 shows one sample retrofit installation; see *Retrofit Annunciators Document* LS10401-000GE-E for details and restrictions.



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Figure 2.1 Mounting RLD on a 3-Gang Electrical Box

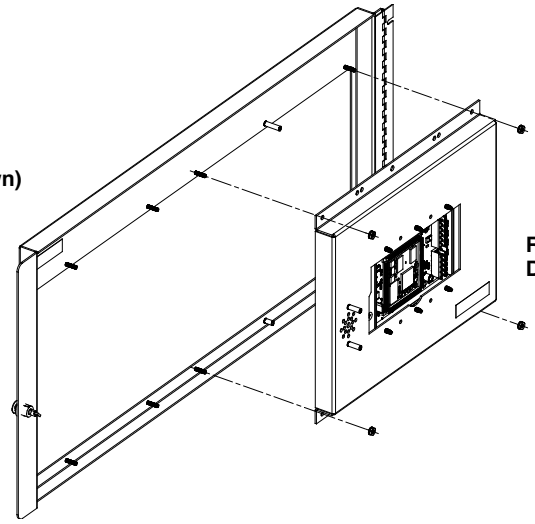


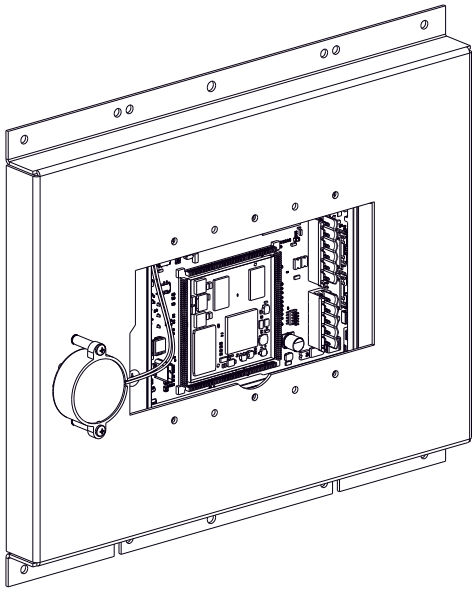
Figure 2.2 Mount Remote LCD Display in DP-ADP in Dress Panel of the CAB-4 Series Enclosure (DP-T2A-CB4 Shown)

2.4 External Piezo with RLD

The RLD must be in a locked enclosure when used in Canada. The DP-ADP chassis is used with various dress panels and enclosures to mount the RLD in a locked enclosure.

When the RLD is being used as a remote annunciator in a locked enclosure, the RLD's piezo must be mounted to the DP-ADP to meet ULC-S527 sound pressure requirements. The DP-ADP can mount to the following:

- CAB-4: DP-GDIS1, DP-GDIS-2 DP-4A-CB4, DP-T2A-CB4
- CAB-5: DP-4A, DP-T2A
- Remote Enclosures: NBB-2, ABB-2, ABS-TD, ABS-2D



RLD-2.ai

Figure 2.3 External Piezo Mounting

2.5 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 conduit as, 120-volt AC service, noisy electrical circuits that are powering mechanical bells or horns, audio circuits above 25 V_{RMS}, motor control circuits, or SCR power circuits.

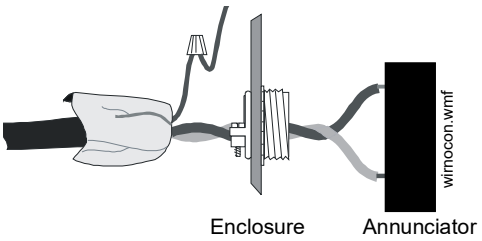


Figure 2.4 Terminating the Shield

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 AIO connector (P2) at the RLD. If the RLD is using a remote power supply, the shield will serve as the AIO reference wire.

2.6 Earth Ground

Connect earth ground to a mounting screw on the backbox or cabinet. During mounting (see Section 2.3), the backbox or cabinet should have been connected to a solid earth ground such as a cold water pipe. Ground for the RLD is on terminal P5.

2.7 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.

The RLD 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 P2 is the Main AIO bus connection to wire the router to the FACP.

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

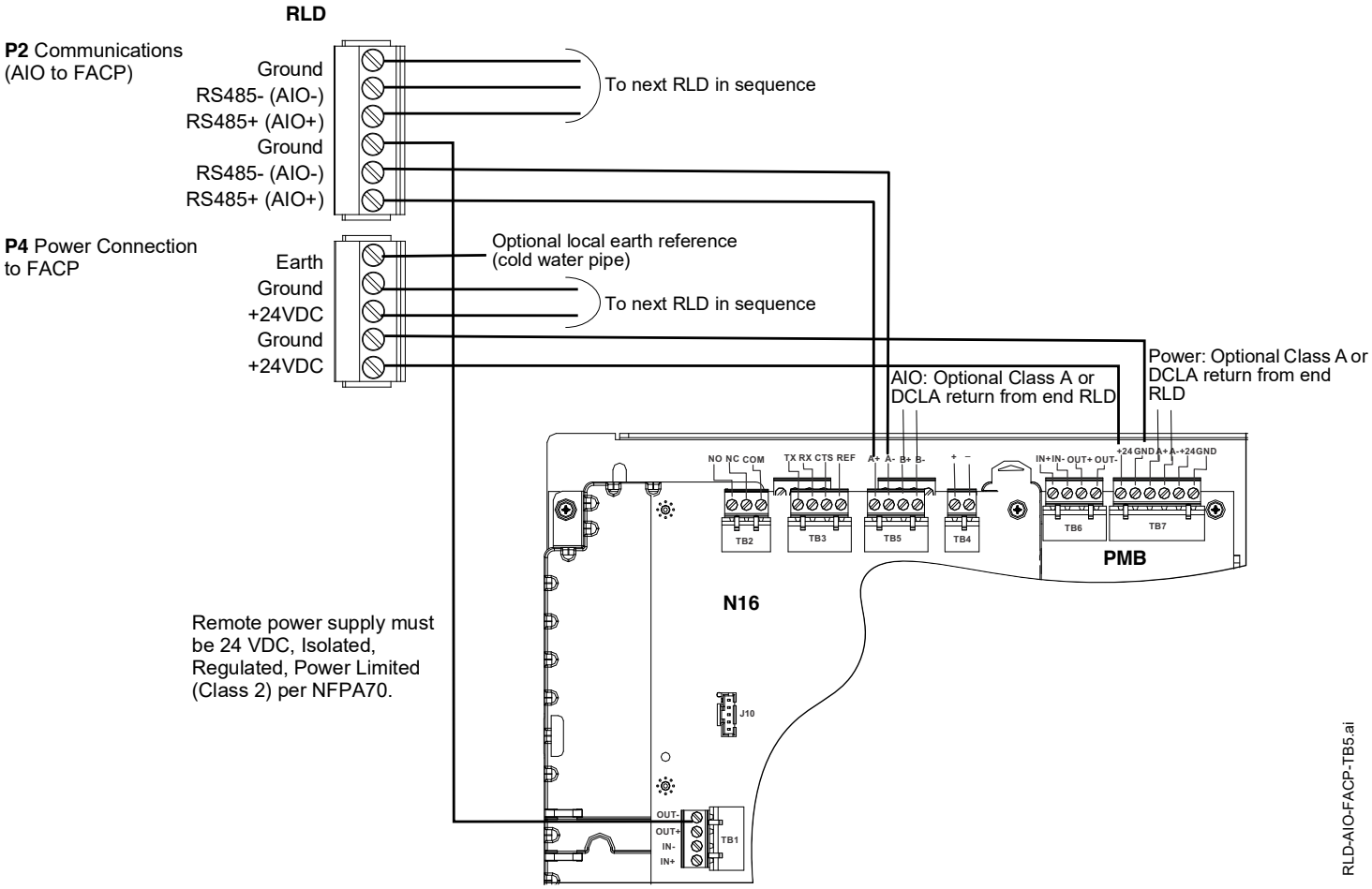


Figure 2.5 AIO and Power Wiring

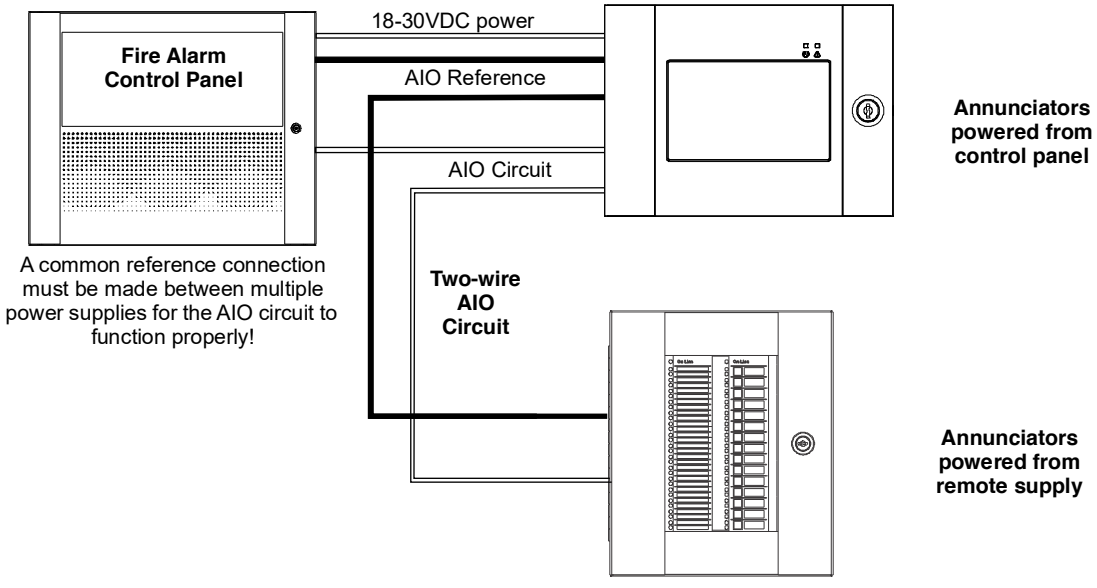


Figure 2.6 Using Multiple Power Supplies with the AIO Circuit

2.8 End-of-Line Resistors

The end-of-line termination resistor must be enabled via the on screen menu on the last device on the AIO circuit. All other annunciators should have these switches set to disable.

For termination switch setting, see:

- Initial power-up of a new module - Section 3.4.1, “System Startup”
- Viewing/changing a module already in use - Section 3.4.4, “Configuration Menu”.

2.9 Setting Addresses and Switches

2.9.1 Addressing the RLD

Set the address with the on screen menu. This address must match what is entered into VeriFire Tools programming.

The system supports up to 10 router devices connected to the control panel using up to 10 unique addresses.

Refer to your control panel documentation for valid addresses.

2.9.2 Piezo

A piezo will sound if the RLD is in an off-normal condition.

Slide S1 left to enable the system alarm piezo, or right to disable the piezo.

In VeriFire Tools, under General Settings, each RLD has a setting for “Piezo Sound For Touch Screen Contact.” This will chirp the piezo for each touch when the key switch is unlocked.

When that setting is checked, the Piezo must be enabled. If the Piezo is disabled when the operation is enabled in VeriFire Tools, the panel will generate a trouble: `AIO ADDR Nxxx BUZZER SUPERVISORY` trouble (*where Nxxx is the* RLD *address).*

In VeriFire Tools, under General Settings, each RLD has a setting for “Local Piezo Settings.” This will sound the piezo for each unacknowledged event.

When that setting is checked, the Piezo must be enabled. If the Piezo is disabled when the operation is enabled in VeriFire Tools, the panel will generate a trouble: `AIO ADDR Nxxx BUZZER SUPERVISORY` *(where Nxxx is the* RLD *address).*

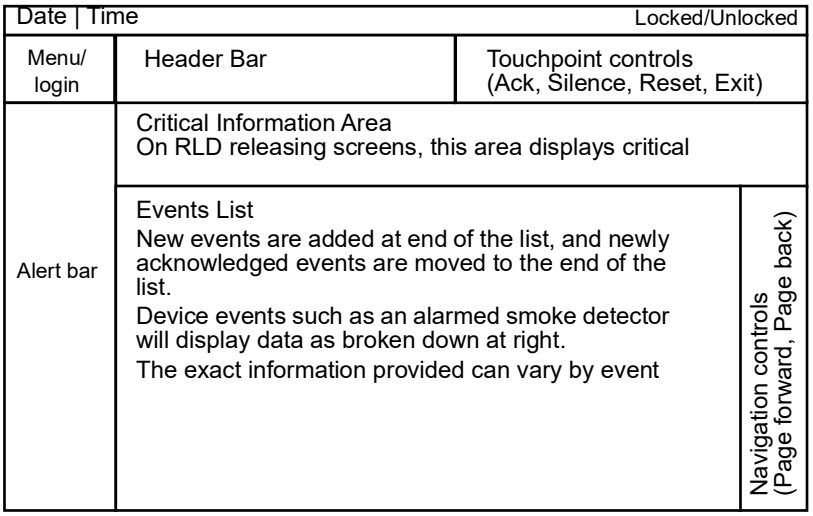
Section 3: Programming and Operations

3.1 Capabilities

RLD has a high definition touchscreen to display events. The display features a touchpoint for menu access, a header bar which shows event status, and touchpoints for Alarm, for three configurable mapped event types, and for all other event types not already assigned a space on the alert bar. Releasing zones are supported. For general Event Screen layout see Figure 3.1. For specific screens see Section 3.5, “Event Screens” (pages 23– 30).

The RLD will display all events related to the mapped zone(s) up to 50 total events.

- When more than 50 events related to the mapped zone(s) are active
  - The system will display the correct event counters (which will add up to a number greater than 50).
  - The system will display a minimum of one event for each active event type.
  - The system will display the remaining active events by priority.
    Priority ordered by
    1. Event Type (determined by the fire panel)
    2. Event order
       a. unacknowledged events (earliest in time to latest)
       b. acknowledged events (earliest to latest)
  - The system will display the alarm status for at least 8 zones simultaneously with fixed indicators for zone status.
  - If the Releasing capability is also used, the RLD will only display a maximum of 6 events in the list. In Canada, if releasing status is required when remotely located from the Primary Display an ACM-30 must be used to display this information.
- Display and Control Center (DCC) to control other nodes in the network
- Configurable Control buttons only operational when key switch is unlocked
  - Acknowledge
  - Silence (also functions as signal silence indicator)
  - Reset
  - Drill (Fire Drill in Canada)
- Six programmable buttons, each with
  - Descriptor/label
  - Status indicator
  - Configurable action (force on/off, disable/enable)
- Technician/Configuration View accessible when config switch is enabled
  - Provides an interface to make the following settings, changes or viewing the following information (see Section 3.4).
    • Address setting (1 to 10)
    • Backlight intensity (1 to 100)
    • Piezo settings (enabled or disabled)
    • Version Information
    • Statistical Info
    • Firmware Update from USB drive
    • Termination Resistor
    • Upload Custom Image (format type JPG, JPEG, or PNG; resolution 800x480) from FAT32 USB drive
    • Test/Diagnostics



Events List Information (Device Event Shown)

1. Event Type
2. Type code | Device label*
3. Node label and primary zone number | Zone label*
   At right: Flag for acknowledged events
4. Point address
   At right Date/time stamp of event or acknowledgment

*Custom label entered in programming tool.

Figure 3.1 Event Screen Display

3.2 Programming the N16/NCD for Remote Annunciation

Program annunciator points in using VeriFire Tools to enable the RLD. Refer to Section 2.9 for setting router addresses.

For DCC capability, the RLD will automatically participate in DCC when connected to a N16 or NCD node that has DCC enabled.

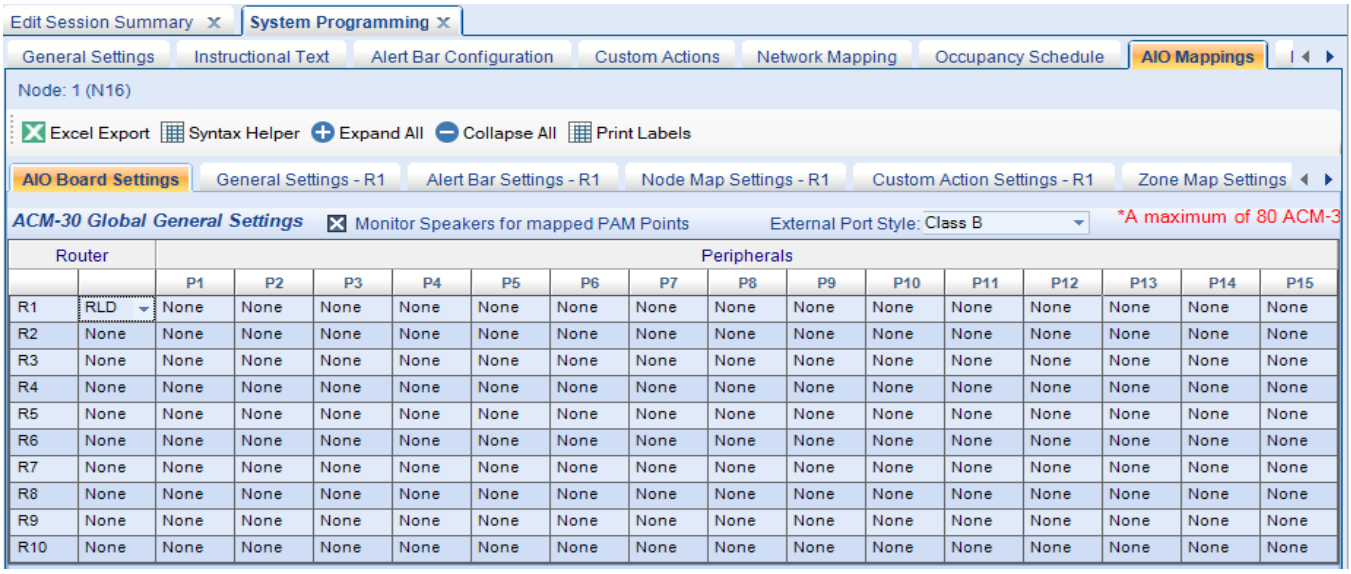
For use in Canada: For View by Zone, the RLD will automatically follow the attached NCD or N16 setting. It will display events by Zone, not points, and can display up to 8 zones simultaneously.

3.2.1 AIO Board Settings

RLD can only be set as a router. Once the RLD is selected as a router, no peripherals can be connected to that router.

On VeriFire Tools AIO Mapping configure the following router options:

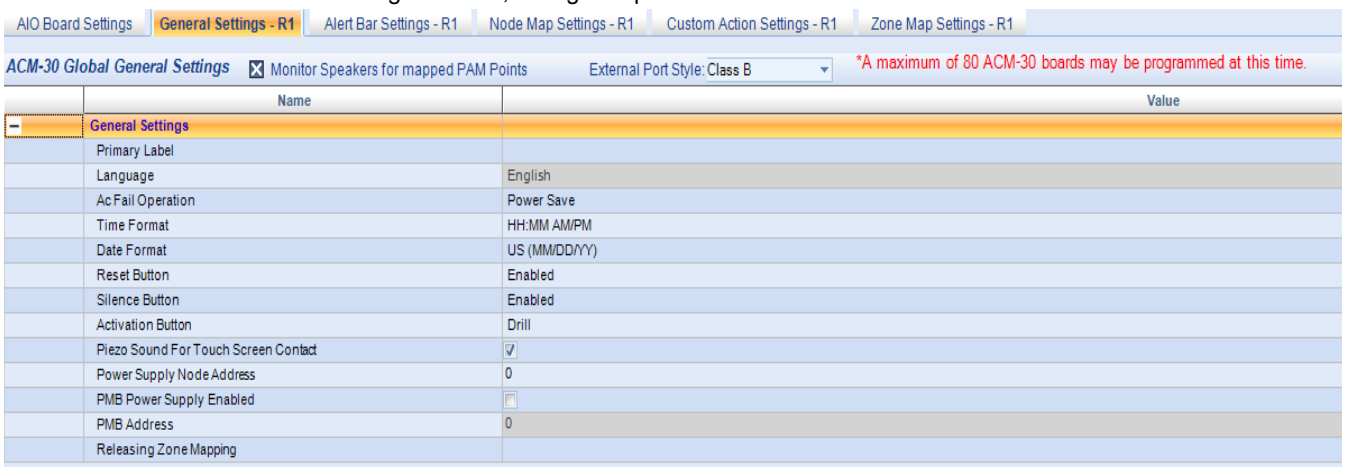
- External Port Style - Class A, Class B, DCLA, or DCLB
- Monitor Speakers for mapped PAM Points - not applicable to RLD.



Router		Peripherals														
		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15
R1	RLD	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
R2	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
R3	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
R4	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
R5	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
R6	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
R7	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
R8	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
R9	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
R10	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None

3.2.2 General Settings for RLD

On the VeriFire Tools General Settings for RLD, configure option as described below.



	Name	Value
−	General Settings	
	Primary Label	
	Language	English
	Ac Fail Operation	Power Save
	Time Format	HH:MM AM/PM
	Date Format	US (MM/DD/YY)
	Reset Button	Enabled
	Silence Button	Enabled
	Activation Button	Drill
	Piezo Sound For Touch Screen Contact	☑
	Power Supply Node Address	0
	PMB Power Supply Enabled	☐
	PMB Address	0
	Releasing Zone Mapping	

Primary Label - 40 character text entry that is used as a label for the annunciator address.

Language - Set to English for RLD v.1.0.

AC Fail Operation - Set to Power Save or Normal operation.

- **Power Save** -
  - RLD will turn off backlight after 5 minutes of inactivity (i.e. no new event received, no touch event, no Key switch event).
  - Backlight will be turned on if any of the above activities occur.
- **Normal** -
  - No change in operation during AC failure.

Time Format - Adjusts how the time is displayed on the RLD.

Date Format - Adjusts how the date is displayed on the RLD.

Reset Button -
- **Enabled** - Sends reset command to the panel for the highest priority event when pressed and the keyswitch is in the unlocked position.
- **Disabled** - Reset button is not displayed to the operator.

Silence Button -
- **Enabled** - Sends signal silence command to the panel when pressed and the keyswitch is in the unlocked position. The button is also used to indicate the signal silence status.
- **Disabled** - Silence button is not displayed to the operator. The status of signal silence is not viewable on the display.

Activation Button -
- **None** - Activation button is not displayed to the operator.
- **Drill** - Sends drill command to the panel when pressed and the keyswitch is in the unlocked position. Additional popup menu is displayed to confirm the selection before sending the event to the panel.
- **Alarm Signal ON** - Sends signal to the panel to turn ON the control module mapped in the attached N16 or NCD. The installer must physically wire or connect a relay module to the input of a monitor module. The monitor module will be configured as a "Track Alarm" monitor module that will create the Fire Alarm Event. The panel should go into a fire alarm condition when the monitor module becomes active.

Note: The RLD display can be configured to support Drill or Alarm Signal ON. Drill and Alarm Signal ON are mutually exclusive on the RLD due to the limited space on the display.

Piezo Sound For Touch Screen Contact - Audible chirp when touching the display and the key switch is in the unlocked position.

Local Piezo Setting - Audible patterns for unacknowledged event conditions.
- Fire alarm - Steady
- MNS alarm - Steady (future use)
- CO alarm - 2Hz
- Supervisory - 1Hz
- Security - 8Hz
- Trouble - 1Hz
- Disable - 1Hz
- Pre-alarm - 2Hz

Ack Button -
- **Enabled** - Sends acknowledge (ACK) command to the panel for the highest priority unacknowledged event when pressed and the keyswitch is in the unlocked position.
- **Disabled** - Acknowledge button is not displayed to the operator.

Power Supply Node Address - Enter the NFN node number of the panel that is monitoring the power supply providing power to the RLD. An AC Fail event from this node will indicate that the RLD is operating on secondary power, and enter power save mode if enabled.

PMB Power Supply Enabled - Select this box if the power supply node address is an NCD or N16 with an addressable power main board (PMB).

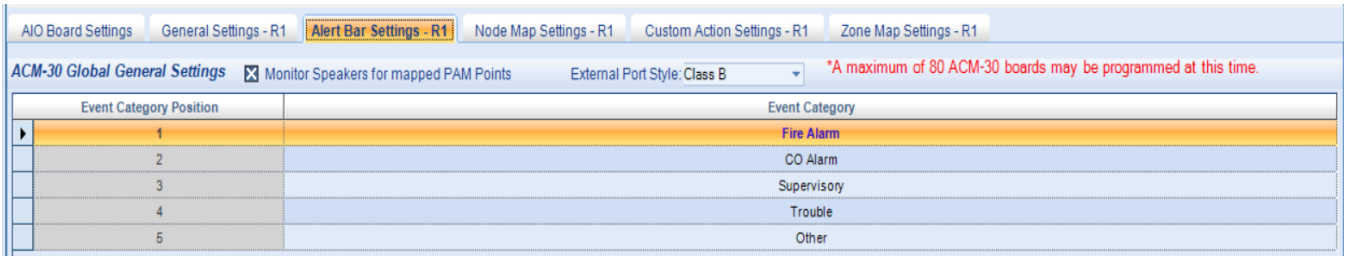
PMB Address - Provide the specific address of the PMB that is providing power to the RLD for appropriate operation for power save and power indication.

Releasing Zone Mapping - Enter the releasing zone address to be mapped for display in the critical-information area above the events list.

NOTE: Canada Only. If attached N16 or NCD is configured for View by Zone, then leave the releasing zone address blank. The Releasing Zone status display takes up a line on the RLD and it will only display 7 zones at a time and is subject to AHJ approval.

3.2.3 Alert Bar Settings for RLD

Select the 5 event categories to be displayed on the alert bar of this RLD. First position must be Fire Alarm. Last position must be Other. Events in categories not selected will be displayed and counted in the "other" category.

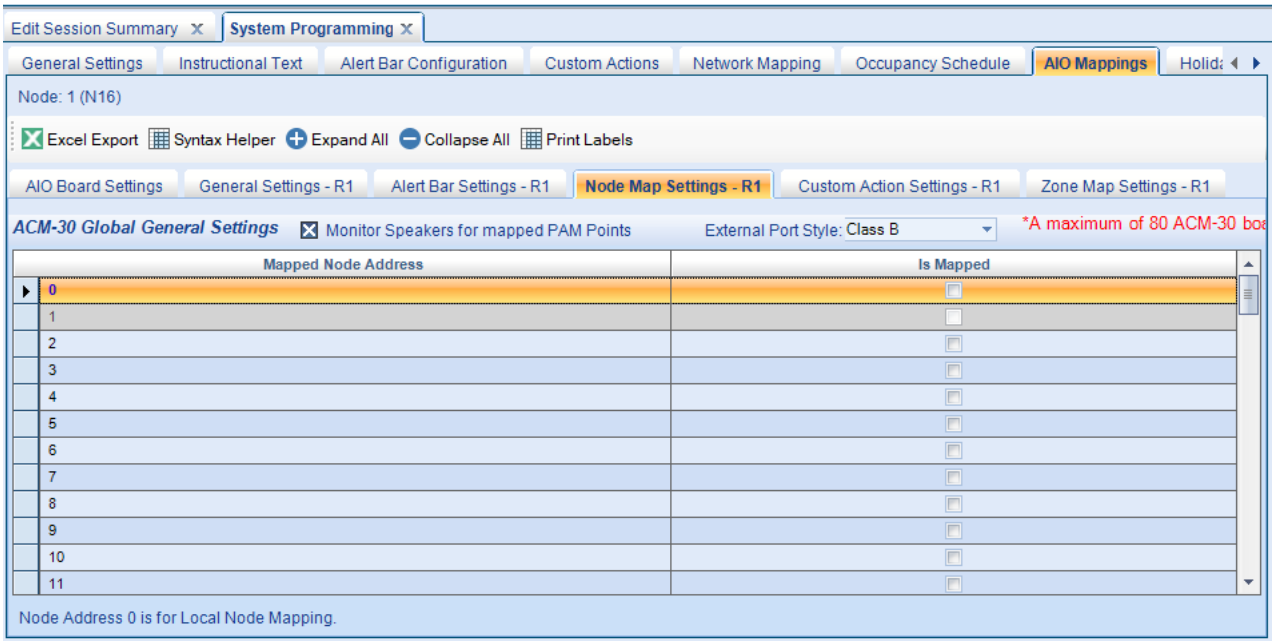


3.2.4 Node Map Settings for RLD

The RLD may be configured to match the NCD/N16 node map or to operate with a subset of the NCD/N16 node map for event filtering based on node address. A node cannot be selected that is not selected in the NCD/N16 panel node map. RLD will not show events from nodes not selected.

NOTE: Node 0 must be mapped to the local node, regardless of the network's number for that node.

NOTE: Legacy nodes can be mapped for events.



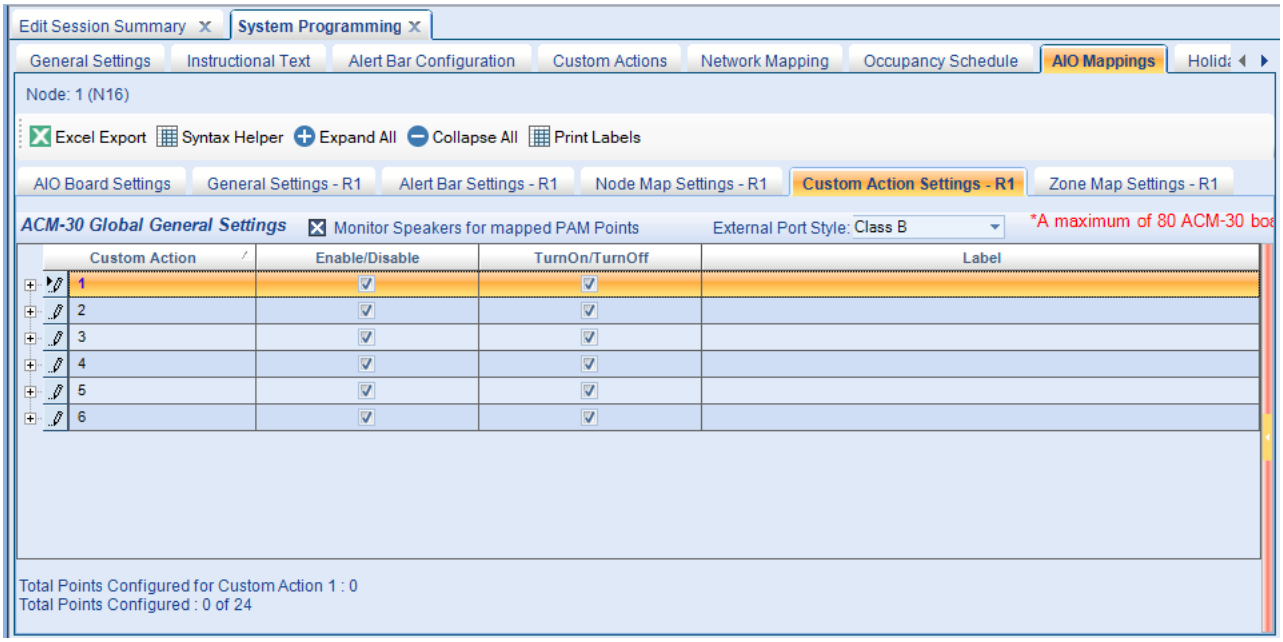
RLDVFT-4NodeMap.png

3.2.5 Custom Action Settings for RLD

Program 6 custom action buttons that will be accessible to operator without panel login.

NOTE: If a Custom Action Button programmed to manually control a life safety function, there must be a visual indicator programmed on an ACM-30 at the main operator to interface, to show the function's status. Life safety functions include Elevator Recall, HVAC Shutdown, etc.

Each button is selectable for the operations of enable/disable and Turn on/Turn off.
The label will be displayed on the RLD next to the buttons.
A maximum of 24 addressable points may be assigned to the 6 custom buttons.
All 24 addressable points can be assigned to a single button.
4 addressable points can be assigned to each of the 6 buttons.
Note: Network points must be in the node map of the RLD/N16 Section 3.2.4, "Node Map Settings for RLD".



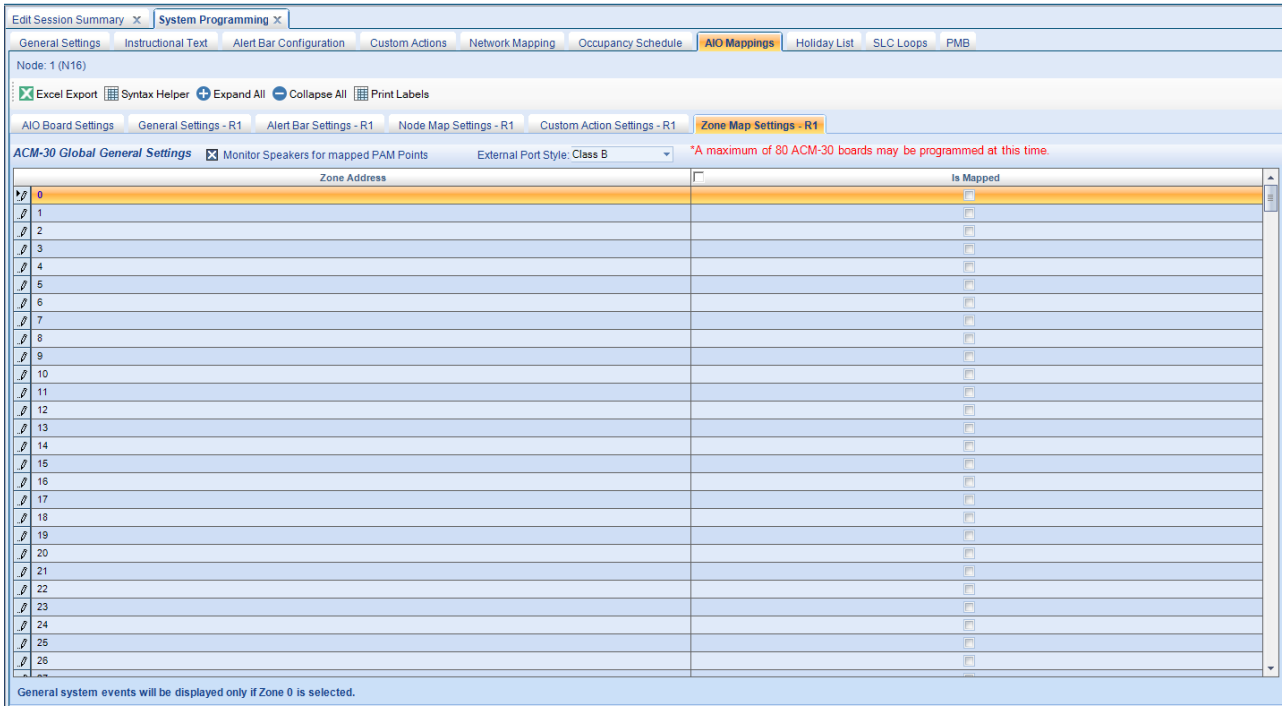
RLDVFT-CustomAction.png

3.2.6 Zone Map Settings for RLD

The RLD may be configured to match the NCD/N16 zone map or to operate with a subset of the NCD/N16 zone map for event filtering based on primary zone assignment.

Zone events can be filtered on one node at a time. If more than one node is mapped, the Zone Map Settings tab is not available.

General system events will be displayed only if Zone 0 is mapped.



RLDVFT-ZoneMap2024.png

3.3 Event Priority

The Event Priority option allows the programmer to configure the control panel features listed next using VeriFire® Tools. To configure the Event Priority with the N16 or NCD panel, select the **General Settings**>**Display Settings**>**Event Ordering**. From the Event Ordering drop-down menu the programmer can select USA or Canada.

The following event priority list is available in the USA:

- FIRE
- CO
- Security
- Supervisory
- Troubles
- Disables

The following event priority list is available in Canada:

- FIRE
- CO
- Supervisory
- Security
- Troubles
- Disables

3.4 LED and Keypad Functions

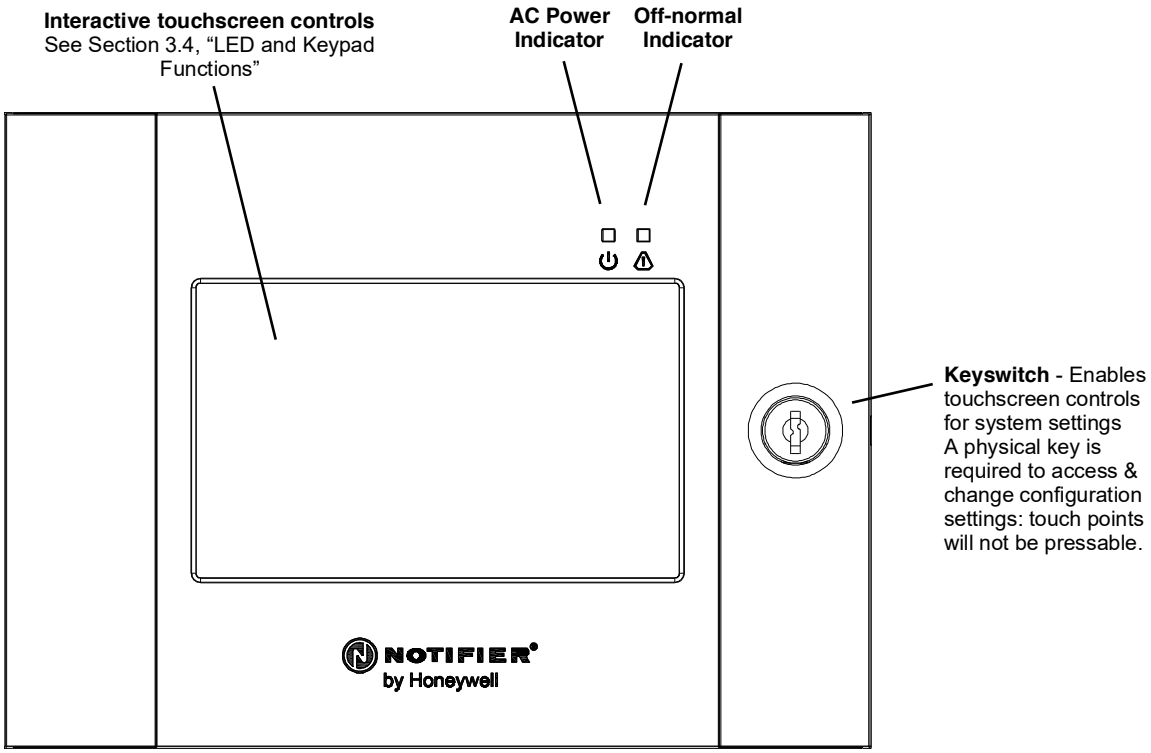
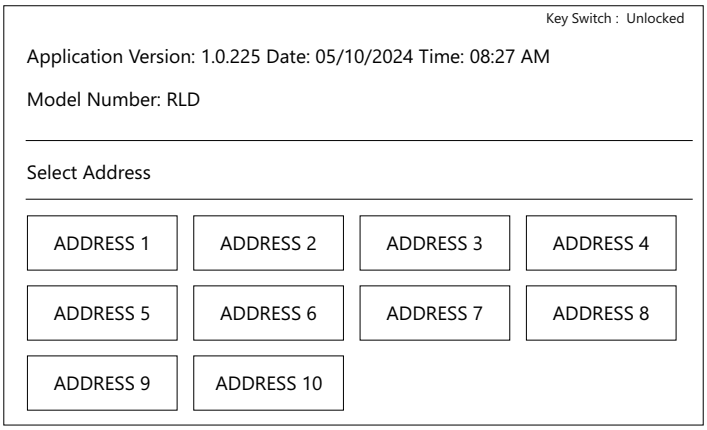


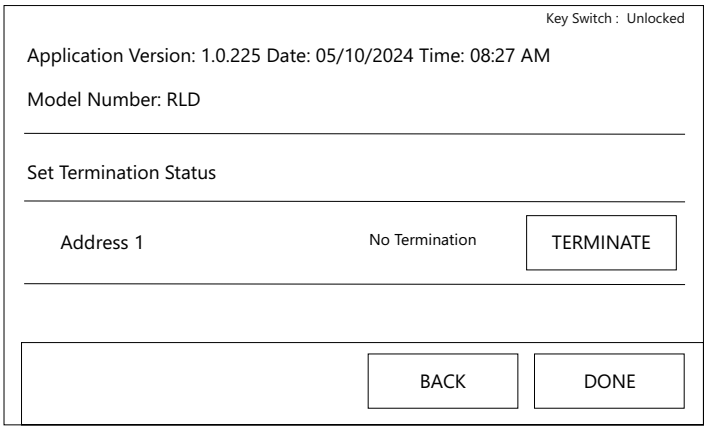
Figure 3.2 External View

3.4.1 System Startup

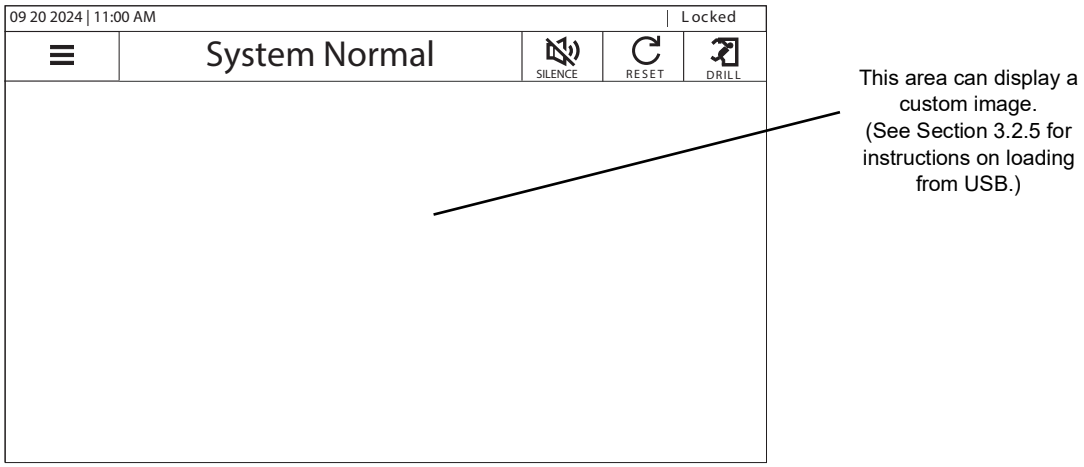
On initial startup, RLD will display annunciator version and model number. Enter the address and termination status for the unit.

1. **Address.** Press the touch point for ADDRESS 1 to ADDRESS 10. The unit will save the information and move to the next screen. Each RLD requires a unique address, and the addressing order is independent of the order in which the units are wired on the bus.
2. **Termination Status.**
   - If this RLD is the final one in the bus, press TERMINATE.
   - Press DONE to initialize the unit.



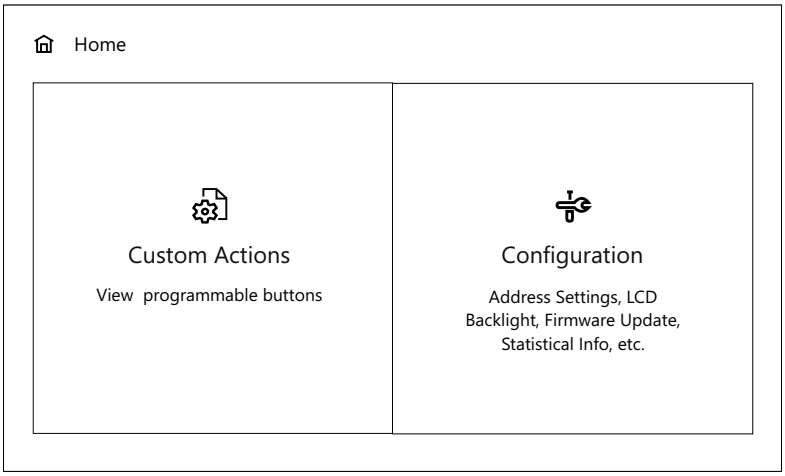


3.4.2 Normal Operations



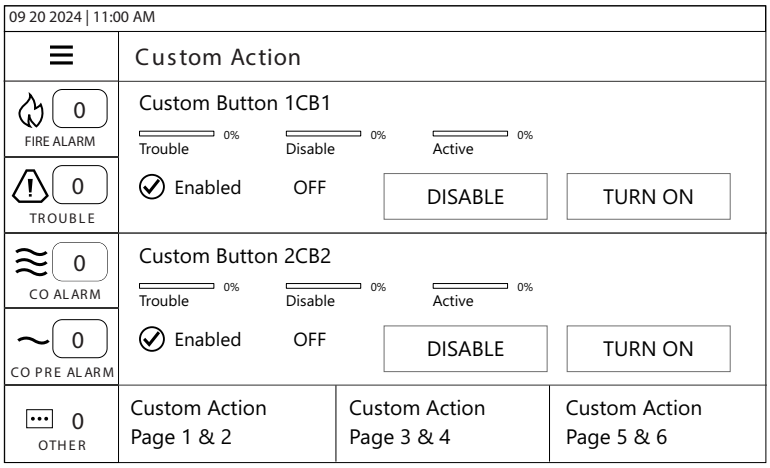
3.4.3 Accessing System Settings

Turn on the keyswitch to access Custom Actions and Configuration.



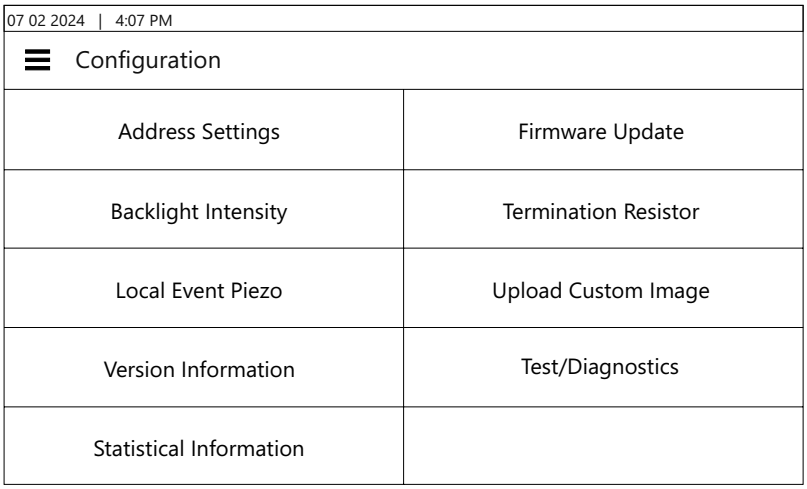
Custom Action Screen

Displays label assigned in VeriFire Tools to represent map points. Disable/enable the custom action buttons from one of three screens, accessed by pressing the touch points at the bottom of the screens.



3.4.4 Configuration Menu

Access address settings, firmware updates, statistical info, and user options.



Address Settings Screen - Press a new address to change this RLD's setting. Updating address will trigger a restart.

Backlight Intensity Screen - Press and hold slider touch point to change screen brightness.

Local Event Piezo Screen- Press to enable or disable local sound. See Section 2.9.2, “Piezo” for interaction with VeriFire Tools programming.

Version Information Screen- Display RLD version information: application, operating system, bootloader, hardware, database, and RLD serial number. Press and hold the slide touch point at right to move up and down for more information.

Statistical Information Screen- Display RLD history: Last restart, messages sent from API, Messages sent from IB2, Messages received by API, Messages received by IB2, Flow control errors, Read overflow prevention errors, CRC errors, Buffer full errors, Out of sync errors, Schema count. Press and hold the slide touch point at right to move up and down for more information.

Firmware Update Screen - Log in at the panel and activate “Service Mode” via panel settings (see panel documentation). Insert USB stick with RLD_fwupdate.zip located in the USB's root directory. **Do NOT unzip the firmware pack.** Press UPDATE to continue. Reboot after successful update.

Termination Resistor - The termination resistor should be activated only for the final RLD on the bus.

Upload Custom Image Screen - Insert image on FAT32 USB drive and press PREVIEW or UPLOAD. (Image formats: JPG, JPEG, or PNG. Image resolution: 800 x 480 pixels)

Test/Diagnostics Screen -

- **Lamp Test** - Screen will light up white for 5 seconds.
- **Export Logs** - Before pressing the touch point, insert a USB drive with at least 15MB free space.
- **Temperature** - Displays circuit board temperature, CPU temperature, and the highest temperature for both since last reset. Press RESET to clear temperature history.

3.4.5 Button Commands Screen

Activation Button -

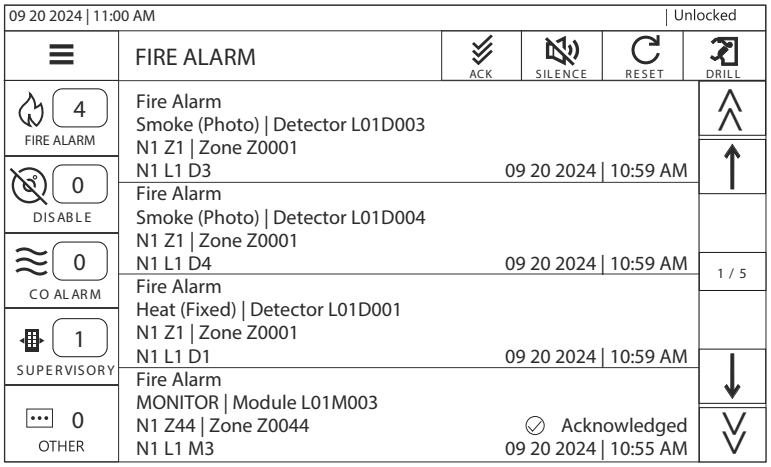
- **Drill** - Sends drill command to the panel when pressed and the keyswitch is in the unlocked position. Additional popup menu is displayed to confirm the selection before sending the event to the panel.
- **Alarm Signal ON** - Sends signal to the panel to turn ON the control module.The installer must physically wire or connect a relay module to the input of a monitor module. The monitor module will be configured as a “Track Alarm” monitor module that will create the Fire Alarm Event. The panel should go into a fire alarm condition when the monitor module becomes active.

Note: The Activation button can be configured as a Drill, Alarm Signal ON, or None button.

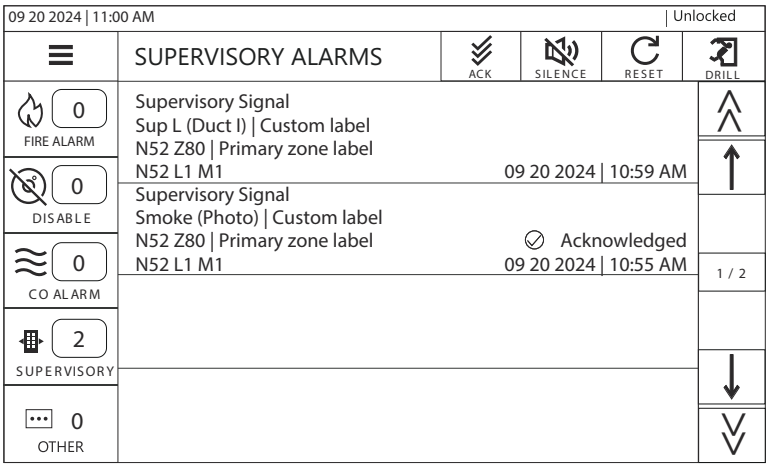
Silence Button - Press SILENCE to set the system to SILENCED. The button background will change from gray to black. If NACs re-energize, button background will change back from black to gray, the button will change from SILENCED to SILENCE, and the button will function to silence NACs every time it is pressed.

3.5 Event Screens

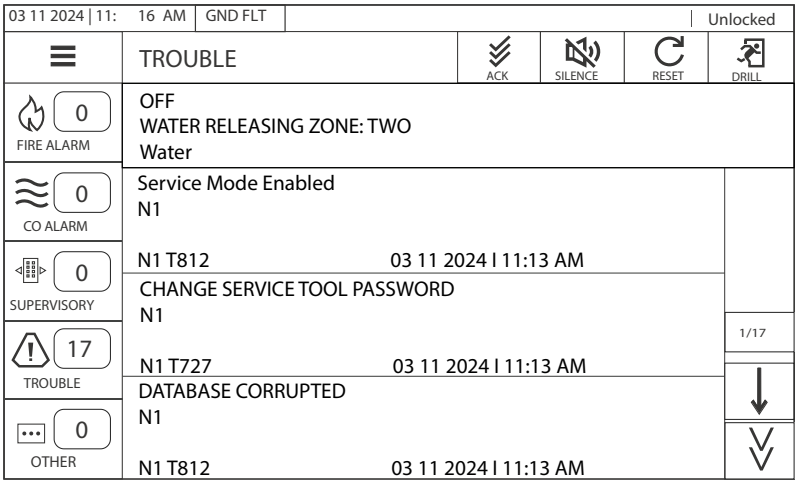
Fire Alarm



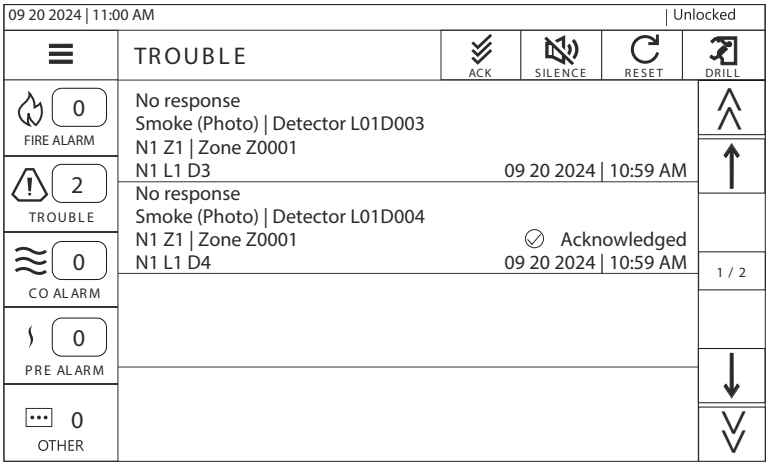
Supervisory Alarm



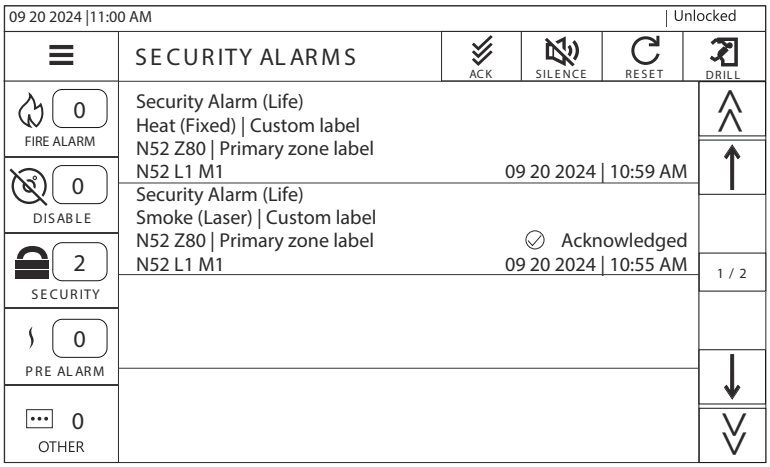
Ground Fault



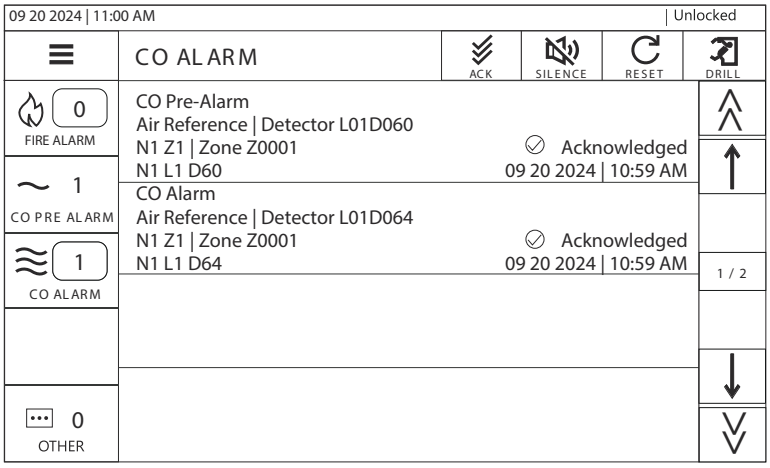
Trouble



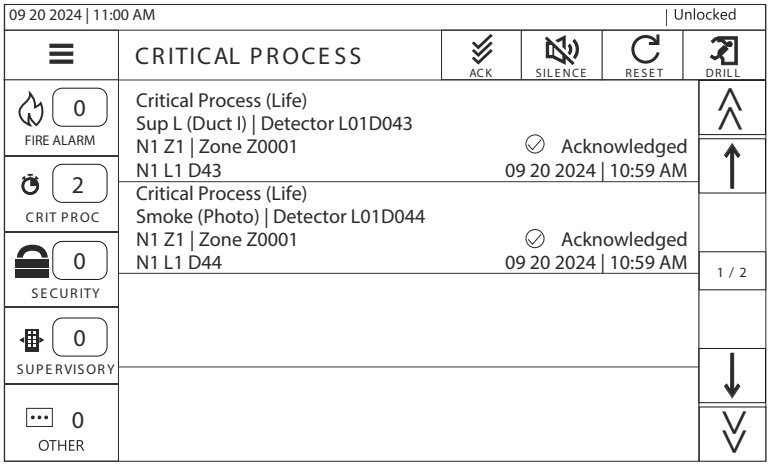
Security Alarms



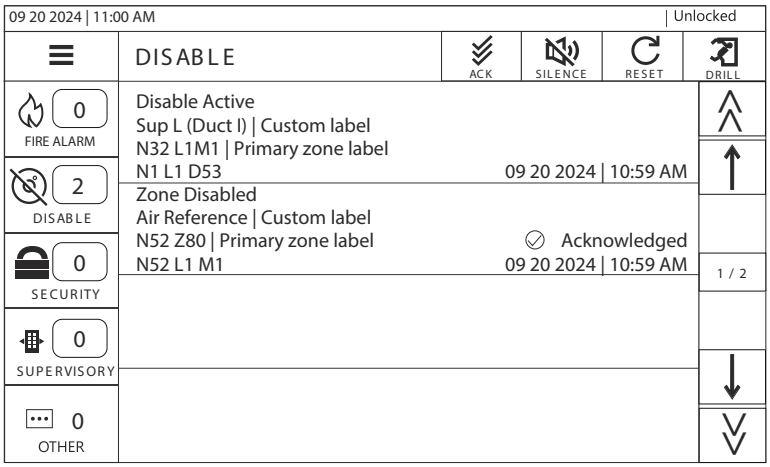
CO Alarm



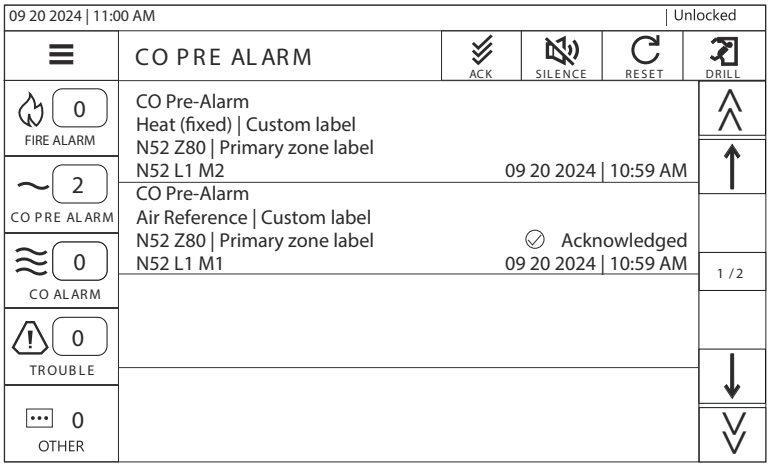
Critical Process



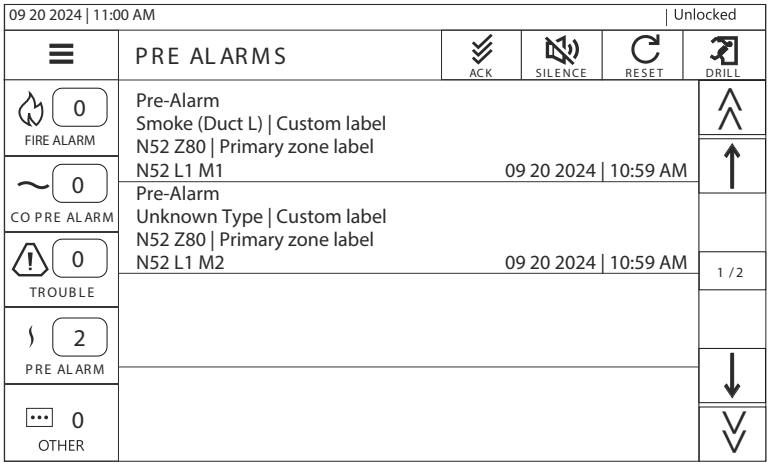
Disable Alarm



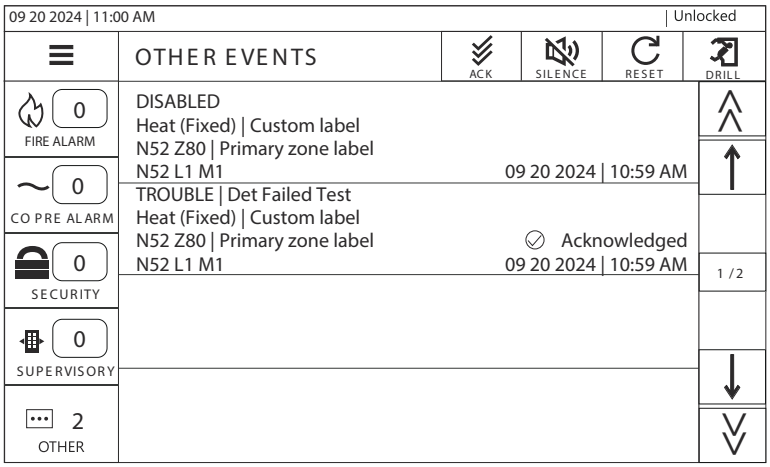
CO-Pre Alarm



Pre Alarm

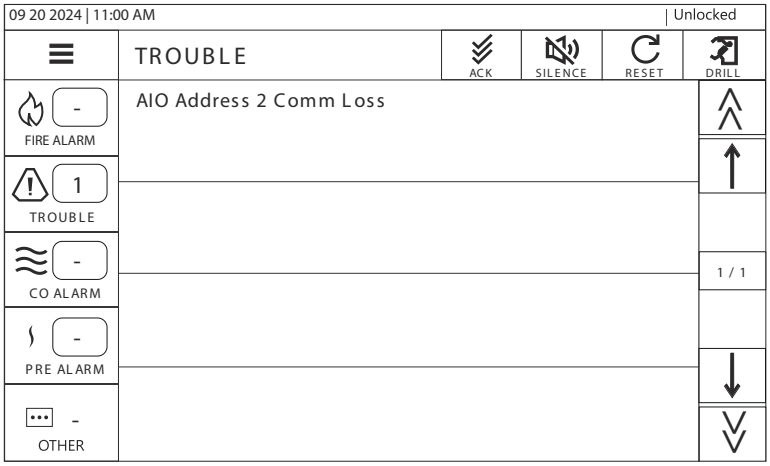


Other Alarm

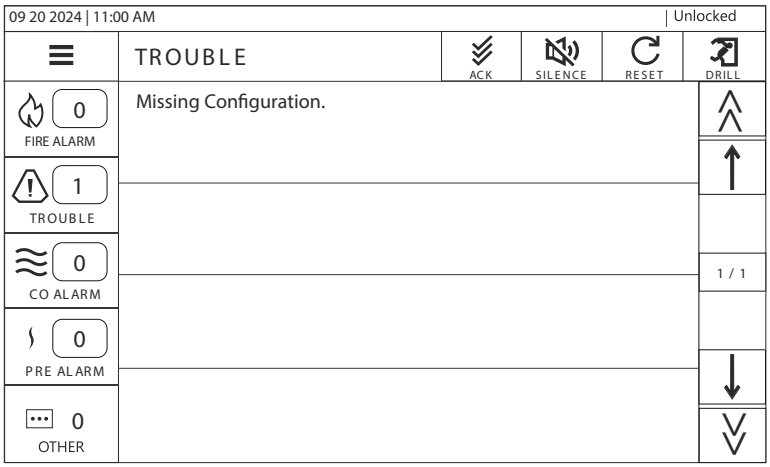


3.5.1 Local Trouble

Offline Trouble

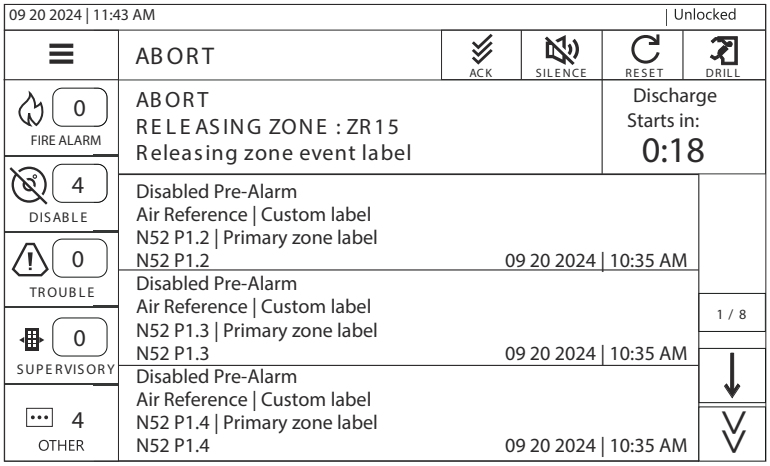


Configuration Trouble

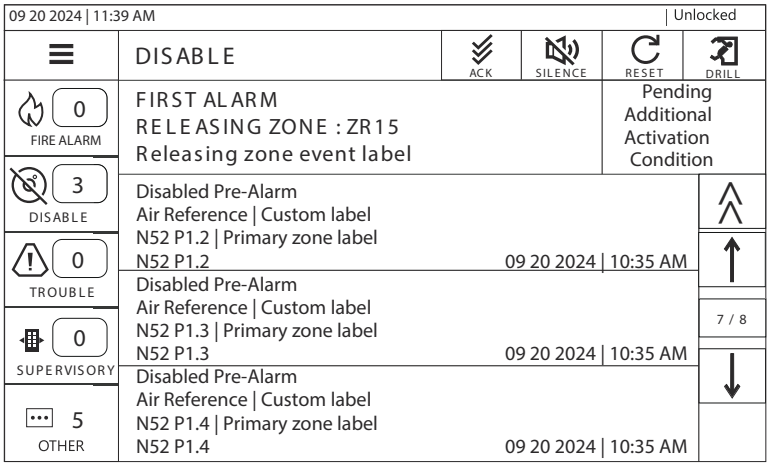


3.5.2 Releasing Feature Screens

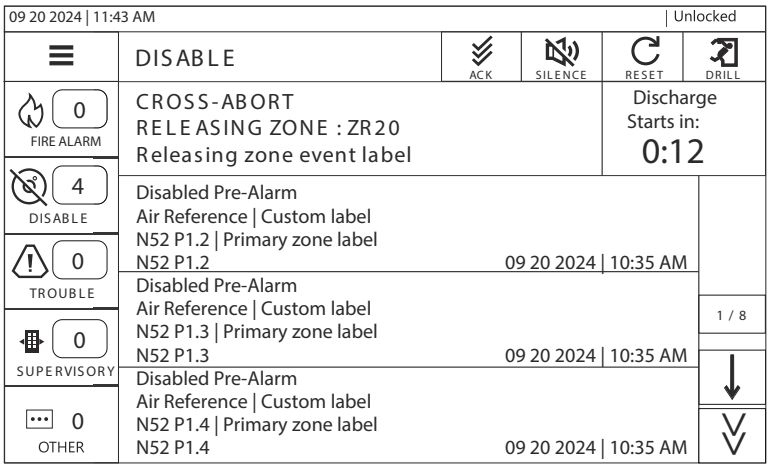
Abort



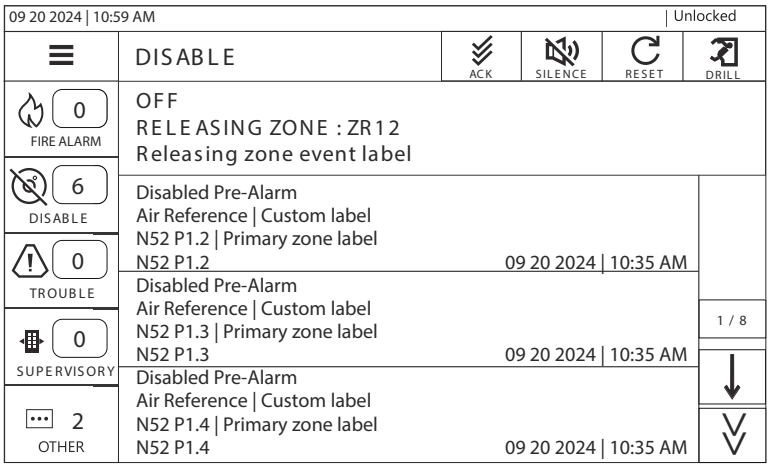
First Alarm



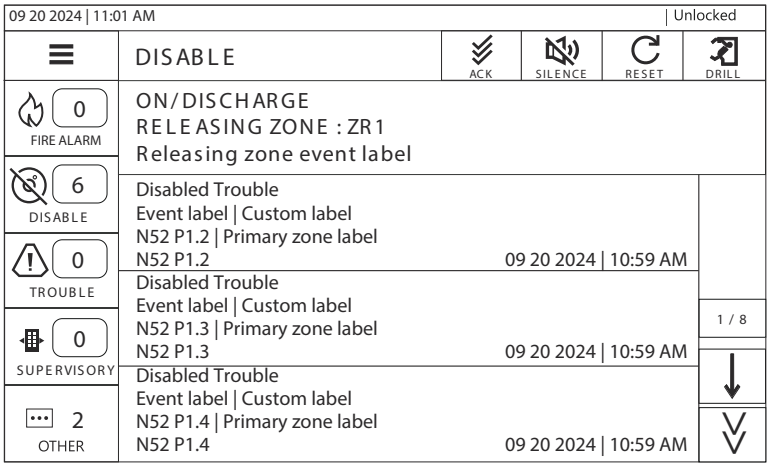
Cross Abort



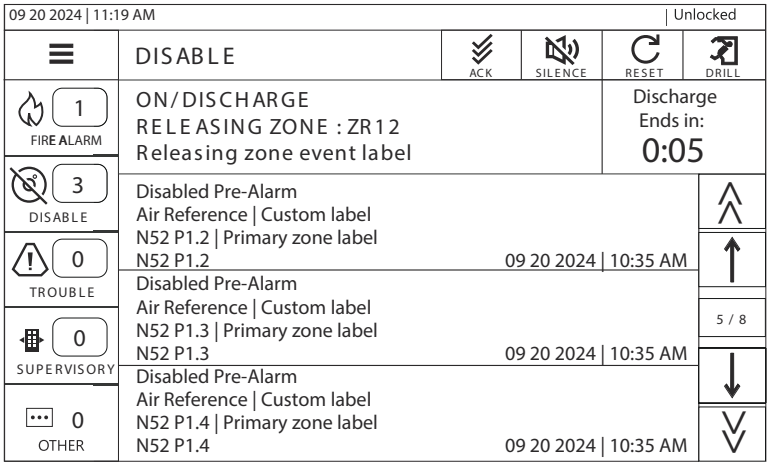
Off-State



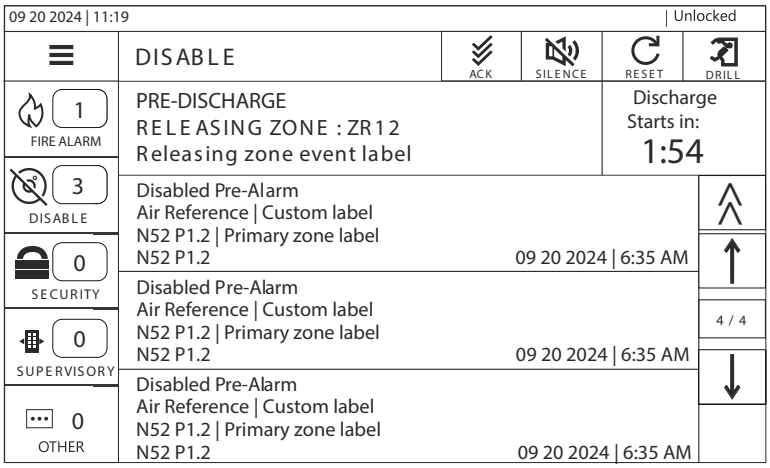
On/Discharge Stop Timer



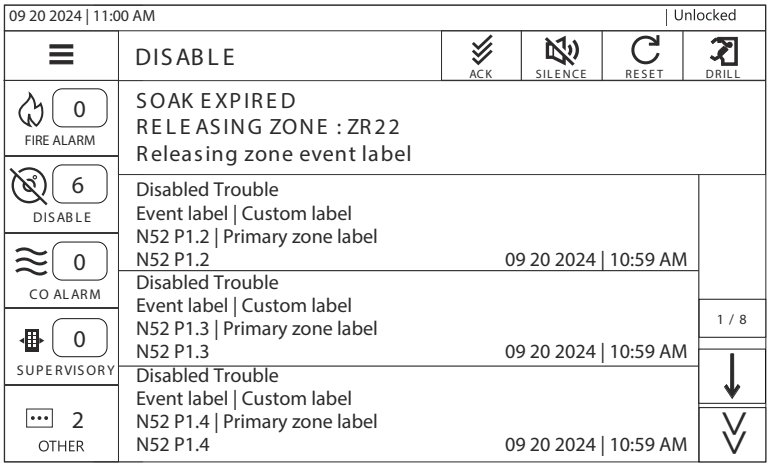
On/Discharge With Timer



Pre-Discharge with Timer



Soak Expired



3.6 Piezo Enable

To enable the piezo, configure RLD for supervision using VeriFire Tools. The switch on the unit is a local disconnect.

Event	Piezo Frequency
Fire Alarm	Steady On
Security	8 Hz
Crit Proc	2 Hz
CO Alarm	2 Hz
CO-Pre Alarm	2 Hz
Supervisory	1 Hz
Trouble	1 Hz
Disable	1 Hz
Pre Alarm	2 Hz
All Other events except above	2 Hz
Non-Fire Activation	
Medical Emergency (Life)	
Maintenance	
Non-Fire Activation No ACK	No Piezo Output

Table 3.1 Piezo Operation for FACP Functions

NOTE: The audible pattern will only be active for unacknowledged events.

3.7 Display and Control Center (DCC)

The purpose of DCC is to ensure that only one location at a time can be used to issue Acknowledge (Ack), Silence, Reset, Drill or Alarm Signal On or Point Control/Disable commands. DCC also allows a user to request, grant or deny control of other nodes based on user approval from controlling node(s).

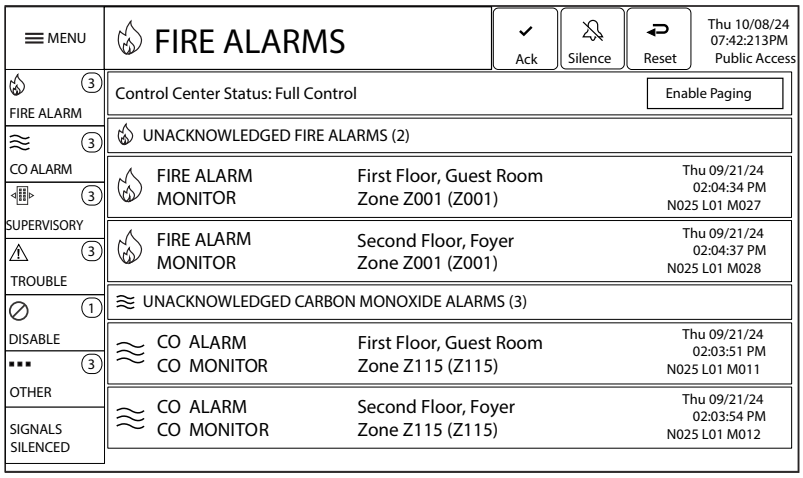
When enabled on a connected NCD or N16, DCC will be automatically enabled on the associated RLD which will then participate with the host panel. DCC should be enabled in Canadian applications, and only disabled subject to Authorities Having Jurisdiction (AHJ) approval.

CAUTION: ON FIRE SYSTEMS UTILIZING THE DCC FUNCTION, ALL LOCATIONS THAT CAN PARTICIPATE IN DCC SHOULD BE SET TO DCC ENABLED.

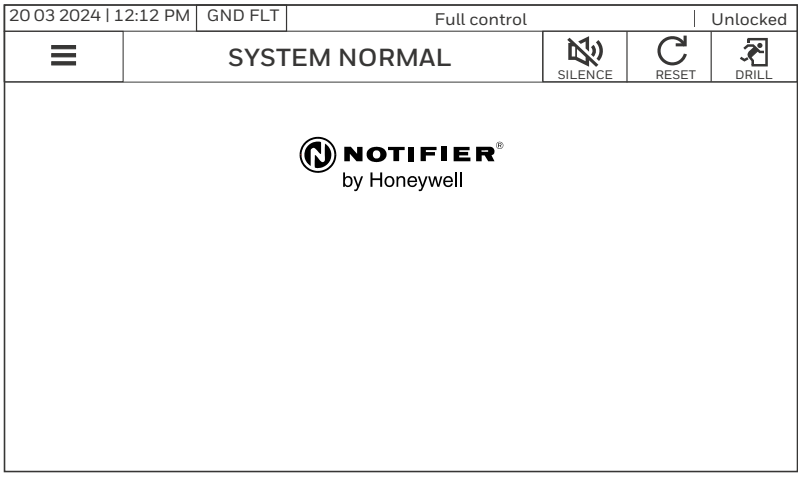
3.7.1 RLD DCC States

NOTE: When DCC is enabled on the panel, the node map of the RLD's should match that of the panel. Mapping to individual zones is not allowed. Any changes made to the node map from the front panel shall be made for all mapped RLD's.

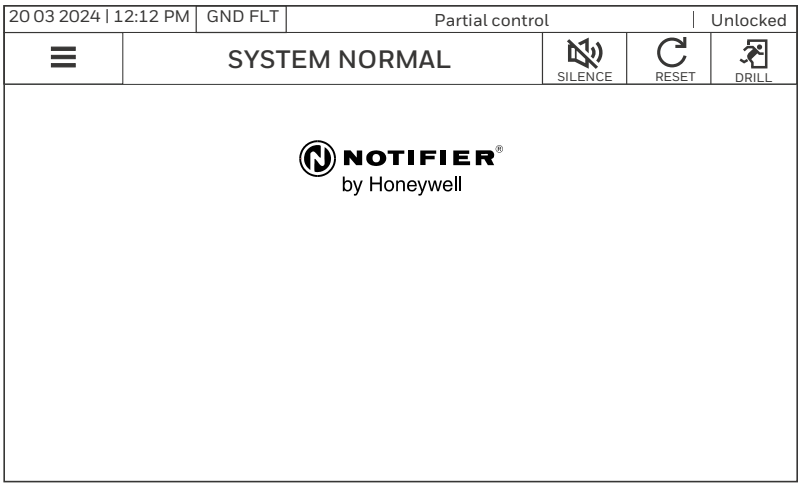
Control Center Status



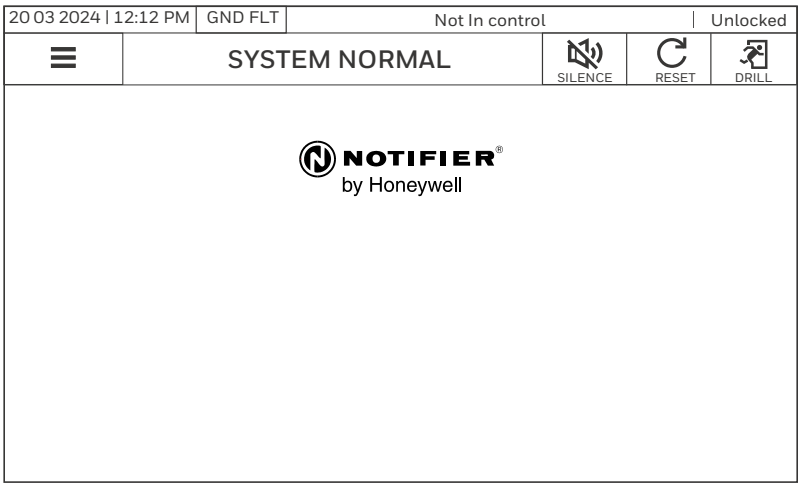
Full Control



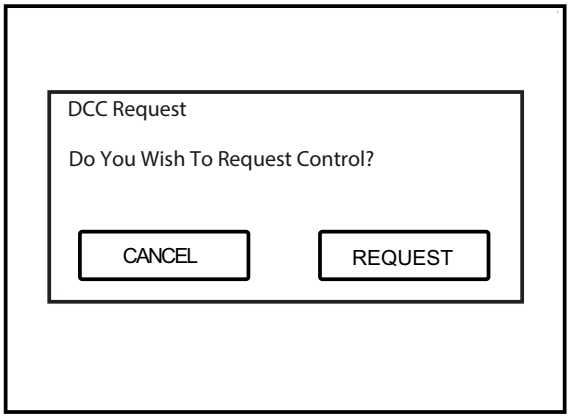
Partial Control



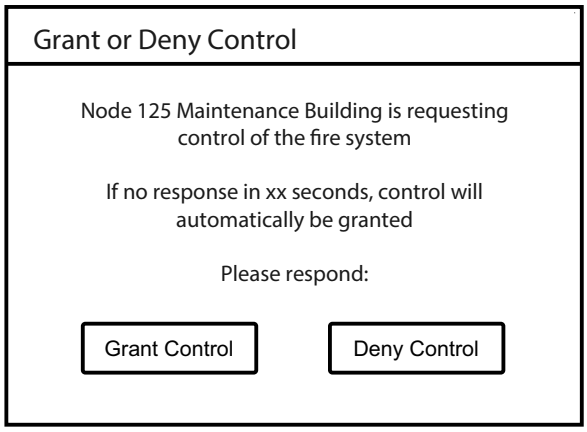
Not in Control



Request Control

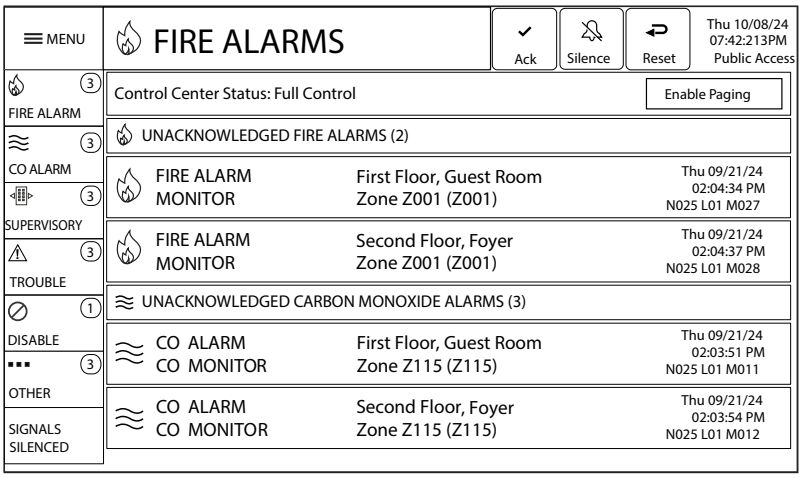


Grant or Deny Control



NOTE: Any denials of control will be recorded in history as long as the timer is running.

Control Center Status



To gain control for paging, use either method below:

- The Enable Paging button on the associated Inspire display.
- An ACM-30 button mapped to control ZF36 on the associated Inspire node.

NOTE: DCC will not block Alter Status using Custom Buttons, FEL expansion, or Menu Tree Navigation.

For more information on DCC operations, refer to the N16 Series Listing Document (LS10239-051NF-E).

3.8 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.

Notes

Notes

Manufacturer Warranties and Limitation of Liability

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