Delayed Egress Exit Alarm Controller

Installation Guide

PN 0510-1023-J
Important Warnings

It is important for your facility to implement and enforce the following WARNINGS in order to keep all equipment functioning properly.

**WARNING**

**INSTALLATION AND CONFIGURATION**—It is the responsibility of the facility to follow the installation instructions carefully, as outlined in the *Series 5.0 Software Administrator Guide*, and to use the components and supplies specified by RF Technologies, Inc. for all installations.

Failure to use the components and supplies specified by RF Technologies, Inc. may result in equipment and/or system failure.

**SYSTEM MAINTENANCE AND TESTING**—It is the responsibility of the facility to establish and facilitate a regular maintenance schedule for your system, as outlined in the *Series 5.0 Software Administrator Guide*. This includes regular inspection, testing, and cleaning. RF Technologies, Inc. recommend monthly maintenance and testing of your system. It is also recommended that your facility keep records of maintenance and test completions.

Failure to provide regular maintenance and testing of these products may result in equipment and/or system failure.

**SYSTEM INSPECTION**—It is the responsibility of the facility to establish and facilitate a regular inspection schedule for your system. RF Technologies, Inc. recommend quarterly inspections of your system for safety and performance by a qualified RF Technologies, Inc. representative.

To arrange for a quarterly inspection by RF Technologies, Inc., call our Technical Support Department at (800)-669-9946 or (262) 790-1771.

Failure to provide regular inspection of these products may result in equipment and/or system failure.

**USER TRAINING**—It is the responsibility of the facility to implement structured training procedures for all employees using the system. Only users who have received adequate training on the use of the system, as outlined in this manual, should use the system.

Failure to adequately train employees may cause system failure due to user error. In addition, incorrect use of the equipment may also result in system failure.

**DISPOSAL**—At the end of their service life the products described in this manual, as well as accessories (i.e. lithium batteries, banding material, disposable pads, etc.), must be disposed of in compliance with all applicable federal, state and local guidelines regulating the disposal of products containing potential environmental contaminants. Dispose of the packaging material by observing the applicable waste control regulations.

**PRODUCT WARRANTIES**—Failure to follow the Warnings and Cautions in this guide voids any and all Product Warranties.
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Contents

Model 60/61 Exit Alarm Controllers ................................. 16
  Exit Alarm Receivers .................................................. 16
  Tamper Switch .......................................................... 17
Model 70/71 Exit Alarm Controllers ................................. 17
  RS-485 Network Connection ........................................... 17
Model 80/81 and Above Exit Alarm Controllers ................. 17
  RS-232 Port .......................................................... 17
Delayed Egress Exit Alarm Controller Wiring Diagram .......... 18
  Left side of EAC ..................................................... 18
  Right side of EAC ................................................... 19

Chapter 3
Configuring Delayed Egress Exit Alarm Controllers  . . . 21

  Setting the Jumpers ................................................... 21
  Default Jumper: Returning to Factory Defaults .................. 23
  Setting the DIP Switches ............................................. 24
  Dip Switch Operations Table ........................................ 25
  Setting the Relay Contacts .......................................... 26

Programing the Feature Configuration Settings .................. 27

  Global Configuration Settings .................................... 28
    Option 1 - Enable Keypad Bypass Ability ...................... 28
    Option 2 - Bypass Time Interval ................................. 29
    Option 4 - Anti-Tailgate Enable ................................ 30
    Option 5 - Change Four Digit Security Code ................. 30
    Option 6 - Change the Four Digit Administration Code ...... 30
    Option 7 - Reed Switch Sense ................................... 31
    Option 10 - Set Volume Level .................................. 31
    Option 11 - Set Alarm Cadence ................................ 32
    Option 15 - Return to Defaults ................................ 32
    Option 17 - Delayed Egress Nuisance Time Delay .......... 33
    Option 18 - Delayed Egress Exit Time Delay ................. 33
    Option 19 - Delayed Egress Wait-Alarm Enable ............. 34
    Option 20 - Delayed Egress Release Alarm Enable .......... 34
    Option 22 - Change Four Digit Visitor Bypass Code ....... 36
    Option 24 - Select Hardware Bypass Mode .................... 36
    Option 25 - Change Four Digit Staff Bypass Code .......... 37
    Option 26 - Enable Manual Roam Mode ......................... 37
    Option 27 - Change the Four Digit Manual Roam Code ...... 38
    Option 29 - Delayed Egress Alarm Reset Mode ............... 38
    Option 30 - Non-Delayed Egress Alarm Door Lock Mode ..... 39
    Option 88 - Test Mode ........................................... 39
    Option 99 - Diagnostic Mode ................................... 40
## Contents

Additional Feature Configuration Settings for Models 60/61 and Above . . . 41
  Option 8 - CodeLock Hold Times ........................................ 41
  Option 9 - Set as Perimeter Alarm ..................................... 41
  Option 12 - Set Antenna/Noise Window .............................. 42
  Option 13 - Antenna Survey ........................................... 42
  Option 16 - Noise Tolerance Setting ................................. 43
  Option 21 - Antenna Jammed Notification ............................ 43

Additional Feature Configuration Settings for Models 80/81 and Above . . . 44
  Option 23 - Visitor Bypass During Lockdown ......................... 44
  Keypad Bypass During Lockdown Ability Matrixes .................... 45
  Option 14 - Active ID Range ......................................... 49

Chapter 4  
Operating the Delayed Egress Exit Alarm Controller . . . 51

  Introduction ............................................................ 51
  Perimeter Mode Operation ............................................ 51
  Normal Operation Mode .............................................. 52
  Bypass Mode .......................................................... 52
  Roam Mode ............................................................ 53
  Alarm Condition ....................................................... 54
  Delayed Egress ....................................................... 55
  Configuration Mode .................................................. 56
  Test Mode ............................................................. 56

Chapter 5  
Delayed Egress Exit Alarm Control Specifications . . . . . . 57

  Specifications ........................................................ 57
  Model 30, 60, 70, 80 NFPA Compliant ............................... 57
  Model 31, 61, 71, 81 ICC Compliant ............................... 59
## Contents

<table>
<thead>
<tr>
<th>Chapter 6</th>
<th>Delayed Egress NFPA Requirements</th>
<th>61</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Fire Protection Agency</td>
<td>61</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 7</th>
<th>Delayed Egress ICC Requirements</th>
<th>63</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delayed Egress ICC Requirements</td>
<td>63</td>
<td></td>
</tr>
</tbody>
</table>
Preface

Overview

The 9450 System monitors doors, elevators, hallways, and stairwells, to assist staff in monitoring patients in a facility. The various transmitters and devices of the system alerts staff if a transmitter's banding material is tampered with, or if certain wires in the system are cut or damaged. An alarm also sounds if a transmitter is detected in an Exit Alarm Zone. If the system fails to detect a transmitter within its monitored area, a Check Transmitter alarm is issued.

Depending on which equipment options your facility has installed, the 9450 System can automatically lock doors and deactivate elevators. In addition, the system sounds an alarm at the Central Server and its network of Client computers when the event occurs. If configured, alarms are also annunciated at remote notification locations (i.e. pagers, walkie-talkie, Quick Look display).

This guide provides detailed information about the Delayed Egress Exit Alarm Controller. The Delayed Egress Exit Alarm Controller is designed and tested to comply with the requirements of NFPA 101 Life Safety Code or International Code Council (ICC) Code for controlling access through a door. It interfaces with an electromagnetic lock that contains a trigger (ajar) switch. This guide provides detailed instructions about installing the Delayed Egress Exit Alarm Controller as well as specific requirements.

WARNING: The 9450 system is designed and intended to work in conjunction with a facility's overall patient security program, including reasonable operating policies and procedures. The 9450 system, by itself, cannot prevent the mismatch, abduction or elopement of patients.

Intended Audience

The Delayed Egress Exit Alarm Controller Installation Guide is intended for users who install and configure the 9450 System. It includes detailed information about the 9450 System, the Delayed Egress Exit Alarm Controller, how to wire the Delayed Egress Exit Alarm Controller to the 9450 System, and the specifications of a Delayed Egress Exit Alarm Controller.
Additional Detailed Documentation

Documentation for the system is available in Portable Document Format (PDF) on the System Documentation CD-ROM. The System Documentation includes the following guides:

- Series 4.x System User Guide
- Series 4.x System Administrator Guide
- Quick Response System Hardware Installation Guide
- Quick Reference Guide for Hospitals
- Quick Reference Guide for Long Term Care
- Delayed Egress Exit Alarm Controller User Guide
- DuoLink Exit Alarm Receiver Installation Guide
- Central Power Supply Installation Guide
- Ethernet and Device Network Installation Guide
- Alarming Band Receiver Installation Guide
- CodeLock Installation Guide(s)
- Quick Look Display and Interface Installation Guide
- Staff Alert Panel Installation Guide
- Omni-318 Antenna Installation Guide
- Infant Transmitter User Guide
- Adult Transmitter User Guide
- Patient Transmitter User Guide
- Model 30 Keypad Installation Guide
- Product Warranty

Contact Information

For more information about RF Technologies, Inc. products, go to www.rft.com. For technical support, contact (800) 669-9946 or (262) 790-1771. For questions or comments about 9450 documentation, contact the RF Technologies Technical Publications team at techpubs@rft.com.

Product Warranty

Product Warranty information can be found on the 9450 System Documentation CD-ROM or with your original system proposal and invoice.
Chapter 1

Installing the Delayed Egress Exit Alarm Controller

Introduction

There are eight models of the Delayed Egress Exit Alarm Controller. Models 30, 60, 70, and 80 comply with NFPA requirements. Models 31, 61, 71, and 81 comply with ICC requirements. For more detailed information about these requirements see Chapter 6, Delayed Egress NFPA Requirements and Chapter 7, Delayed Egress ICC Requirements.

This chapter provides detailed instructions about mounting and installing all eight models of the Delayed Egress Exit Alarm Controller to the 9450 System.

- Models 30/31
- Models 60/61
- Models 70/71
- Models 80/81 and above

Models 30/31 Exit Alarm Controllers

Models 30/31 are the most basic of the Delayed Egress Exit Alarm Controllers and they contain the following key features.

- Delayed Egress Perimeter Alarm
- Staff Alert contacts
- RS-485 Device communication with the Server

The Models 30/31 Delayed Egress Exit Alarm Controllers can be used as a perimeter alarm in order to monitor a door.
Models 60/61 Exit Alarm Controllers

Models 60/61 contain the same features as the Models 30/31 Delayed Egress Exit Alarm Controllers. In addition, they contain Non-ID Transmitter functionality. The Models 60/61 Delayed Egress Exit Alarm Controllers include:

- Delayed Egress Perimeter Alarm
- Staff Alert Contacts
- Non-ID Transmitter functionality

The Models 60/61 Exit Alarm Controllers can be used in a Wanderer Monitoring environment. If a transmitter enters the door area, the door automatically locks. If the door is open and a patient wearing a transmitter enters the door area, the Models 60/61 Exit Alarm Controllers alarm.

NOTE: All tags with the Models 60/61 Exit Alarm Controllers are identical.

Models 70/71 Exit Alarm Controllers

The Models 70/71 Exit Alarm Controllers contain the same functionality as both the Models 30/31 and Models 60/61. They also contain the ability to use RS-485 devices to communicate to the Server.

The Models 70/71 Exit Alarm Controllers contain the following features:

- Delayed Egress Perimeter Alarm
- Staff Alert Contacts
- Non-ID Transmitter functionality
- RS-485 Device communication with the Server

The Models 70/71 Exit Alarm Controllers can be used in a Wanderer Monitoring environment. If a transmitter enters the door area, the door automatically locks. If the door is open, and a patient wearing a transmitter enters the door area, the Model 70/71 Exit Alarm Controllers alarm. In addition, when the door alarms, this information is communicated to the Central Server computer.
Introduction

Model 80/81 and Above Exit Alarm Controllers

The Model 80/81 and above Exit Alarm Controllers are the most extensive models and contain the same features as the 30/31, 60/61, and 70/71 models. Models 80/81 and above also contain the ability to track ID Transmitters.

The Model 80/81 Exit Alarm Controllers and above contain the following features:

- Delayed Egress Alarm
- Staff Alert Contacts
- Non-ID Transmitter functionality
- RS485 Device communication with the Server
- ID Transmitter functionality

The Model 80/81 Exit Alarm Controllers are available with the Infant Security, Wanderer Monitoring, and Patient Monitoring Systems. They contain the Delayed Egress functionality that enables a locked door to be opened during emergency procedures. If the door is held ajar for a period of time, the Delayed Egress releases and issues an alarm.

Mounting the Delayed Egress Exit Alarm Controller

The following steps are used to mount the Model 30/31, 60/61, 70/71, 80/81, and above Delayed Egress Exit Alarm Controllers. The Exit Alarm Controllers receive data from the Exit Alarm Receivers and issue alarms if a patient wearing a transmitter is detected in the Exit Alarm Zone and the door is open.

The Delayed Egress Exit Alarm Controllers contain a keypad that allows authorized staff to reset the system after an alarm. The Delayed Egress Exit Alarm Controllers are the devices that trigger the alarm process for the Central Server and Staff Alert Panel.

WARNING: When mounting the Delayed Egress Exit Alarm Controllers, it is necessary to place the rare earth magnet that is part of the tamper proofing available with the Delayed Egress Exit Alarm Controllers. Failure to do this voids the UL Std. 294 listing.
For more information, see Chapter 2, *Wiring the Delayed Egress Exit Alarm Controller*. For dimensions to use when you mount the Delayed Egress Exit Alarm Controllers see Figure 1.6.

**FIGURE 1.1: Delayed Egress Exit Alarm Controller**

The following table provides descriptions of the LEDs located on the Delayed Egress Exit Alarm Controller.

<table>
<thead>
<tr>
<th>Function</th>
<th>Color of LED</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>Red</td>
<td>Indicates that the Delayed Egress Exit Alarm Controller is operating.</td>
</tr>
<tr>
<td>Signal</td>
<td>Yellow</td>
<td>Indicates that a signal was received from the Exit Alarm Receivers.</td>
</tr>
<tr>
<td>Status</td>
<td>Green</td>
<td>Indicates that the system is in bypass mode. The LED blinks once when the system is reset.</td>
</tr>
</tbody>
</table>
The Delayed Egress Exit Alarm Controller must be located near the area to be monitored, for example on the wall next to a door. The Delayed Egress Exit Alarm Controller is generally mounted 48” from the center of the enclosure to the floor as shown in the figure below; or as needed to comply with local codes or the U.S.A. Americans with Disabilities Act.

![FIGURE 1.2: Delayed Egress Exit Alarm Controller mounted in a double door configuration](image)

**To surface mount the enclosure for the Delayed Egress Exit Alarm Controller**

1. Using an Allen wrench, remove the four screws that hold the faceplate to the enclosure.
2. Remove the faceplate and electronics.
3. Hold the empty surface-mount enclosure against the wall. Use standard installation practices to position and level the enclosure then mark out the four mounting holes at the back of the enclosure.
4. Drill holes where you made the marks.
5. Line up the holes at the back of the enclosure with the newly drilled holes.
6. Using four drywall screws, mount the enclosure to the wall.
   - If the screws do not hit studs, use drywall anchors (not included).
Chapter 1: Installing the Delayed Egress Exit Alarm Controller

7. Place the rare earth magnet in the upper-left corner of the Delayed Egress Exit Alarm Controller enclosure.
   The magnet must be placed 1-1/2” from the inside, top edge of the enclosure and 1/2” from the front edge of the enclosure.

8. Wire per the wiring diagram in Chapter 2, *Wiring the Delayed Egress Exit Alarm Controller*. 

FIGURE 1.3: Rare Earth Magnet placed in Surface Mount Delayed Egress Exit Alarm Controller Enclosure
To flush mount the enclosure for the Delayed Egress Exit Alarm Controller

**WARNING:** When installing product, you must follow standard, accepted safety practices, such as wearing safety glasses.

1. Using an Allen wrench, remove the four screws that hold the faceplate to the enclosure.
2. Remove the faceplate and electronics.
3. Hold the empty enclosure against the wall. Use standard installation practices to position and level the enclosure then mark out the area around the enclosure.

**WARNING:** Before cutting openings or drilling holes through walls, you must verify that you will not strike any wiring or plumbing.

4. Using a drywall hole saw, cut out the area where the enclosure is to be placed.
   - Be sure that the area is only as big as the enclosure or the clamps will not attach securely to the wall.
5. Place the clamps in the enclosure and insert the unit into the wall.
6. Tighten the clamps using the provided screws.
7. Where necessary, mount the enclosure to a wall stud by screwing or nailing the enclosure to the side of the stud through the two holes.

FIGURE 1.4: Flush mounting the Delayed Egress Exit Alarm Controller Enclosure
8. Place the rare earth magnet in the upper-left corner of the enclosure.

The magnet must be placed 1 1/2” from the inside, top-edge of the enclosure and 1 1/4” from the outside edge.

Use the following dimensions to flush mount the Exit Alarm Controller.

NOTE: Figure 1.6 identifies the dimensions of the flush mount box. It is not scaled to size.

FIGURE 1.6: Dimensions for mounting an Delayed Egress Exit Alarm Controller
Chapter 2
Wiring the Delayed Egress Exit Alarm Controller

Introduction

This chapter provides detailed information about wiring the NFPA and ICC Compliant Delayed Egress Exit Alarm Controllers to the 9450 System. Refer to “Delayed Egress Exit Alarm Controller Wiring Diagram” on page 18 for a graphic representation of the wiring involved with the Delayed Egress Exit Alarm Controller.

WARNING: You must verify that the 9450 System's Central Power Supply is OFF before wiring any system components. Failing to do this may result in injury or death.

Model 30/31 Exit Alarm Controllers

The Model 30/31 Exit Alarm Controllers contain the following features.

Door Contact/Reed Switch

The contact input terminals marked “Door In” monitor the state of the exit’s door through a UL Listed Dry Contact switch. Usually, the door switch is configured so that the contacts are closed when the door is closed. This allows for the supervision of the wiring. A UL Listed Door Switch where the contacts are closed when the door is open can be used; however, Configuration Setting 7 must be reprogrammed from its default. When double doors are being monitored, the Normally Closed contacts must be wired in a series. This means that opening either door breaks the circuit. Some installations can require a UL Listed Passive Infrared Detector in place of a switch for monitoring open hallways. 22AWG, 2 or 4 - conductor cable is sufficient for wiring the Door Input contacts.

NOTE: Observe the following wiring diagram when using the Recessed Reed Switch.

Recessed Reed Switch Wiring

For Normally Open (N/O) use Red and White
For Normally Closed (N/C) use Green and White

![Recessed Reed Switch Diagram]
Door Ajar Switch

The contact input terminals labeled "AJAR IN" enable the Delayed Egress Exit Alarm Controller to monitor the exit door's ajar status. This is done through the trigger switch that is integrated into the electromagnetic lock. The trigger switch signals if the door is pushed when it is locked. It also enables the Delayed Egress Exit Alarm Controller to initiate the Delayed Egress function which releases a locked door for emergency egress. The trigger switch input is configured so that the contacts must be closed when the door is completely closed and be open when the door is ajar or open. If the Delayed Egress Exit Alarm Controller is installed in a system that does not include a electromagnetic lock with a trigger switch, the "AJAR IN" terminals must be connected to each other to enable correct operation.

Staff Alert Panel

The Delayed Egress Exit Alarm Controller has two complete sets (NC1/C1/NO1 and NC2/C2/NO2) of relay contacts for signalling alarm conditions to an external Staff Alert Panel.

You must use one of the Normally Closed sets of contacts to allow for supervised alarm status. Any UL listed communication device (buzzers, lights, and cameras) can be used.

Hardware Reset

Contact inputs marked RESET IN are provided to enable a device reboot. The contact inputs are designed to be connected to a UL Listed Normally Open Momentary switch (PN 0140-0007) in order to perform a hardware reboot of the Delayed Egress Exit Alarm Controller. It is acceptable to connect more than one Delayed Egress Exit Alarm Controller's hardware reset inputs together in parallel to a common switch; however, it is necessary to observe consistent polarity of the two input contacts for proper function.

Bypass Switch

The input terminals marked “Bypass In” can be wired to an external UL Listed Normally Open Momentary switch (PN 0140-0007). When the contacts are closed during normal operation, a Bypass cycle is initiated. This allows a patient wearing a Transmitter to pass through the exit without causing an alarm. If the Delayed Egress Exit Alarm Controller is in alarm when the contacts are closed, the alarm condition is cleared and a Bypass cycle is initiated depending on how Configuration Setting 3 is configured.

The Delayed Egress Exit Alarm Controller is configured to operate in Perimeter Mode, closing the Bypass contacts initiates a Bypass cycle, allowing the door to be open without causing an alarm. 22AWG, 2 or 4-conductor cable is sufficient for wiring the Bypass Switch input contacts. Using configuration setting 24, you can select either Staff Bypass Mode or Visitor Bypass Mode in this case.
Introduction

CodeLock Relay Outputs

The Delayed Egress Exit Alarm Controller has two complete sets (NC3/C3/NO3 and NC4/C4/NO4) of relay contacts for controlling an external UL Listed Electromagnetic door lock. Under normal operating conditions, the CodeLock relay is activated when a patient wearing a Transmitter is detected in proximity to the controlled exit. The Exit Alarm Control is operating in Perimeter Mode, the CodeLock Relay is always activated, unless a Bypass Cycle is active. The Normally Open and Normally Closed labels on the relay contacts refer to the state of the contacts when the Delayed Egress Exit Alarm Controller CodeLock relay is activated. Normally, a C and NC set of CodeLock contacts are wired between the CodeLock and the Central Power Supply inline with the power wiring. Any UL listed communication device (buzzers, lights, and cameras) can be used.

Exit Alarm Power

In a computer based system, power to the Delayed Egress Exit Alarm Controller must be supplied by a 15V DC Central Power Supply. In a stand-alone system, power to the Delayed Egress Exit Alarm Controller may be supplied by a plug-in transformer. Several 9450 System devices can use common power wiring within the limit of the current limits of the Central Power Supply circuits and wiring. It is important to be consistent in the polarity of the power wiring throughout the entire 9450 System installation.

For power, the wiring runs up to 50 feet, 18 AWG 2-conductor cable is sufficient. For power wiring runs up to 250', 16AWG 2-conductor cable is required. Use the following table to make the power connections.

<table>
<thead>
<tr>
<th>Color</th>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Central Power Supply + Power to Delayed Egress Exit Alarm Controller + Power</td>
</tr>
<tr>
<td>Black</td>
<td>Central Power Supply - Power to Delayed Egress Exit Alarm Controller - Power</td>
</tr>
</tbody>
</table>

Tamper Switch

If the Delayed Egress Exit Alarm Controller is being used exclusively in Perimeter Mode without any Exit Alarm Receivers (Model 30), make the following connections and perform an Antenna Survey in order to activate the Anti-Tamper feature.

- Delayed Egress Exit Alarm Controller Antenna 1 GND to one side of the tamper switch
- Exit Alarm Antenna 1 SENSE to the other side of the tamper switch
- Delayed Egress Exit Alarm Controller Antenna 1 Data to Delayed Egress Exit Alarm Controller Antenna 2 SENSE
Place the tamper switch in the upper right corner on the Delayed Egress Exit Alarm Controller Printed Circuit Board as shown in Figure 2.1. To wire the tamper switch, see the “Delayed Egress Exit Alarm Controller Wiring Diagram” on page 18.

Model 60/61 Exit Alarm Controllers

In addition to all of the previous features, the Model 60/61 Delayed Egress Exit Alarm Controllers also contain the Exit Alarm Receiver feature.

Exit Alarm Receivers

Four sets of terminals are provided to wire the Exit Alarm Receivers. The Exit Alarm Receivers are used to detect the presence of a patient wearing a Transmitter in the proximity of the controlled exit.

- White: Delayed Egress Exit Alarm Controller Data to Exit Alarm Receiver Data
- Black: Delayed Egress Exit Alarm Controller GND to Exit Alarm Receiver GND
- Green: Delayed Egress Exit Alarm Controller SENSE to Exit Alarm Receiver GND
- Red: Delayed Egress Exit Alarm Controller +12V to Exit Alarm Receiver +12V
Tamper Switch

One of the Exit Alarm Receiver contact sets requires that it be wired to the included UL Listed Magnetic Reed Switch for the purpose of tamper detection on the Delayed Egress Exit Alarm Controller enclosure. The Reed Switch is a Normally Open contact that closes when the Delayed Egress Exit Alarm Controller is installed correctly. After the Delayed Egress Exit Alarm Controller is wired, installed, and screwed shut properly; you must perform an Antenna Survey (Configuration Setting 3) in order to register the Exit Alarm Receiver configuration and activate the Anti-Tamper Alarm feature. When the Anti-Tamper Alarm feature is active and the enclosure is open, an Antenna Alarm is signaled on the Delayed Egress Exit Alarm Controller.

In a normal configuration where the Delayed Egress Exit Alarm Controller is connected to at least one Exit Alarm Receiver, the tamper switch must be inserted inline with one of the Delayed Egress Exit Alarm Controller Antenna’s SENSE connections which is connected to a Receiver. When the wiring is completed, you must perform an Antenna Survey in order to activate the Anti-Tamper Alarm feature.

Model 70/71 Exit Alarm Controllers

In addition to all of the previous features, the Model 70/71 Exit Alarm Controllers also contain the RS-485 Network Connection feature. These Exit Alarm Controllers support Adult Non-ID Transmitters only.

RS-485 Network Connection

The RS-485 Network Connection communicate alarms, status, and commands to the Central Server. Up to 31 9450 devices can share a common RS-485 network. Each 9450 System device on the network must have a unique network address. Each network requires a single resistor termination at the last device of the network to ensure proper communications. The other devices in the network must be configured without the termination resistor inserted. Refer Chapter 3, Configuring Delayed Egress Exit Alarm Controllers for details about setting the RS-485 termination. Refer to the 9450 System Guide for applicable RS-485 wiring scheme.

Model 80/81 and Above Exit Alarm Controllers

In addition to all of the previous features, the Model 80/81 and above Exit Alarm Controllers also contain the RS-232 Port Connection feature. These Exit Alarm Controllers support all Transmitters, this includes Adult, Infant, Patient, ID, and Non-ID Transmitters.

RS-232 Port

A serial RS-232 port is provided on the Delayed Egress Exit Alarm Controller through TB14. Refer to the Installation Guide of the pertinent UL Listed device for complete wiring specifications. RS-232 devices can include access control devices such as a proximity card reader or magnetic card reader.
Delayed Egress Exit Alarm Controller Wiring Diagram

Left side of EAC

NOTE: Wiring a CodeLock to an EAC will vary depending on the lock. Please refer to the applicable CodeLock installation guide for proper wiring instructions:
- CodeLock 600 Lb Electromagnetic Door Lock Installation Guide (PN 0510-1038)
- 1500 Lb CodeLock Electromagnetic Door Lock Installation Guide (PN 0510-1039)

NOTE: If the Delayed Egress Exit Alarm Controller is installed in a system that does not include a electromagnetic lock with a trigger switch, the “AJAR IN” terminals must be connected to each other to enable correct operation.
Right side of EAC

FIGURE 2.3: Delayed Egress Exit Alarm Controller Wiring Diagram (right side of EAC)

NOTE: Wiring a receiver to an EAC will vary depending on the receiver. Please refer to the applicable receiver installation guide for proper wiring instructions.

- Dual Frequency Exit Alarm Receiver Installation Guide (PN 0510-1040)
- DuoLink Exit Alarm Receiver Installation Guide (PN 0510-1041)
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Chapter 3

Configuring Delayed Egress Exit Alarm Controllers

Setting the Jumpers

The jumper JP1 is used to provide termination to the RS-485 network wiring. Use the TERM (left) position to add the 120 ohm terminating resistor across the A and B RS-485 connections. The default position of JP1 is the unterminated (right) position in which the resistor is not added across the connections.

The Delayed Egress Exit Alarm Controller can be configured to provide 12V DC power and/or ground to external devices for optional wiring connections. This is accomplished using the two jumpers, labeled JP2, which corresponds to Staff Alert contact C1, and JP3, which corresponds to Staff Alert contact C2.

The jumper JP4 is used to return all of the Delayed Egress Exit Alarm Controller's programmable configuration parameters to their factory default settings. Refer to “Programming the Feature Configuration Settings” on page 27 for details about these settings. The position of jumper JP4 is read during the unit’s power-up/reset cycle. If the jumper JP4 is in the Default (upper) position during the power-up/reset cycle, then the programmable configuration parameters are reset to their default settings. In order to utilize this jumper, you must make sure power is switched off, move the jumper JP4 moved to its Default (upper) position, then switch the power on, wait a few seconds, switch power off, move jumper JP4 to its unmarked (lower) position, then switch the power to the unit back on.
Use the following to determine the jumper settings on each Delayed Egress Exit Alarm Controller’s circuit board.

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Jumper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factory Default Settings</td>
<td>JP1 set to unterminated</td>
</tr>
<tr>
<td></td>
<td>JP2 set to DRY</td>
</tr>
<tr>
<td></td>
<td>JP3 set to DRY</td>
</tr>
<tr>
<td></td>
<td>JP4 set to lower position</td>
</tr>
<tr>
<td>Terminate the RS-485</td>
<td>JP1 set to TERM</td>
</tr>
<tr>
<td>Connect 12+V to C1</td>
<td>JP2 set to +12V</td>
</tr>
<tr>
<td>Connect GND to C2</td>
<td>JP3 set to GND</td>
</tr>
</tbody>
</table>
Default Jumper: Returning to Factory Defaults

The Default Jumper, JP4, is used to return all of the feature configuration settings to the factory defaults. In addition, an Antenna Survey (Option 13 above) is accomplished simultaneously. This feature allows the Delayed Egress Exit Alarm Controller to be returned to the factory configuration without the need for using Option 15 described above, which requires use of the Administration Code.

NOTE: Although an Antenna Survey is accomplished when the Delayed Egress Exit Alarm Controller Default Jumper is used in this manner, it is still necessary to perform an Antenna Survey through the front keypad due to the function of the Anti-Tamper switch.

To return to the factory defaults

1. Turn the Delayed Egress Exit Alarm Controller Power switch to OFF.
2. Set Default Jumper JP4 to upper “default” position.
3. Turn the Delayed Egress Exit Alarm Controller Power switch to ON and wait several seconds.
4. Turn Delayed Egress Exit Alarm Controller Power switch to OFF.
5. Set Default Jumper JP4 to the lower position.
6. Turn Exit Alarm Power switch to ON.
### Setting the DIP Switches

**NOTE:** This option is only available with the 70/71 and 80/81 Models of the Delayed Egress Exit Alarm Controller.

Set the DIP switches on the Delayed Egress Exit Alarm Controller circuit board to assign a network address to each Controller in a RS-485 network. The 9450 System supports up to 31 devices on each RS-485 network.

The valid range of network addresses for each device on a subnet is 1-31; there are not any switch settings to distinguish networks from each other since separate wiring connections exist on the Central Server for each network. Refer to the “Dip Switch Operations Table” on page 25 for DIP Switch positions. Write the number of the device address and adhere it to the Delayed Egress Exit Alarm Controller. In addition, record the location and address of each device on the floor plan of your facility so that it can be entered into the software database.

![Delayed Egress Exit Alarm Controller Board](image)

Set the RS-485 network address for a device according to the following table. Switches 4-8 set the network subnet address for the device; switches 1-3 are not used. 1 = Switch ON  0 = Switch OFF
## Dip Switch Operations Table

<table>
<thead>
<tr>
<th>ADDRESS</th>
<th>SW4</th>
<th>SW5</th>
<th>SW6</th>
<th>SW7</th>
<th>SW8</th>
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</tr>
</tbody>
</table>
Chapter 3: Configuring Delayed Egress Exit Alarm Controllers

Setting the Relay Contacts

The Delayed Egress Exit Alarm Controller has four sets of relay contacts for signaling to external devices. Two sets of contacts are designed for connection to a Staff Alert panel; the relay changes state during alarms for signaling the alarm. The first set of contacts are marked NC1, C1 and NO1; the second set of contacts are marked NC2, C2 and NO2. The C1 and C2 contacts are the common contacts for each set. The NC1 and NC2 contacts are Normally Closed (NC) during normal operation of the Delayed Egress Exit Alarm Controller. The NO1 and NO2 contacts are Normally Open (NO) during normal operation of the Delayed Egress Exit Alarm Controller. When the unit is unpowered or in alarm condition, the NC contacts are open and the NO contacts are closed.

Two sets of relay contacts are designed for connection to CodeLock door locks; the relay changes state when the Delayed Egress Exit Alarm Controller determines that the door must be locked. The first set of contacts are marked NC3, C3 and NO3; the second set of contacts are marked NC4, C4, and NO4. The C3 and C4 contacts are the common contacts for each set. The NC3 and NC4 contacts are closed when the door must be locked. The NO3 and NO4 contacts are open when the door must be locked. When the unit is unpowered or when the door must be unlocked, the NC contacts are open and the NO contacts are closed.
Programming the Feature Configuration Settings

When you configure the Delayed Egress Exit Alarm Controller, you can program multiple configuration settings using the keypad. During programming, the LEDs indicate that you have entered the programming mode and whether the system configuration changes are a success or a failure. Some of the configuration settings include Set as Perimeter Alarm and Set Antenna/Noise Window. The following section provides details on how to program each configuration setting.

To enter programming mode

1. Enter **.

   The green LED light flashes and the red LED light goes out. This indicates that you have successfully entered programming mode.

2. Enter the four digits of your administration code.

   The default administration code is 9450. After you enter the correct administration code, the green LED light flashes.

3. Then enter option number and setting.

   The green LED light flashes when you enter a correct feature.

   After you enter a correct option, the green LED flashes twice indicating that the information was accepted and you are no longer in programming mode. If you enter an incorrect key sequence, the red LED light blinks twice and the programming mode is terminated. Programming options are stored in non-volatile memory, which does not lose its content when power is interrupted.

WARNING: If the Delayed Egress Exit Alarm Controller’s Roam and/or Perimeter unlockdown timers are enabled on the computer, those times will override any Perimeter and/or Roam modes configured through the keypad.

To clear keypad input

- Enter # at any time to clear the keypad input and exit the programming mode without making changes.

- Programming Mode times out automatically when an entry is not made within 10 seconds.
Global Configuration Settings

The following configuration settings are available on ALL models of the Delayed Egress Exit Alarm Controller.

Option 1 - Enable Keypad Bypass Ability

The Enable Bypass Ability configuration setting determines whether a Delayed Egress Exit Alarm Controller enables individuals to enter bypass codes on the keypad to transport a patient through a specified door. The Enable Bypass Ability configuration setting does not interfere with the ability to clear an alarm using a security code. In addition, it does not interfere with the bypass switch input. In Staff Bypass Mode, if a Transmitter is in the Exit Alarm Zone when the door is open, an alarm IS NOT sounded. In Visitor Bypass Mode, if a Transmitter is in the Exit Alarm Zone when the door is open an alarm is sounded.

To enable bypass ability

1. Enter the programming mode.
2. On the keypad, press 01 to access the Bypass Ability configuration setting.
3. Enter one of the following Bypass options:
   - 0 - Staff Bypass and Visitor Bypass Modes disabled
   - 1 - Staff Bypass mode enabled, Visitor Bypass Mode disabled
   - 2 - Visitor Bypass mode enabled, Staff Bypass Mode disabled
   - 3 - Staff Bypass and Visitor Bypass Modes enabled

The default option for the bypass ability configuration setting is 0 - Staff Bypass and Visitor Bypass Modes disabled.
Option 2 - Bypass Time Interval

The Bypass Time Interval configuration setting configures the amount of time that the Delayed Egress Exit Alarm Controller will stay in bypass mode.

To set the bypass time interval

1. Enter the programming mode.
2. On the keypad, press 02 to select the Bypass Time Interval configuration setting.
3. Enter one of the following time interval options:
   - 1 - 10 seconds
   - 2 - 20 seconds
   - 3 - 30 seconds
   - 4 - 40 seconds
   - 5 - 50 seconds
   - 6 - 60 seconds
   - 7 - 70 seconds
   - 8 - 80 seconds
   - 9 - 90 seconds
   - 0 - 120 seconds

The default option for the Bypass Time Interval configuration setting is 2 - 20 seconds.

Option 3 - Alarm Reset Followed by a Bypass Cycle

When you initiate the normal bypass cycle during an alarm, the alarm is reset; however, a bypass cycle is not initiated. The Alarm Reset Followed by a Bypass Cycle configuration setting enables you to simultaneously reset the alarm and initiate a bypass cycle.

To initiate an alarm reset followed by a bypass cycle

1. Enter the programming mode.
2. On the keypad, press 03 to select the Bypass Cycle Followed by Reset configuration setting.
3. Select 0 for normal reset or select 1 for reset followed by bypass cycle.

The default for this configuration setting is 0 which is a normal bypass.
Option 4 - Anti-Tailgate Enable

The Anti-Tailgate configuration setting is used to prevent another individual from opening the door again without an alarm sounding during a bypass cycle. When the door closes, the bypass ends regardless of the time left when this is enabled.

**NOTE:** Turn off the Anti-Tailgate feature immediately when you are using a UL-Listed Passive Infrared Detector instead of a door contact.

To enable the anti-tailgate setting
1. Enter the programming mode.
2. On the keypad, press 04 to access the Anti-Tailgate configuration setting.
3. Enter 0 to disable or 1 to enable the Anti-Tailgate configuration setting.
   The default option for this configuration setting is 1- Enabled.

Option 5 - Change Four Digit Security Code

You can easily change the four digit security code using this configuration setting. This is the security code for the Delayed Egress Exit Alarm Controller and is used to reset alarms on the Exit Alarm Controller.

To change the four digit security code
1. Enter the programming mode.
2. On the keypad, press 05 to access the Change 4-Digit Security Code configuration setting.
3. Enter the new security code sequence (ABCD).
   The default security code is 1379. The security code must be all numbers. The # and * characters are not valid.

Option 6 - Change the Four Digit Administration Code

You can change the administration code for the Delayed Egress Exit Alarm Controller. The administration code is used to program the Controller.

To change the four digit administration code
1. Enter the programming mode.
2. On the keypad, press 06 to access the Change 4-Digit Administration Code configuration setting.
3. Enter the new administration code sequence (ABCD).
   The default administration code is 9450. The administration code must be all numbers. The # and * characters are not valid.
Option 7 - Reed Switch Sense

The Reed Switch Sense configuration setting specifies whether the reed switch is Normally Open (NO) or Normally Closed (NC). A system that is supervised requires a NC setting on the reed switch. If a supervised wire is broken, cut, or disconnected, an alarm is generated at the Delayed Egress Exit Alarm Controller or staff alert panel.

NOTE: All systems ship from RF Technologies with Normally Closed (NC) Reed Switches as required by the UL Std. 294.

To change the reed switch sense
1. Enter the programming mode.
2. On the keypad, press 07 to access the Reed Switch Sense configuration setting.
3. Enter 0 to select Normally Open (N.O.) or 1 to select Normally Closed (N.C.).
   The default option for this configuration setting is 1 - Normally Closed (N.C.).

Option 10 - Set Volume Level

The Set Volume Level configuration setting enables you to specify a volume level for the audible alarm.

WARNING: Modifying option 10 will void the system compliance of UL Std. 294.

To set the volume level
1. Enter the programming mode.
2. On the keypad, press 10 to access the Set Volume Level configuration setting.
3. Enter one of the following options:
   1 - Lowest (78 dBm at 30 cm)
   2 - 1 (82 dBm at 30 cm)
   3 - 2 (86 dBm at 30 cm)
   4 - 3 (91dBm at 30 cm)
   5 - Highest (95 dBm at 30 cm)
   The default option for this configuration setting is 5 - Highest.
Option 11 - Set Alarm Cadence

The Set Alarm Cadence configuration setting enables you to specify a particular type of cadence for the audible alarm. A different alarm cadence helps to differentiate the audible alarm from other alarm systems. In some cases, there is an additional cadence of 20ms ON and 990ms OFF. This is used to signal an antenna survey alarm which is described in the next section. This cadence setting is unique to this Delayed Egress Exit Alarm Controller function and is not an option through the feature configuration.

**To set the alarm cadence**

1. Enter the programming mode.
2. On the keypad, press 11 to access the Set Audible Tone/Pitch configuration setting.
   
   Enter one of the following options:
   
   1. Constant Tone On
   2. 166ms ON, 166ms OFF pulse
   3. 500ms ON, 500ms OFF pulse

   The default option for this configuration setting is 1 - Constant Tone On.

Option 15 - Return to Defaults

The Return to Defaults configuration setting returns all the programmable settings back to their original factory defaults. In addition, an antenna survey operation is also performed once the settings are returned to the original factory defaults.

**To return to defaults**

1. Enter the programming mode.
2. On the keypad, press 15 to access the Return to Defaults configuration setting.
3. Enter 1 to return to the 9450 default configuration settings.
Option 17 - Delayed Egress Nuisance Time Delay

NOTE: If you are using a ICC Model Exit Alarm Controller, this option is fixed at 1 - 1 second.

The Delayed Egress Nuisance Time Delay defines the amount of time necessary for the exit to be held ajar before a Delayed Egress cycle is triggered. When a Delayed Egress cycle is triggered, it is irreversible and goes to the Release Wait (the time between the nuisance delay and the door unlocking). It then releases the electromagnetic lock. If the exit is not held ajar for the required time, the Delayed Egress is reset and the electromagnetic lock remains locked.

To set the delayed egress nuisance time delay

1. Enter the programming mode.
2. On the keypad, press 17 to access the Nuisance Time Delay setting.
3. Enter one of the following options:
   - 0 - 0 seconds
   - 1 - 1 second
   - 2 - 2 seconds
   - 3 - 3 seconds

The default option for the Delayed Egress Nuisance Time Delay setting is 1 - 1 second.

Option 18 - Delayed Egress Exit Time Delay

The Delayed Egress Exit Time Delay defines the total amount of time between the exit trigger (ajar) and the release of the electromagnetic lock. This includes the Nuisance Time Delay and Release Wait Period.

To set the delayed egress exit time delay

1. Enter the programming mode.
2. On the keypad, press 18 to access the Delayed Egress Exit Time Delay setting.
3. Enter one of the following options:
   - 1 - 15 seconds
   - 2 - 30 seconds

The default option for the Delayed Egress Exit Time Delay is 1 - 15 seconds.

WARNING: The authority having jurisdiction must approve the use of a 30 second delay before it can be implemented.
Option 19 - Delayed Egress Wait-Alarm Enable

The Delayed Egress Wait-Alarm setting determines whether or not the Delayed Egress Exit Alarm Controller signals an alarm on the Staff Alert Panel relay output contacts during the Release Wait. The Release Wait follows the Nuisance Delay of a Delayed Egress cycle (refer to Figure 3.3 and Figure 3.4 on page 35).

To set the delayed egress wait-alarm enable

1. Enter the programming mode.
2. On the keypad, press 19 to access the Delayed Egress Pre-Alarm Enable setting.
3. Enter one of the following options:
   - 0 - Disabled
   - 1 - Enabled

The default option for the Delayed Egress Wait-Alarm Enable setting is 1 - Enabled.

Option 20 - Delayed Egress Release Alarm Enable

The Delayed Egress Release Alarm Enable setting determines whether or not the Delayed Egress Exit Alarm Controller signals an alarm on the Staff Alert Panel relay output contacts when the electromagnetic lock is released at the end of a Delayed Egress cycle. If the Release Alarm feature is disabled, the alarm is signaled when the door is opened, instead of when the lock is released (refer to Figure 3.4 on the following page).

To set the delayed egress release alarm enable

1. Enter the programming mode.
2. On the keypad, press 20 to access the Delayed Egress Release Alarm Enable setting.
3. Enter one of the following options:
   - 0 - Disabled
   - 1 - Enabled

The default option for the Delayed Egress Release Alarm Enable setting is 1 - Enabled.
FIGURE 3.4: Delayed Egress Cycle vs. SAP Alarm Options for Model 70 and Up

Delayed Egress Cycle vs SAP Alarm Options
Chapter 3: Configuring Delayed Egress Exit Alarm Controllers

Option 22 - Change Four Digit Visitor Bypass Code

The Visitor Bypass activation code can be provided to visitors of a secure area, enabling them to leave, without compromising the security of the Exit Alarm Controllers and Transmitters.

The Visitor Bypass Mode allows a locked exit to be unlocked for a defined period of time and is affected by Feature Configuration Settings 01 Bypass Ability, 02 Bypass Time Interval, 04 Anti-Tailgate, as well as 23 Bypass During Lockdown.

However, Visitor Bypass Mode only enables a locked exit to unlock. The Visitor Bypass Code does not reset active alarms, and it does not allow transmitters to pass through the unlocked exit without causing an alarm. If the Exit Alarm Controller is in Visitor Bypass Mode, and a transmitter enters the Exit Zone, the Exit Alarm Controller will immediately exit the Visitor Bypass Mode.

NOTE: If the Visitor Bypass Code is the same as the regular Security Code, the Staff Bypass Mode will take precedence over Visitor Bypass Mode.

To change the 4-digit Visitor Bypass Code

1. Enter the programming mode.
2. On the keypad, press 22 to access the Change 4-digit Visitor Bypass Code setting.
3. Enter the new 4-digit visitor bypass code sequence (ABCD).

   The default visitor bypass code is 2580. The visitor bypass code must be all numbers. The # and * characters are not valid.

Option 24 - Select Hardware Bypass Mode

The Select Hardware Bypass Mode enables you to select which bypass mode is initiated when the Bypass Hardware Inputs are activated. This configuration setting is available on all models.

To select the bypass mode

1. Enter the programming mode.
2. On the keypad, press 24 to access the Select Bypass Mode setting.
3. Enter one of the following options.

   0 = Staff Bypass Mode
   1 = Visitor Bypass Mode;

   The Default for this setting is 1 - Visitor Bypass Mode.

   **NOTE:** When the Bypass Mode is activated and the Select Bypass Mode is set for Visitor Bypass Mode, if the Exit Alarm Controller is in alarm, the alarm is cleared (as in the Staff Bypass Mode setting), but the Exit Alarm Controller does NOT enter a Visitor Bypass cycle, even if configuration setting 3 is active.
Programming the Feature Configuration Settings

Option 25 - Change Four Digit Staff Bypass Code

The Staff Bypass activation code if for staff only. It enables the staff to leave, without setting an off an alarm.

The Staff Bypass Mode allows a locked exit to be unlocked for a defined period of time and is affected by Feature Configuration Settings 01 Bypass Ability, 02 Bypass Time Interval, 04 Anti-Tailgate, as well as 23 Bypass During Lockdown.

However, Staff Bypass Mode only enables a locked exit to unlock. The Staff Bypass Code does not reset active alarms. If the Exit Alarm Controller is in Staff Bypass Mode, a transmitter that enters the Exit Zone, an alarm DOES NOT sound even though the Exit Alarm Controller is in Staff Bypass Mode.

To change the 4-digit Staff Bypass Code

1. Enter the programming mode.
2. On the keypad, press 25 to access the Change 4-digit Staff Bypass Code setting.
3. Enter the new 4-digit staff bypass code sequence (ABCD).

The default staff bypass code is 1379. The staff bypass code must be all numbers. The # and * characters are not valid characters.

Option 26 - Enable Manual Roam Mode

The Enable Manual Roam Mode configuration setting determines whether a Delayed Egress Exit Alarm Controller is enabled to allow individuals to enter a manual roam codes on the keypad to permanently suspend monitoring of, and unlock, a specified door.

To change Manual Roam Mode setting

1. Enter the programming mode.
2. On the keypad, press 26 to access the Manual Roam Mode configuration setting.
3. Enter 0 to disable or 1 to enable the Manual Roam Mode setting.

The default option for this configuration setting is 0 - Disabled.

WARNING: Enabling and activating Manual Roam will indefinitely defeat the security at that door until the feature is manually deactivated.
**Option 27 - Change the Four Digit Manual Roam Code**

You can change the Manual Roam code for the Delayed Egress Exit Alarm Controller. The Manual Roam Code is used to trigger the Manual Roam mode.

**To change the four digit Manual Roam code**

1. Enter the programming mode.
2. On the keyboard, press 27 to access the Change 4-Digit Manual Roam Code configuration setting.
3. Enter the new Manual Roam code sequence (ABCD).

   The default Manual Roam code is 2684. The Manual Roam code must be all numbers and must be different than the Administration, Security, Staff Bypass and Visitor Bypass code sequences. The # and * characters are not valid.

**Option 29 - Delayed Egress Alarm Reset Mode**

The Delayed Egress Alarm Reset Mode configuration setting determines the necessary steps to reset a Delayed Egress Exit Alarm Controller that has entered the alarm state due to a Delayed Egress cycle.

**To change Delayed Egress Alarm Reset Mode setting**

1. Enter the programming mode.
2. On the keypad, press 29 to access the Delayed Egress Alarm Reset Mode configuration setting.
3. Enter one of the following options.

   - **0** = Must Open Close Door in Delayed Egress Alarm prior to resetting
   - **1** = May Reset Door in Delayed Egress Alarm without Opening;

   The Default for this setting is **1** - May Reset Door in Delayed Egress Alarm without Opening.
Option 30 - Non-Delayed Egress Alarm Door Lock Mode

The Non-Delayed Egress Alarm Door Lock Mode defines the operation of the CodeLock during a Non-Delayed Egress cycle Alarm condition, such as an the door being opened while a patient transmitter is within range or a breach of Perimeter Mode on a door that is not wired for Delayed Egress functionality. The default operation defines the CodeLock as being activated, ie. door locked, during the Alarm condition. The optional operation defines the CodeLock as being deactivated, ie. door unlocked, during the Alarm condition.

To change Elopement Alarm Door Lock Mode setting

1. Enter the programming mode.
2. On the keypad, press 30 to access the Elopement Alarm Door Lock Mode configuration setting.
3. Enter one of the following options:
   0 = CodeLock deactivated during Elopement Alarm
   1 = CodeLock activated during Elopement Alarm

   The Default for this setting is 1 - CodeLock activated during Elopement Alarm.

Option 88 - Test Mode

The Test Mode is used during the 9450 System installation process in order to verify the RS-485 and Exit Alarm Receiver wiring. Refer to Chapter 4, Operating the Delayed Egress Exit Alarm Controller for more indicator information.

To use the test mode

1. Enter the programming mode.
2. On the keypad, press 88 to access the Test Mode configuration setting.
3. Press 1 to enter the Test Mode
4. When complete, press # to exit Test Mode.
   If you do not press # to exit, Test Mode will timeout after five minutes.

While in Test Mode all front panel LEDs are off with the following indications:

- The Red Power LED flashes with each successful RF tag decode
- The Yellow Signal LED flashes with each RF tag transmission received.
- The Green Status LED flashes with each RS-485 communication poll from the Central Server computer.
Chapter 3: Configuring Delayed Egress Exit Alarm Controllers

Option 99 - Diagnostic Mode

The Diagnostic Mode configuration setting enables you to test all of the audible alarms, relays, and indicators on the Delayed Egress Exit Alarm Controller. When testing, everything is turned on for five seconds, then returned to normal operating mode.

To use the diagnostic mode

1. Enter the programming mode.
2. On the keypad, press 99 to access the Diagnostic Mode configuration setting.
3. Enter 1 to perform the test operation.
Additional Feature Configuration Settings for Models 60/61 and Above

In addition to the previous configuration settings, the Model 60/61, 70/71, and 80/81 Delayed Egress Exit Alarm Controllers contain the following settings.

Option 8 - CodeLock Hold Times

Using the CodeLock Hold Times setting, you can configure how long the CodeLock remains energized after the transmitter has left the exit alarm detection zone.

**To change the CodeLock hold times**

1. Enter the programming mode.
2. On the keypad, press 08 to access the CodeLock hold time setting.
3. Enter one of the following options:
   1. 5 seconds
   2. 10 seconds
   3. 15 seconds
   4. 20 seconds

Option 9 - Set as Perimeter Alarm

The Set As Perimeter Alarm configuration setting enables you to configure the Delayed Egress Exit Alarm Controller to act as a perimeter alarm. This means that the door is always locked and that the alarm sounds when the door is open regardless of whether a tag is located in the specified detection zone.

WARNING: If the Delayed Egress Exit Alarm Controller's Roam and/or Perimeter unlockdown timers are enabled on the computer, those times will override any Perimeter and/or Roam modes configured through the keypad.

**To set an Delayed Egress Exit Alarm Controller as a perimeter alarm**

1. Enter the programming mode.
2. On the keypad, press 09 to access the Set as Perimeter Alarm configuration setting.
3. Enter 0 to disable, or 1 to enable the perimeter alarm.
   The default option for this configuration setting is 0 - Disabled.

Option 12 - Set Antenna/Noise Window

The Set Antenna/Noise Window configuration setting enables you to change the way in which the receiver
signals are decoded. It is used to remove noise problems and it affects the range and influence of competing signals
such as computers and televisions.

To set antenna/noise window

1. Enter programming mode.
2. On the keypad, press 12 to access the Set Antenna/Noise Window configuration setting.
3. Enter one of the following options:
   1 - 262Khz System (receivers only)
   2 - Lower Range - High Noise
   3 - Intermediate - Range/Noise
   4 - Best Range - Low Noise
   The default option is 1 - Intermediate Range/Noise.

Option 13 - Antenna Survey

The Antenna Survey configuration setting enables you to trigger a survey of the current state of the antennas
connected to the Delayed Egress Exit Alarm Controller. The survey is retained in nonvolatile memory. It is used
to verify the ongoing status of the antenna sense inputs in order to detect and trigger an Antenna Survey Alarm
when an antenna is disconnected.

NOTE: The Delayed Egress Exit Alarm Controller is shipped in a default state in which the
antenna survey information is blank and does not trigger an Antenna Survey Alarm.
Therefore, after installation is complete, an antenna survey is required in order to allow the
system to detect and signal any future status changes.

To conduct an antenna survey

1. Enter the programming mode.
2. On the keypad, press 13 to access the Antenna Survey configuration setting.
3. Press 1 to perform the antenna survey.
Option 16 - Noise Tolerance Setting

The Noise Tolerance Setting affects the operational parameters that the Delayed Egress Exit Alarm Controller uses to detect a jammed state in environments with excessive interference. The default High Noise Tolerance setting works well for most noisy environments and conditions. If the system cannot read a tag because of a noisy environment or condition, and the Delayed Egress Exit Alarm Controller has not entered the Jamming Alarm, change to the Low Noise Tolerance setting to ensure proper Jamming Alarm notification.

To change the noise tolerance settings
1. Enter the programming mode.
2. On the keypad, press 16 to access the Noise Tolerance setting.
3. Enter one of the following options:
   0 - Low Tolerance
   1 - High Tolerance
The default option for the noise setting is 1 - High Tolerance.

Option 21 - Antenna Jammed Notification

The Antenna Jammed Notification setting affects the operational parameters that the Delayed Egress Exit Alarm Controller uses to externally notify, using an audible alarm and staff alert relay contacts, when excessive interference jams the receivers. The default 0 second delay is appropriate for most installations. When a Delayed Egress Exit Alarm Controller is installed in a location susceptible to occasional and regular noise sources, such as elevators, the other delay settings are appropriate.

To use the antenna jammed notification
1. Enter the programming mode.
2. On the keypad, press 21 to access the Antenna Jammed Notification setting.
3. Enter one of the following options:
   0 - 0 second delay
   1 - 1 second delay
   2 - 2 second delay
The default option for the antenna jammed notification setting is 0 - 0 second delay.
Additional Feature Configuration Settings for Models 80/81 and Above

In addition to the previous configuration settings, Models 80/81 and above Delayed Egress Exit Alarm Controllers also contain an Active ID Range setting for transmitters.

Option 23 - Visitor Bypass During Lockdown

Visitor Bypass During Lockdown defines whether you can manually enter a Visitor Bypass Code during a Global Lockdown that is issued from the Safe Place Server. By enabling this option, you allow staff members to use the default code 1379, to open a door manually during a Global Lockdown.

To use the bypass during lockdown

1. Enter the programming mode.
2. On the keypad, press 23 to access the bypass during lockdown setting.
3. Enter one of the following options:
   - 0 - Disabled
   - 1 - Enabled

   The default option for the bypass during lockdown setting is 1 - Enabled.

   NOTE: This function only applies when the lockdown was triggered by the Central Server, not by the local event such as a transmitter coming into range. Additionally, this function does not apply the Hardware Bypass Input when its input is configured to be recognized as a Visitor Bypass request (Option 24). The function also does not apply to the proximity/swipe card readers interfaced to the Delayed Egress Exit Alarm Controller since their input is always recognized as a Staff Bypass request.

   NOTE: Refer to the Keypad Bypass Ability Matrixes on the following pages for programmable configuration combinations and how they affect which devices are allowed or disallowed to initiate a bypass.
### Keypad Bypass During Lockdown Ability Matrixes

These Keypad Bypass Ability Matrixes describe the various programmable settings for Delayed Egress Exit Alarm Controller bypass modes and its affect on bypass attempts made from the Delayed Egress Exit Alarm Controller keypad, the Hardware Bypass Input and the swipe card or proximity card reader.

**Keypad Bypass Ability **9450 01 0**

<table>
<thead>
<tr>
<th>Select Hardware Bypass Mode <strong>9450 24</strong></th>
<th>Select Visitor Bypass During Lockdown <strong>9450 23</strong></th>
<th>Attempt to Bypass Lockdown with the following</th>
<th>Bypass Allow/Disallow?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keypad 1379 Keypad 2580</td>
<td></td>
<td></td>
<td>Disallow Bypass</td>
</tr>
<tr>
<td>1 Enable</td>
<td></td>
<td></td>
<td>Disallow Bypass</td>
</tr>
<tr>
<td>0 Staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keypad 1379 Keypad 2580</td>
<td>Hardware Bypass Input</td>
<td></td>
<td>Allow Bypass</td>
</tr>
<tr>
<td>0 Disable</td>
<td>Keypad 1379 Keypad 2580</td>
<td>Swipe/Proximity Card</td>
<td>Allow Bypass</td>
</tr>
<tr>
<td>1 Enable</td>
<td></td>
<td></td>
<td>Allow Bypass</td>
</tr>
<tr>
<td>1 Visitor</td>
<td>Keypad 1379 Keypad 2580</td>
<td>Hardware Bypass Input</td>
<td>Disallow Bypass</td>
</tr>
<tr>
<td>0 Disable</td>
<td></td>
<td>Keypad 1379 Keypad 2580</td>
<td>Disallow Bypass</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hardware Bypass Input</td>
<td>Allow Bypass</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Swipe/Proximity Card</td>
<td>Allow Bypass</td>
</tr>
</tbody>
</table>

**FIGURE 3.5:** Keypad Bypass Ability **9450 01 0** (Staff/Visitor Disable) Global Lockdown from the computer
### Keypad Bypass Ability **9450 01 1**

<table>
<thead>
<tr>
<th>Select Hardware Bypass Mode <strong>9450 24</strong></th>
<th>Select Visitor Bypass During Lockdown <strong>9450 23</strong></th>
<th>Attempt to Bypass Lockdown with the following</th>
<th>Bypass Allow/Disallow?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Enable</td>
<td>Keypad 1379 Keypad 2580</td>
<td>Hardware Bypass Input</td>
<td>Allow Bypass Disallow Bypass</td>
</tr>
<tr>
<td></td>
<td>0 Staff</td>
<td>Swipe/Proximity Card</td>
<td>Allow Bypass</td>
</tr>
<tr>
<td></td>
<td>0 Disable</td>
<td>Keypad 1379 Keypad 2580</td>
<td>Disallow Bypass</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hardware Bypass Input</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 Enable</td>
<td>Swipe/Proximity Card</td>
<td>Allow Bypass</td>
</tr>
<tr>
<td></td>
<td>1 Visitor</td>
<td>Keypad 1379 Keypad 2580</td>
<td>Disallow Bypass</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hardware Bypass Input</td>
<td>Allow Bypass Disallow Bypass</td>
</tr>
<tr>
<td></td>
<td>0 Disable</td>
<td>Swipe/Proximity Card</td>
<td>Allow Bypass</td>
</tr>
<tr>
<td></td>
<td>1 Enable</td>
<td>Keypad 1379 Keypad 2580</td>
<td>Disallow Bypass</td>
</tr>
<tr>
<td></td>
<td>1 Visitor</td>
<td>Hardware Bypass Input</td>
<td>Allow Bypass Disallow Bypass</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Swipe/Proximity Card</td>
<td>Allow Bypass</td>
</tr>
<tr>
<td></td>
<td>0 Disable</td>
<td>Keypad 1379 Keypad 2580</td>
<td>Disallow Bypass</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hardware Bypass Input</td>
<td>Allow Bypass Disallow Bypass</td>
</tr>
</tbody>
</table>

*FIGURE 3.6: Keypad Bypass Ability **9450 01 1** (Staff Enable/Visitor Disable) Global Lockdown from the computer*
### Keypad Bypass Ability **9450 01 2**

<table>
<thead>
<tr>
<th>Select Hardware Bypass Mode <strong>9450 24</strong></th>
<th>Select Visitor Bypass During Lockdown <strong>9450 23</strong></th>
<th>Attempt to Bypass Lockdown with the following</th>
<th>Bypass Allow/Disallow?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Enable</strong></td>
<td>Keypad 1379</td>
<td>Disallow Bypass</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Keypad 2580</td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td><strong>0 Staff</strong></td>
<td>Hardware Bypass Input</td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Swipe/Proximity Card</td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td><strong>0 Disable</strong></td>
<td>Keypad 1379</td>
<td>Disallow Bypass</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Keypad 2580</td>
<td>Disallow Bypass</td>
<td></td>
</tr>
<tr>
<td><strong>1 Enable</strong></td>
<td>Hardware Bypass Input</td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Swipe/Proximity Card</td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td><strong>1 Visitor</strong></td>
<td>Keypad 1379</td>
<td>Disallow Bypass</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Keypad 2580</td>
<td>Disallow Bypass</td>
<td></td>
</tr>
<tr>
<td><strong>0 Disable</strong></td>
<td>Hardware Bypass Input</td>
<td>Disallow Bypass</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Swipe/Proximity Card</td>
<td>Disallow Bypass</td>
<td></td>
</tr>
</tbody>
</table>

**FIGURE 3.7:** Keypad Bypass Ability **9450 01 2** (Staff Disable/Visitor Enable) Global Lockdown from the computer
## Keypad Bypass Ability **9450 01 3**

<table>
<thead>
<tr>
<th>Select Hardware Bypass Mode <strong>9450 24</strong></th>
<th>Select Visitor Bypass During Lockdown <strong>9450 23</strong></th>
<th>Attempt to Bypass Lockdown with the following</th>
<th>Bypass Allow/Disallow?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keypad 1379 Keypad 2580</td>
<td></td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td>1 Enable</td>
<td></td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td>0 Staff</td>
<td>Hardware Bypass Input</td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td>Keypad 1379 Keypad 2580</td>
<td>Swipe/Proximity Card</td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td>0 Disable</td>
<td></td>
<td>Disallow Bypass</td>
<td></td>
</tr>
<tr>
<td>Keypad 1379 Keypad 2580</td>
<td></td>
<td>Disallow Bypass</td>
<td></td>
</tr>
<tr>
<td>1 Enable</td>
<td></td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td>1 Visitor</td>
<td>Hardware Bypass Input</td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td>Keypad 1379 Keypad 2580</td>
<td>Swipe/Proximity Card</td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td>0 Disable</td>
<td></td>
<td>Disallow Bypass</td>
<td></td>
</tr>
<tr>
<td>Keypad 1379 Keypad 2580</td>
<td></td>
<td>Disallow Bypass</td>
<td></td>
</tr>
<tr>
<td>1 Enable</td>
<td></td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td>1 Visitor</td>
<td>Hardware Bypass Input</td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td>Keypad 1379 Keypad 2580</td>
<td>Swipe/Proximity Card</td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td>0 Disable</td>
<td></td>
<td>Disallow Bypass</td>
<td></td>
</tr>
<tr>
<td>Keypad 1379 Keypad 2580</td>
<td></td>
<td>Disallow Bypass</td>
<td></td>
</tr>
<tr>
<td>1 Enable</td>
<td></td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td>1 Visitor</td>
<td>Hardware Bypass Input</td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td>Keypad 1379 Keypad 2580</td>
<td>Swipe/Proximity Card</td>
<td>Allow Bypass</td>
<td></td>
</tr>
<tr>
<td>0 Disable</td>
<td></td>
<td>Disallow Bypass</td>
<td></td>
</tr>
<tr>
<td>Keypad 1379 Keypad 2580</td>
<td></td>
<td>Disallow Bypass</td>
<td></td>
</tr>
<tr>
<td>1 Enable</td>
<td></td>
<td>Allow Bypass</td>
<td></td>
</tr>
</tbody>
</table>

**FIGURE 3.8:** Keypad Bypass Ability **9450 01 3** (Staff/Visitor Enable) Global Lockdown from the computer.
Option 14 - Active ID Range

Using the Active ID Range configuration setting, you can specify that the transmitters must fall into a certain range in order to be processed as alarms. This setting helps to reduce noise nuisance alarms.

To set the active ID range

1. Enter the programming mode.
2. On the keypad, press 14 to access the Active ID Range configuration setting.
3. Enter one of the following options:
   - 0 - Non-ID Wanderer Only
   - 1 - Transmitters 1 to 240
   - 2 - Transmitters 1 to 127
   - 3 - Transmitters 1 to 63
   - 4 - Transmitters 1 to 31

The default option for the Active ID Range is 1 - Transmitters 1 to 240.
Chapter 4

Operating the Delayed Egress Exit Alarm Controller

Introduction

The following chapter provides a detailed description of the different operating modes available with the Delayed Egress Exit Alarm Controller. For more information about Configuration Settings, see Chapter 3, Configuring Delayed Egress Exit Alarm Controllers.

WARNING: The 9450 system is designed and intended to work in conjunction with a facility’s overall patient security program, including reasonable operating policies and procedures. The 9450 system, by itself, cannot prevent the mismatch, abduction or elopement of patients.

Perimeter Mode Operation

When the Delayed Egress Exit Alarm Controller is in Perimeter mode, the CodeLock and Staff Alert relays are active. On the front panel of the Delayed Egress Exit Alarm Controller, the Red LED is illuminated. If the Delayed Egress Exit Alarm Controller senses that a door is open, it alarms unless a Bypass Cycle was initiated before hand.

There are three ways for a Delayed Egress Exit Alarm Controller to enter Perimeter Mode Operation:

- Enter Configuration Setting 9 on the keypad if the Delayed Egress Exit Alarm Controller is to be used in stand alone configuration
- At the direction of the Central Server, through Network Global Lockdown in the software, usually used in response to a Cut Band Alarm.
- Via a hard wiring of the applicable terminals
Normal Operation Mode

When the Delayed Egress Exit Alarm Controller is in Normal operating mode, the CodeLock relay is idle and the Staff Alert relay is in the supervised state. On the front panel of the Delayed Egress Exit Alarm Controller, only the Red Power LED is illuminated.

When a patient wearing a Transmitter approaches the controlled Exit Zone, the Yellow LED on the front panel indicates that the Transmitters is in proximity to an Exit Alarm Receiver and the CodeLock relay is activated.

When the patient wearing the Transmitter leaves the proximity to all Exit Alarm Receivers, the CodeLock relay returns to idle following the CodeLock Hold Time period configuration setting (Configuration Setting 8). If the Delayed Egress Exit Alarm Controller senses that a door is open at the same time that a patient wearing a Transmitter is detected in the Exit Alarm Zone, the Delayed Egress Exit Alarm Controller goes into alarm unless a Bypass Cycle is initiated.

If the Yellow LED on the front panel is illuminated or flashing when a patient wearing a Transmitter is not in the controlled Exit Zone, an RF noise source may be causing an issue or the Exit Alarm Receivers may require adjustment.

Bypass Mode

There are two bypass modes used with the Delayed Egress Exit Alarm Controller. Staff Bypass mode enables a staff member to open the door without causing an alarm even when a patient wearing a Transmitter is in the Exit Alarm Zone. Visitor Bypass mode enables a visitor to enter a code and open a door to exit a facility only if a transmitter is not in range. In this case, an alarm sounds if a patient wearing a Transmitter is in the Exit Alarm Zone.

During Staff or Visitor Bypass Mode, the Green LED on the front panel of the Delayed Egress Exit Alarm Controller is illuminated and the CodeLock relay is idle. The amount of time that the Delayed Egress Exit Alarm Controller is in Staff or Visitor Bypass Mode is set using Configuration Setting 2. In addition, using Configuration setting 24, you can select whether you want to use the hardware bypass input to trigger Staff Bypass Mode or Visitor Bypass Mode. If the Anti-Tailgate (Configuration Setting 4) is enabled, the Bypass Cycle is terminated after the door has been opened and closed.

There are four ways for the Delayed Egress Exit Alarm Controller to enter Visitor or Staff Bypass Mode:

- Two “Bypass In” hardware terminals connected. While these contacts are connected, the Bypass Mode remains active. The Bypass Mode timer begins when the contacts are released.
- You enter the four-digit security code on the front panel keypad. This only functions if the Bypass Ability (Configuration Setting 1) is set.
Introduction

- The Central Server communicates through the network connections a list of patient Transmitters that have been flagged as "In Escort" or "In Transfer" mode. If a patient Transmitter in this list is detected in proximity to a Delayed Egress Exit Alarm Controller through an Exit Alarm Receiver, the Delayed Egress Exit Alarm Controller automatically enters Visitor Bypass Mode to allow for the transfer or transport of the specified patient only.
- Delayed Egress Exit Alarm Controllers communicating with a Central Server computer and equipped with a swipe or proximity card reader can be put into Staff Bypass mode with cards assigned to users with proper privileges that have been configured via Safe Alert software.

Roam Mode

The Roam Mode is used with the Delayed Egress Exit Alarm Controller to allow long periods of unmonitored operation of a door.

WARNING: When the Roam Mode is active, anybody, including a patient wearing a Transmitter, can pass through the door without causing an alarm.

The Roam Mode is triggered manually by entering the Manual Roam key sequence on the keypad or automatically by setting a Roam time-frame for specific Delayed Egress Exit Alarm Controllers on the Central Server software. The Manual Roam period is indefinite, the door will remain unsupervised until the Roam Mode is terminated manually by entering the Manual Roam key sequence on the keypad. The Roam state initiated by the Central Server ends automatically at the pre-configured time.

In addition, the Delayed Egress Exit Alarm Controller requires that the Central Server software is actively supervising the Delayed Egress Exit Alarm Controller in order for the Manual Roam mode to be triggered and remain active; if the Central Server software loose communication with the Delayed Egress Exit Alarm Controller, any Manual Roam mode will terminate and will not be allowed to be re-triggered until supervision of the Delayed Egress Exit Alarm Controller resumes.
Chapter 4: Operating the Delayed Egress Exit Alarm Controller

Alarm Condition

When the Delayed Egress Exit Alarm Controller alarms, the Staff Alert relay is released, the unit emits an audible alarm, and the Central Server is notified (if connected through the network). An Delayed Egress Exit Alarm Controller alarm can be cleared by entering the security code (default 1379) on the front panel keypad. When this method is used, the Central Server is notified, and depending on whether Configuration Setting 3 is enabled, the Delayed Egress Exit Alarm Controller can enter Bypass Mode. There are three conditions that enable the Delayed Egress Exit Alarm Controller to alarm:

- If the Delayed Egress Exit Alarm Controller is in Normal Mode and a patient Transmitter is detected in the Exit Zone, and the door is opened, an alarm is triggered.
- While in Perimeter Mode, if the door is open, an alarm is triggered.
- When you perform an Antenna Survey (Configuration Setting 13), the current Exit Alarm Receiver configuration is memorized by the Delayed Egress Exit Alarm Controller. Therefore, if the Exit Alarm Receiver configuration changes, the Exit Alarm Receiver becomes saturated with noise, or the Tamper Switch is triggered because the front panel of the Delayed Egress Exit Alarm Controller is opened, an Antenna/Tamper alarm occurs.

The Antenna/Tamper alarm sound is fixed as “chirping.” This is a short tone every second. The other alarms’ sound is programmable through Configuration Setting 11. The volume level of all alarms are programmable through Configuration Setting 10.

![WARNING: Changing the alarm cadence and/or volume settings voids the UL Std. 294 listing.](image)
Introduction

Delayed Egress

The Delayed Egress Exit Alarm Controller is designed to interface with an electromagnetic lock that contains a "door ajar" trigger switch. The Delayed Egress Exit Alarm Controller also provides delayed egress functionality consistent with the requirements for NFPA 101 Life Safety Code and ICC. The following provides a detailed description of the Delayed Egress Mode functionality:

- When the exit is secured through Perimeter Mode or when a Transmitter is detected in the Exit Alarm Zone exit, the electromagnetic lock is activated through the CodeLock relay output contacts and the door is secured.
- Applying less than 15lbs. of pressure to the secured door signals the Delayed Egress Exit Alarm Controller that the door is ajar and initiates a Delayed Egress cycle. This cycle is signaled with an audible alarm with 166mSec ON/166mSec OFF cadence. If the pressure on the door ceases before the Nuisance Time Delay (Configuration Setting 17; for NFPA 0, 1, 2 or 3 seconds; for ICC the delay is fixed at 1 second) has elapsed, the Delayed Egress cycle stops immediately, the audible alarm is silenced, and the door remains secure.
- When the pressure on the secure door exceeds the Nuisance Time Delay, an irreversible Delayed Egress cycle begins that unlocks the door in 15 seconds (30 seconds optional; Configuration Setting 18).
  
  ![WARNING: The authority having jurisdiction must approve the use of a 30 second delay before it can be implemented.]

The audible alarm changes to a 500mSecON/500mSec OFF cadence to indicated the Release Wait Period. If the Delayed Egress Pre-Alarm feature is enabled (Configuration Setting 19), an alarm condition is signaled on the Staff Alert Panel relay output contacts during the Release Wait Period.

- When the Release Wait Period has elapsed, the electromagnetic lock is de-energized through the release of the CodeLock relay output contacts and the door is no longer secured. This state is indicated by the front panel Green LED ON and a constant ON audible alarm. If the Release Alarm feature is enabled (Configuration Setting 20), an alarm condition is signaled on the Staff Alert Panel relay output contacts during this state; if the Release Alarm feature is disabled, the alarm condition is signaled on the Staff Alert Panel relay output contacts when and if the door is opened.
- Once the Delayed Egress cycle has elapsed, the Delayed Egress Exit Alarm Controller must be manually reset. This can be done either by closing the Bypass Switch terminals or by entering the Security Code on the front keypad. Once this is complete, the exit is secure and the Delayed Egress cycle is reset.

![NOTE: If Option 29 is enable, you must open and then close the door before you can reset the Delayed Egress Exit Alarm Controller.]

WARNING: The authority having jurisdiction must approve the use of a 30 second delay before it can be implemented.
Configuration Mode

To enter Configuration Mode, enter * * and the Administration Code (default 9450) on the front panel keypad. While the Delayed Egress Exit Alarm Controller is in Configuration Mode, the front panel Red Power LED is off. Refer to Chapter 3, *Configuring Delayed Egress Exit Alarm Controllers* for more information.

Test Mode

Test Mode is used to verify operation of the RS-485 Network and Exit Alarm Receiver wiring. Refer to Chapter 3, *Configuring Delayed Egress Exit Alarm Controllers* for more information.

⚠️ **WARNING:** You must test all Delayed Egress Exit Alarm Controllers for proper operation. Failure to test the Delayed Egress Exit Alarm Controllers before use can result in system failure and/or a mismatch, abduction, or elopement. In addition, failure to test Delayed Egress Exit Alarm Controllers voids the RF Technologies Product Warranty.

As you perform the test, the following indications occur:

- The Red Power LED flashes with each successful RF tag decode.
- The Yellow Signal LED flashes with each RF input activity.
- The Green Status LED flashes with each RS-485 communication with the device.

If performing a Diagnostic Mode test operation, all of the audible alarms, relays, and indicators on the Delayed Egress Exit Alarm Controller are turned on for five seconds, then returned to normal operating mode. (See "Option 99 - Diagnostic Mode" on page 40.)
# Specifications

## Model 30, 60, 70, 80 NFPA Compliant

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size</strong></td>
<td>6.5 x 4.5 x 1.5 inches</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>1.5 lbs</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>White</td>
</tr>
<tr>
<td><strong>Enclosure</strong></td>
<td>Steel (Surface or Flush Mounted)</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>Central Power Supply 14-16 V AC or DC, 400mA per unit required. OR Plug-In Class 2 Transformer 16V AC 1.1mA</td>
</tr>
<tr>
<td><strong>Operating Temperature</strong></td>
<td>0-40 degrees Celsius (32F to 104F)</td>
</tr>
<tr>
<td><strong>CodeLock Outputs</strong></td>
<td>N.O. and N.C. Dry Relay Contacts - Jumper Selectable (2)</td>
</tr>
<tr>
<td><strong>Current Consumption Specifications</strong></td>
<td>350mA with 2 antennas</td>
</tr>
<tr>
<td><strong>Staff Alert Outputs</strong></td>
<td>N.O. and N.C. 12 V DC Relay Contacts - Jumper Selectable (2)</td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>RS-485 for Computer Communications/RS-232 for Auxiliary Bypass Devices</td>
</tr>
<tr>
<td><strong>Volume Control</strong></td>
<td>78dBm to 95 dBm selectable Alarm Tone at 30 cm, 3 cadence selections</td>
</tr>
<tr>
<td><strong>Alarm Reset</strong></td>
<td>4-digit code; 3 x 4 matrix; any key combinations of 0-9; Programmable through the keypad.</td>
</tr>
<tr>
<td><strong>Alarm Bypass</strong></td>
<td>20 second default; select from 10 time periods (10, 20, 30, 40, 50, 60, 70, 80, 90, 100, or 120 seconds)</td>
</tr>
<tr>
<td><strong>Composition</strong></td>
<td>Painted Steel</td>
</tr>
<tr>
<td>Indicators</td>
<td>Power On (Red LED)</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td></td>
<td>Signal (Amber LED)</td>
</tr>
<tr>
<td></td>
<td>Status (Green LED)</td>
</tr>
<tr>
<td>Fuse</td>
<td>Littlefuse 239 series Slo-Blo, 5x 20 mm, 700 mA, 250 V</td>
</tr>
<tr>
<td></td>
<td>RF P/N: 0240-0001</td>
</tr>
<tr>
<td>Regulations</td>
<td>FCC Compliant</td>
</tr>
<tr>
<td>Delayed Egress Nuisance Delay</td>
<td>Configurable at 3 seconds or less</td>
</tr>
<tr>
<td>Model 30, 60,70,80 Part Numbers</td>
<td>9450-0330 - Model 30</td>
</tr>
<tr>
<td></td>
<td>9450-0360 - Model 60</td>
</tr>
<tr>
<td></td>
<td>9450-0370 - Model 70</td>
</tr>
<tr>
<td></td>
<td>9450-0380 - Model 80</td>
</tr>
</tbody>
</table>
## Specifications

### Model 31,61,71,81 ICC Compliant

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>6.5 x 4.5 x 1.5 inches</td>
</tr>
<tr>
<td>Weight</td>
<td>1.5 lbs</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Enclosure</td>
<td>Steel (Surface or Flush Mounted)</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Central Power Supply 14-16 V AC or DC, 400mA per unit required. OR Plug-In Class 2 Transformer 16V AC 1.1mA</td>
</tr>
<tr>
<td>Operating Temperature</td>
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<td>Littlefuse 239 series Slo-Blo, 5x 20 mm, 700 mA, 250 V RF P/N: 0240-0001</td>
</tr>
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<td>Regulations</td>
<td>FCC Compliant</td>
</tr>
</tbody>
</table>
Chapter 5: Delayed Egress Exit Alarm Control Specifications

<table>
<thead>
<tr>
<th>Delayed Egress Nuisance Delay</th>
<th>Fixed at 1 Second</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 31, 61, 71, 81 Part Numbers</td>
<td></td>
</tr>
<tr>
<td>9450-0331 - Model 31</td>
<td></td>
</tr>
<tr>
<td>9450-0361 - Model 61</td>
<td></td>
</tr>
<tr>
<td>9450-0371 - Model 71</td>
<td></td>
</tr>
<tr>
<td>9450-0381 - Model 81</td>
<td></td>
</tr>
</tbody>
</table>
Chapter 6

Delayed Egress NFPA
Requirements

National Fire Protection Agency

7.2.1.6 Special Locking Arrangements.

7.2.1.6.1 Delayed-Egress Locks.

Approved, listed, delayed egress locks shall be permitted to be installed on doors serving low and ordinary hazard contents in buildings protected throughout by an approved, supervised automatic fire detection system in accordance with Section 9.6, or an approved, supervised automatic sprinkler system in accordance with Section 9.7, and where permitted in Chapters 12 through 42, provided that the following criteria are met.

(a) The doors shall unlock upon actuation of an approved, supervised automatic sprinkler system in accordance with Section 9.7 or upon the actuation of any heat detector or activation of not more than two smoke detectors of an approved, supervised automatic fire detection system in accordance with Section 9.6.

(b) The doors shall unlock upon loss of power controlling the lock or locking mechanism.

(c) An irreversible process shall release the lock within 15 seconds upon application of a force to the release device required in 7.2.1.5.4 that shall not be required to exceed 15 lbf (67 N) nor be required to be continuously applied for more than 3 seconds. The initiation of the release process shall activate an audible signal in the vicinity of the door. Once the door lock has been released by the application of force to the releasing device, relocking shall be by manual means only.

Exception: Where approved by the authority having jurisdiction, a delay not exceeding 30 seconds shall be permitted.

(d) On the door adjacent to the release device, there shall be a readily visible, durable sign in letters not less than 1 in. (2.5 cm) high and not less than 1/8 in. (0.3 cm) in stroke width on a contrasting background that reads as follows:

“PUSH UNTIL ALARM SOUNDS
DOOR CAN BE OPENED IN 15 SECONDS.”

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Chapter 7

Delayed Egress ICC
Requirements

Delayed Egress ICC Requirements

1008.1.8.6 Delayed egress locks.

Approved, listed, delayed egress locks shall be permitted to be installed on doors serving any occupancy except Group A, E and H occupancies in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed in accordance with Section 907, provided that the doors unlock in accordance with Items 1 through 6 below. A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an exit.

1. The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.
2. The doors unlock upon loss of power controlling the lock or lock mechanism.
3. The door locks shall have the capability of being unlocked by a signal from the fire command center.
4. The initiation of an irreversible process which will release the latch in not more than 15 seconds when a force of not more than 15 pounds (67 N) is applied for 1 second to the release device. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the door lock has been released by the application of force to the releasing device, relocking shall be by manual means only. Exception: Where approved, a delay of not more than 30 seconds is permitted.
5. A sign shall be provided on the door located above and within 12 inches (305 mm) of the release device reading: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
6. Emergency lighting shall be provided at the door.

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