Alarm Engine

Installation & Programming Reference Guide

ELK PRODUCTS

www.elkproducts.com

Introduction

LIMITATION

The ELK-E27 Alarm Engine is designed to warn against unauthorized entry and other situations. However, it is not a guarantee of protection against the occurrence of burglary, fire, or other emergency. Any alarm system is subject to compromise or failure to warn for various reasons. For example:

- Unauthorized access can be gained through unprotected points or by disarming or bypassing protected points.
- Sensing devices are power driven and do not operate without electrical power. Battery-operated devices will not work without batteries, with dead batteries, or if the batteries are not put in properly. Devices powered solely by AC will not work if their AC power supply is cut off for any reason, however briefly.
- Telephone lines over which alarm signals are transmitted may be out of service or rendered inoperable by an intruder.
- Even if the system responds to the emergency as intended, occupants may have insufficient time to protect themselves from the emergency situation. In the case of a monitored alarm system, authorities may not respond appropriately.
- Smoke detectors have limitations and cannot detect all types of fires. According to data published by the Federal Emergency Management Agency, while smoke detectors have played a key role in reducing residential fire deaths in the United States, they may not activate or provide early warning for a variety of reasons in as many as 35% of all fires. Some of the reasons some detectors used in conjunction with this System may not work are as follows. Smoke detectors may have been improperly installed and positioned. Smoke detectors may not sense fires that start where smoke cannot reach the detectors, such as in chimneys, in walls, or roofs, or on the other side of closed doors. Smoke detectors also may not sense a fire on another level of a residence or building. A second floor detector, for example, may not sense a first floor or basement fire. Finally, smoke detectors have sensing limitations. No smoke detector can sense every kind of fire every time. In general, detectors may not always warn about fires caused by carelessness and safety hazards like smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches, or arson. Depending an the nature of the fire, and/or location of the smoke detectors, the detector, even if it operates as anticipated, may not provide sufficient warning to allow all occupants to escape in time to prevent injury or death.
- Signals sent by wireless transmitters may be blocked or reflected by metal before they reach the alarm receiver. Even if the signal path has been recently checked during a weekly test, blockage can occur if a metal object is moved into the path.
- Wireless transmitters (used in some systems) are designed to provide long battery life under normal operating conditions. Longevity of batteries may be as much as 4 to 7 years, depending on the environment, usage, and the specific wireless device being used. External factors such as humidity, high or low temperatures, as well as large swings in temperature, may all reduce the actual battery life in a given installation. This wireless system, however, can identify a true low battery situation, thus allowing time to arrange a change of battery to maintain protection for that given point within the system.
- Installing an alarm system may make the owner eligible for a lower insurance rate, but an alarm system is not a substitute for insurance. Homeowner, property owners and renters should continue to act prudently in protecting themselves and continue to insure their lives and property.
- A user may not be able to reach a panic or emergency button quickly enough.
- Passive Infrared Motion Detectors can only detect intrusion within the designed ranges as diagrammed in their installation manual. Passive Infrared Detectors do not provide volumetric area protection. They do create multiple beams of protection, and intrusion can only be detected in unobstructed areas covered by those beams. They cannot detect motion or intrusion that takes place behind walls, ceilings, floors, closed doors, glass partitions, glass doors, or windows. Mechanical tampering, masking, painting or spraying of any material on the mirrors, windows or any part of the optical system can reduce their detection ability. Passive Infrared Detectors sense changes in temperature; however, as the ambient temperature of the protected area approaches the temperature range of 90 to 105F (32 to 40C), the detection performance can decrease.
- Alarm warning devices such as sirens, bells or horns may not alert people or wake up sleepers if they are located on the other side of closed or partly open doors. If warning devices are located on a different level of the residence from the bedrooms, they are less likely to waken or alert people inside the bedrooms. Even persons who are awake may not hear the warning if the alarm is muffled by noise from a stereo, radio, air conditioner or other appliance, or by passing traffic. Finally, alarm warning devices, however loud, may not warn hearing-impaired people.
- This equipment, like other electrical devices, is subject to component failure. Even though this equipment is designed to last as long as 20 years, the electronic components could fail at any time.
- The most common cause of an alarm system not functioning when an intrusion or fire occurs is inadequate maintenance. **This alarm system should be tested weekly to make sure all sensors and transmitters are working properly.**

Use of this control for fire detection and/or annunciation may not be permitted by certain states, counties, municipalities or local jurisdiction. It is the responsibility of the installing alarm company to check with the local A.H.J. (Authority Having Jurisdiction) or State Fire Marshal's office prior to using this control for fire detection.

Table of Contents

E27 Alarm Engine Product Overview

Features & Specifications

- Inputs: 16 On-Board, Up to 128, Hardwired, Wireless or Hybrid
- Supports Two-Way or 319.5MHz Wireless Sensors
- Outputs: 2 Alarm Outputs with Built-in Siren Driver, 1 Form"C" Relay, 10 Voltage, Expandable to 32
- Areas: Up to 8
- Users: Up to 199, User Groups: Up to 10
- Keypads: Up to 8
- Supports 4-Wire Smoke Detectors on any input
- Supports 2-Wire Smoke Detectors on 3 Main board Inputs (14, 15, & 16)
- Includes Fire alarm verification routine
- On-board Ethernet Port for Connectivity and Reporting
- Optional Digital dialer for reporting via telephone line or dial capture cellular communicator
- Communicator format for IP and Digital Dialer: Contact ID
- Wi-Fi Support with optional Wi-Fi Adapter
- Supports Z-Wave Devices with optional Z-Wave Adapter: 64 Lights, 8 Locks, 4 Thermostats, and 4 Garage Doors
- Powerful Rules Engine with AND, OR, and ELSE logic
- Built-In Astronomical Clock
- History Log: Up to 500 Events with Time/Date stamp
- 2.5 Amp Power Supply with Master Power Switch and Low Battery Cutoff
- Removable terminal blocks for easy pre-wires and service
- Flash Memory - Allows field updates to firmware electronically
- Easy programming via ElkConnect app and portal

Alarm Engine Product Family

ELK-E27CB	E27 Alarm Engine Control Board
ELK-E27SYS1	E27 Alarm Engine System Package (E27CB, AEKP, P1426, SWB14, 73)
ELK-E27SYS2	E27 Alarm Engine System Package (E27CB, AEKP, P1426, SWB14P, 73)
ELK-AEKP	LCD Keypad for Alarm Engine
ELK-AERF3	319.5 MHz Wireless Receiver for Alarm Engine
ELK-AERF9	Two-Way Wireless Transceiver for Alarm Engine
ELK-AEWF	Wi-Fi Adapter for Alarm Engine
ELK-AEXDD	Digital Dialer for Alarm Engine
ELK-AEXIN	16 Zone Input Expander for Alarm Engine
ELK-AEXOU	8 Relay Output Expander for Alarm Engine
ELK-AEXRFA	Alarm Engine Bus Adapter for RF Receiver/Transceiver
ELK-AEXRFA3	319.5 MHz RF Receiver with Bus Adapter for Alarm Engine
ELK-AEXRFA9	Two-Way RF Transceiver with Bus Adapter for Alarm Engine
ELK-AEZW	Z-Wave Interface Module for Alarm Engine

Important Steps Before Installation

ElkConnect Account Setup

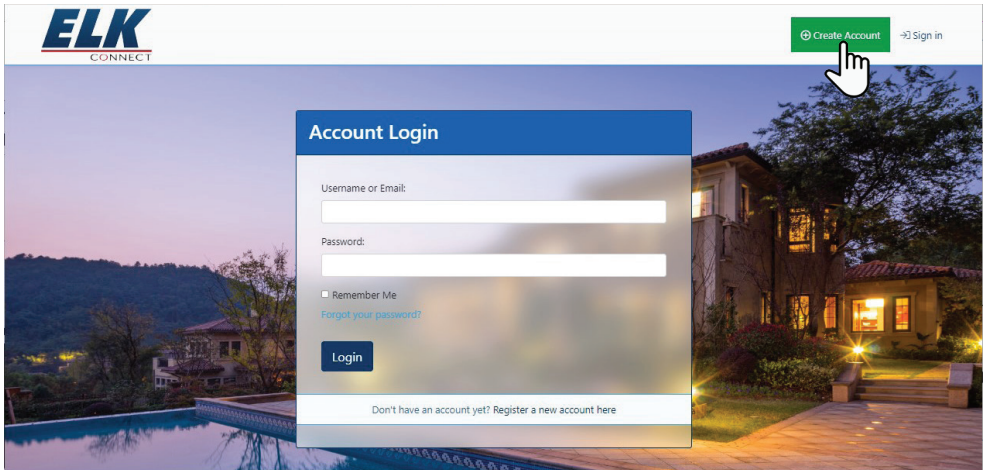
All E27 Controls must be registered and assigned through the ElkConnect cloud portal prior to configuration. An ElkConnect account is required to complete system registration. The ElkConnect cloud portal can be accessed at www.elkconnect.com.

IT IS IMPORTANT TO ESTABLISH AN ACCOUNT PRIOR TO INSTALLATION. ACCOUNT REQUESTS MUST BE MANUALLY APPROVED BY ELK.

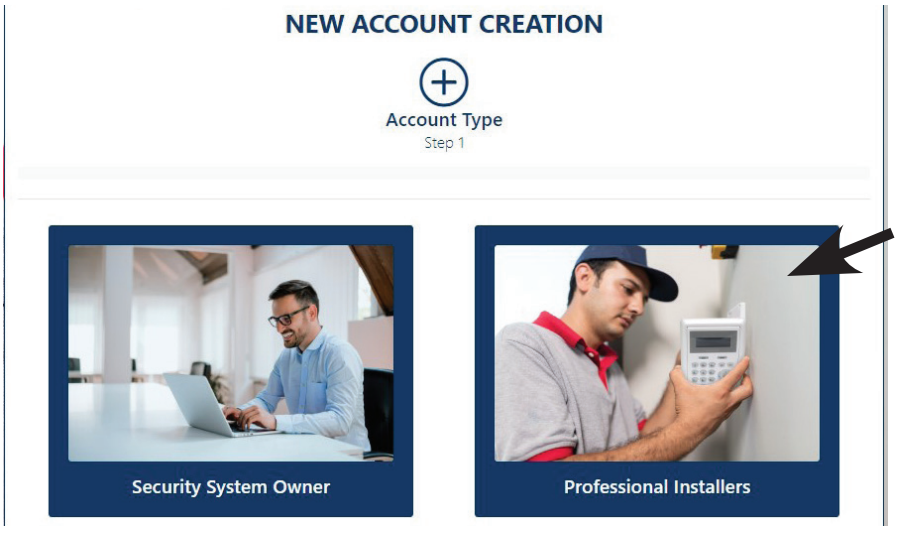
Creating a New ElkConnect Account

The following steps should be completed by the person within the installing company responsible for account administration. Once the ElkConnect account is created, the account administrator will be able to add other company employees that require access to ElkConnect. Each employee will have their own login credentials for ElkConnect. Account administrators can add, remove, and set permissions for each employee.

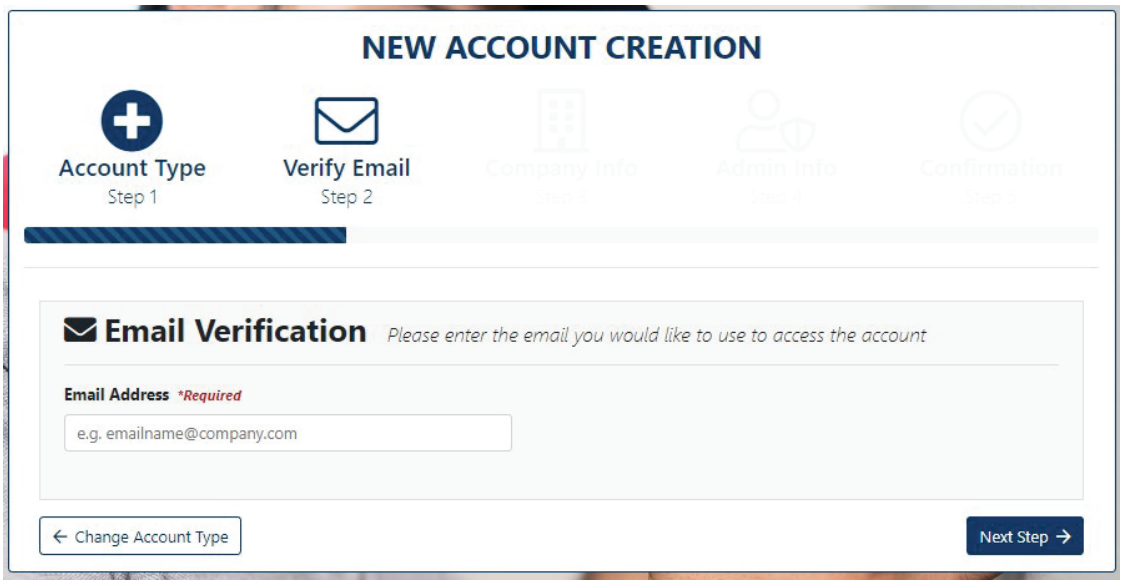
1. Go to www.elkconnect.com. Click the Create Account button at the top of the screen.



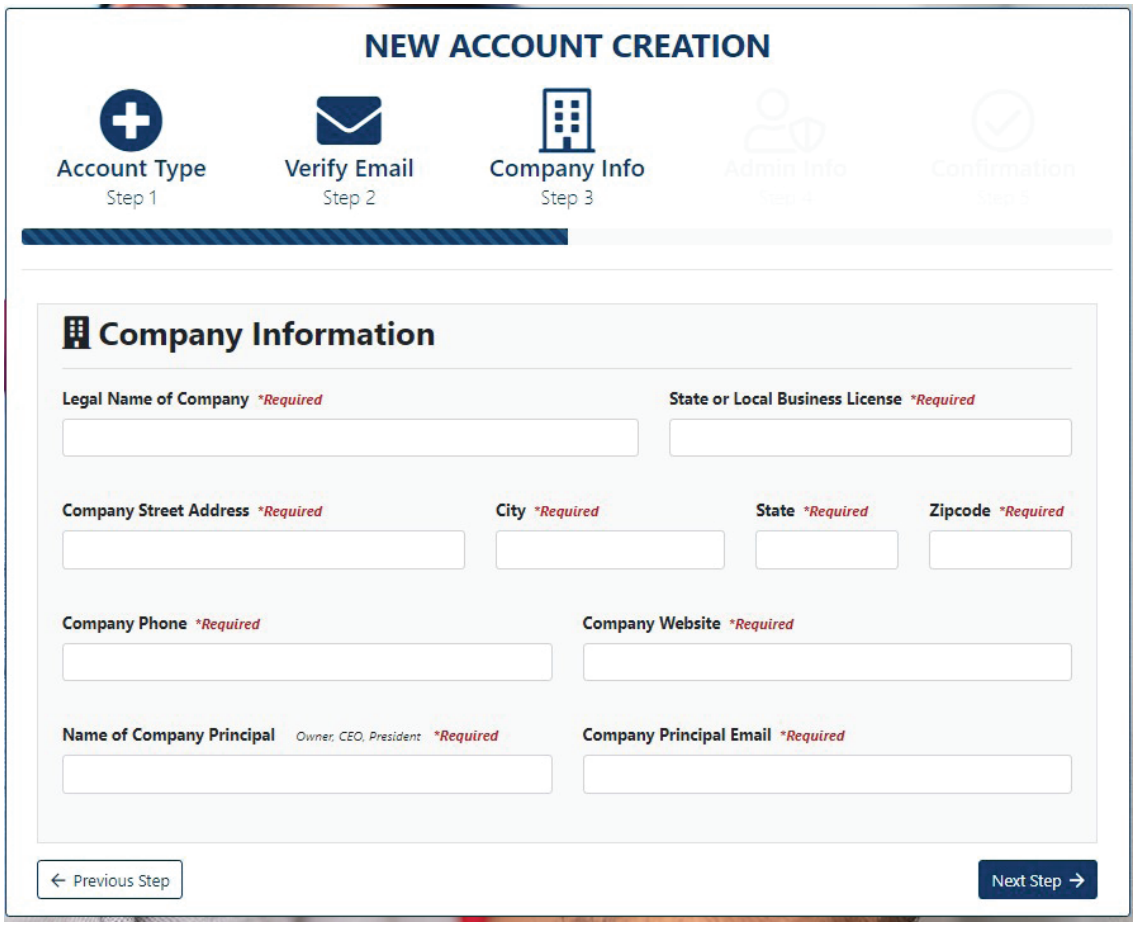
2. To create a new Installer account , select Professionals Installers. Then click Next Step.
System owners cannot directly request an ElkConnect account. Owner accounts must be created by the installer account that registered the system with ElkConnect.



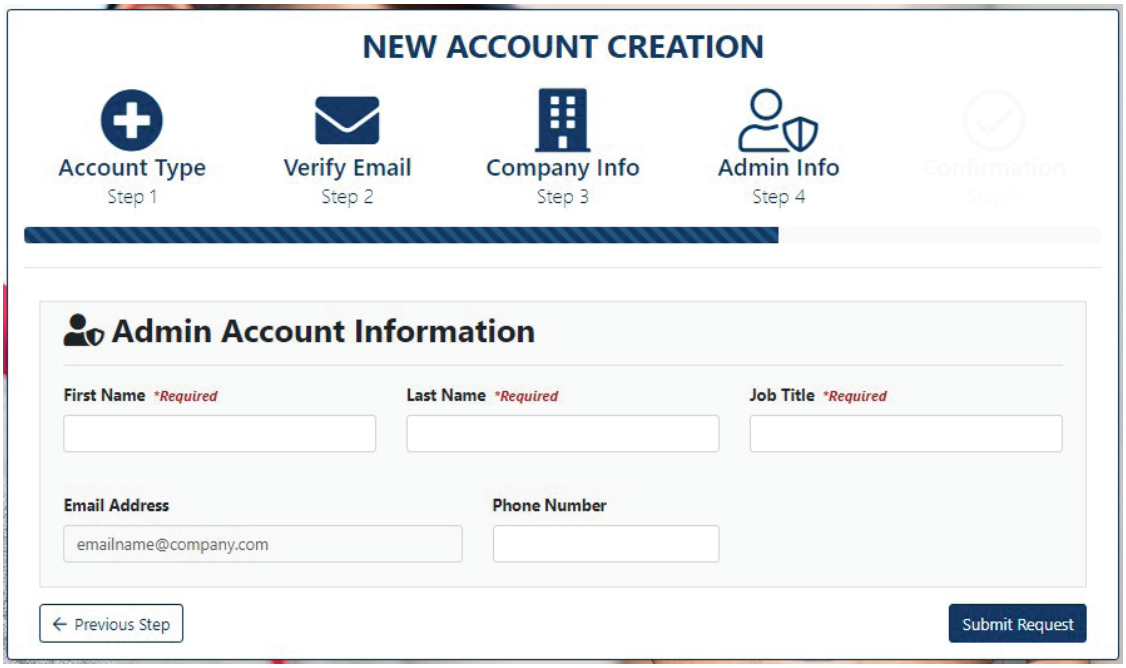
3. Enter the email address of the account administrator and click Next Step.
ElkConnect will verify the email address has not been previously registered. If the address has already been registered, please try logging in or resetting the password.



4. Complete the Company Information form and click Next Step.



5. Complete the Admin Account Information form and click Submit Request.

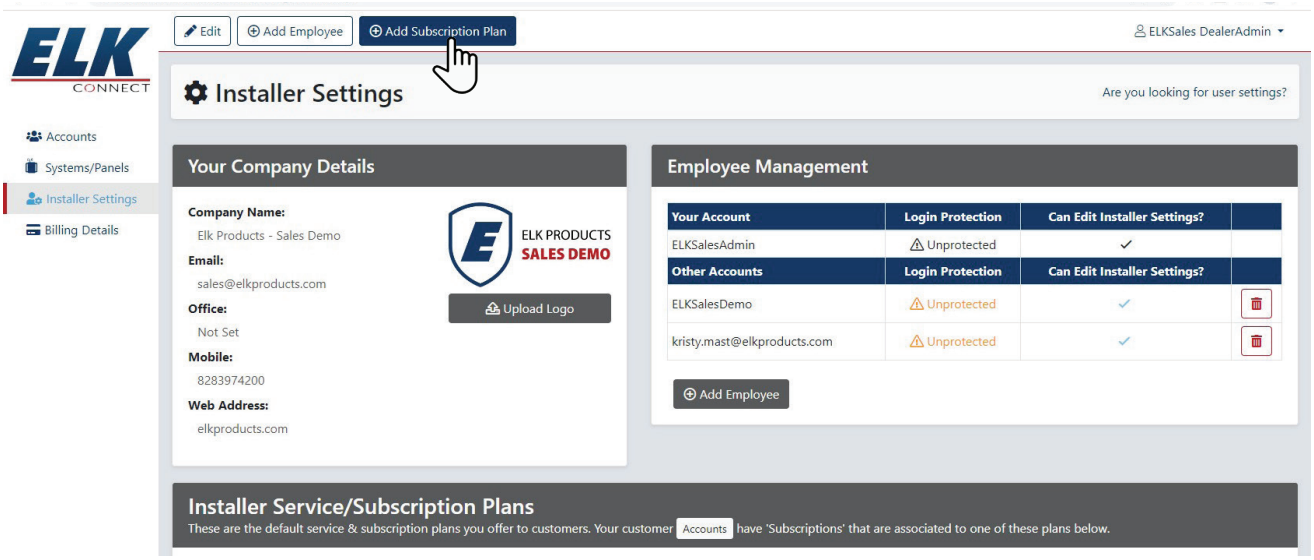


ElkConnect account requests must be reviewed and approved by an ELK Products associate. Requests are typically processed within 1 business day. A welcome email will be sent to the admin address when the account request has been approved.

Installer Settings

Once approved and logged into your ElkConnect account, go to Installer Settings. This page allows you to edit company details, add and manage employees, and add subscription plans. You must add a subscription plan in order to create customer accounts and assign systems to those customer accounts.

1. To add a subscription plan, click the Add Subscription Plan button at the top of the Installer Settings page.

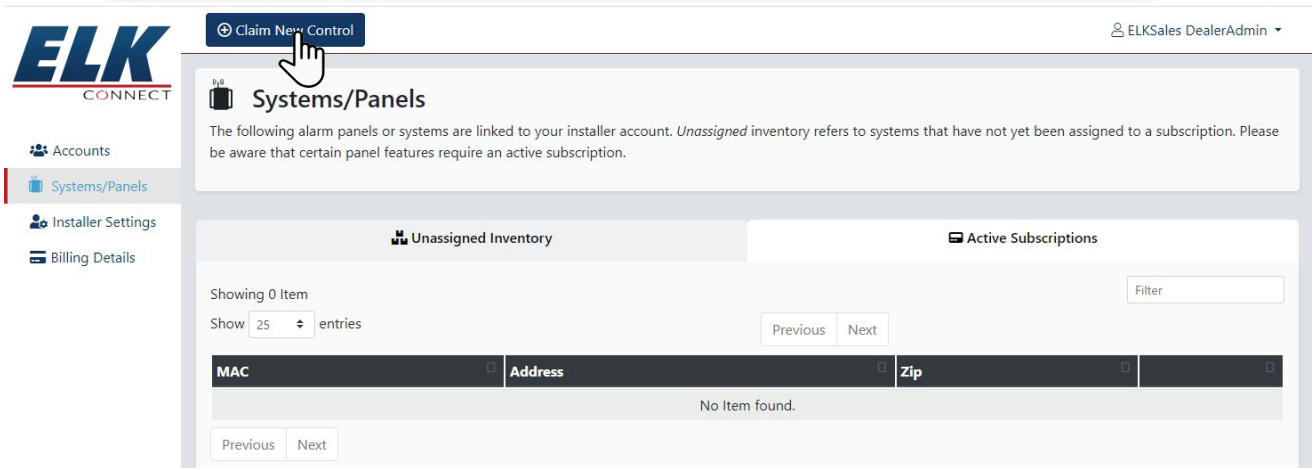


2. Enter a Name for the Subscription Plan, and select the desired Base Plan. Then click Save Installer Plan.

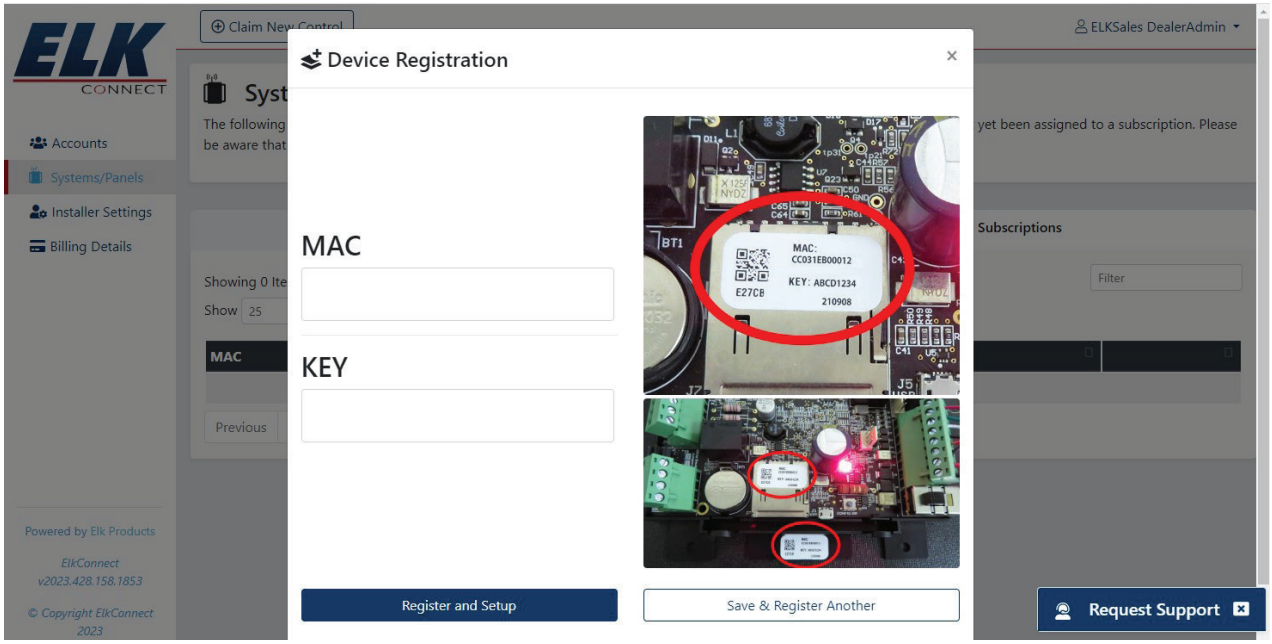
Claim and Assign E27 Controls through ElkConnect Portal

All E27 Controls must be claimed and assigned through the ElkConnect cloud portal prior to configuration.

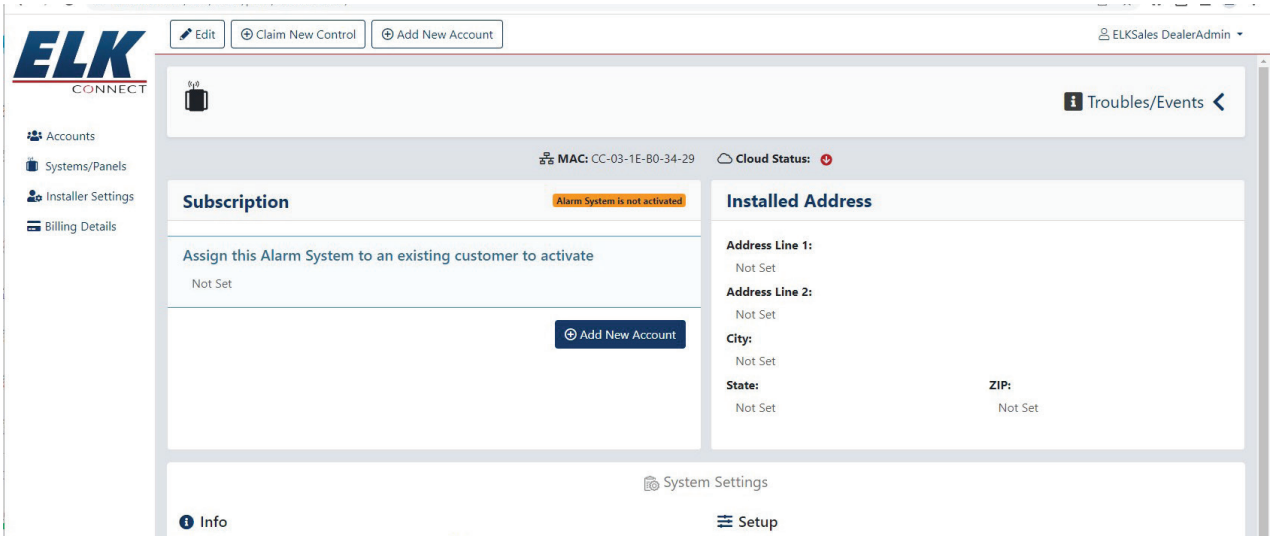
1. From the Systems/Panels page, click the Claim New Control button at the top of the page.



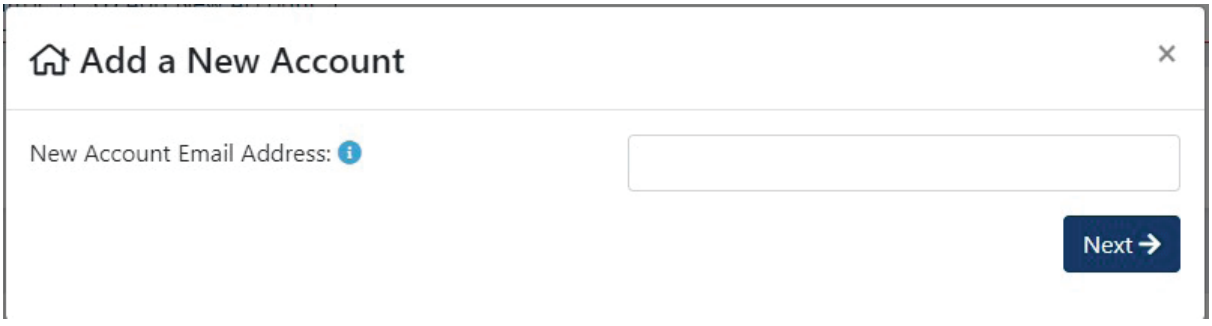
2. On the Device Registration page, enter the MAC address and Key found on the label of the E27 Control. The device registration page displays example images illustrating the location of the MAC/Key label.



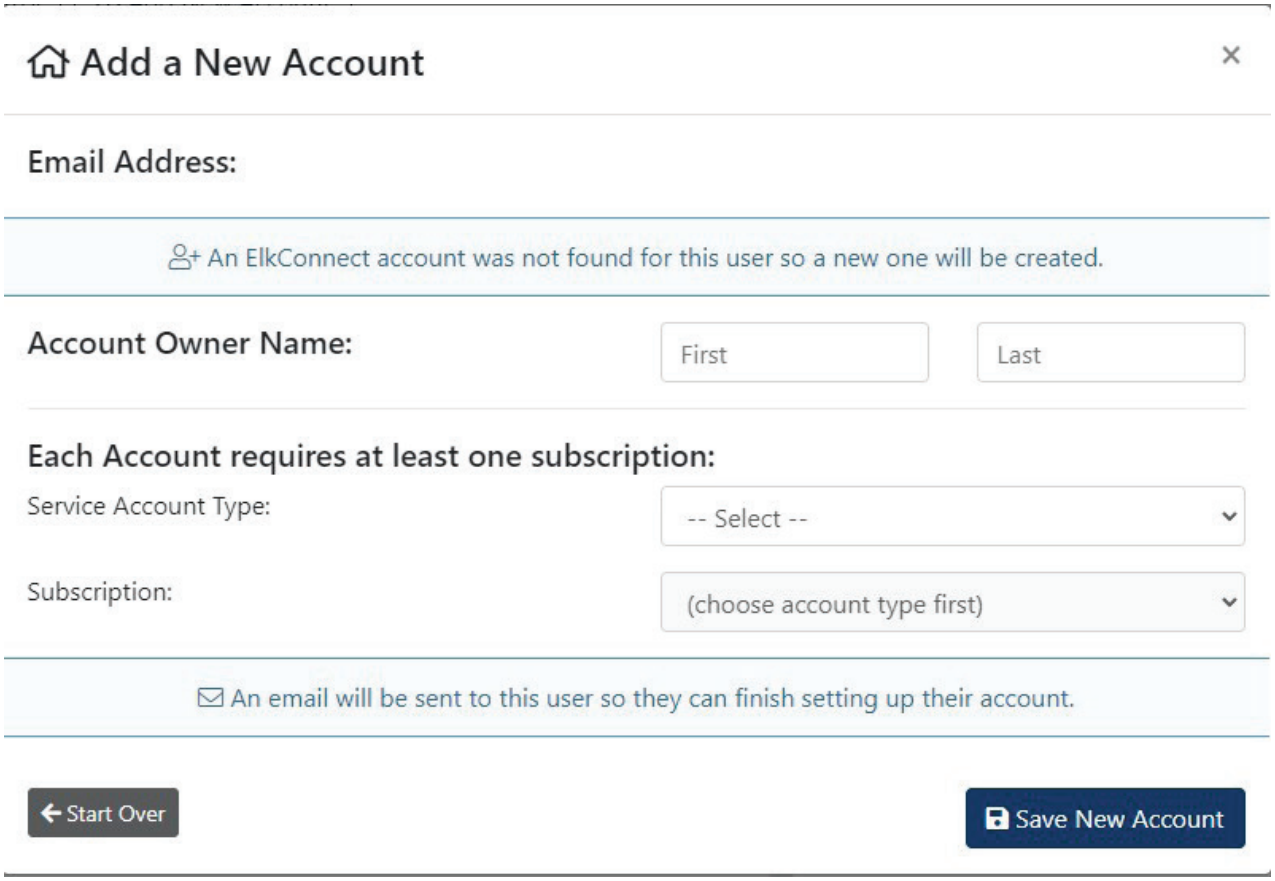
3. Click the Register and Setup button to continue. If the E27 is successfully registered (claimed), the panel details page will be displayed. If the panel has already been claimed or any other issues occur during registration, you will receive an error message indicating the issue.
4. Next, create a Customer account. Click the Add New Account button at the top or in the Subscription section of the Panel Details page.



5. Enter the email address of the end customer for the E27 control. Then click Next. *ElkConnect will verify the email address has not been previously registered.*



6. Next, enter the Account Owner name, select the service account type (residential or commercial), and select the desired subscription plan.



7. Click Save New Account. An email will be sent to the user, allowing them to confirm their account details and setup their account password.
8. The E27 Control is now ready to be installed and configured.

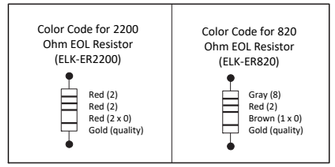
Download ElkConnect App

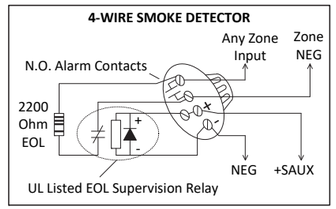
The ElkConnect App is available for both Android and iOS devices. Scan the corresponding QR code below or search ElkConnect on the Google Play Store or iOS App Store.

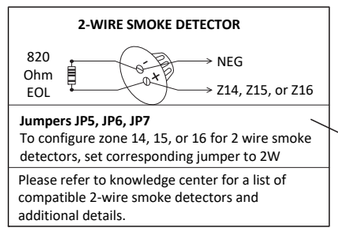
GET IT ON Google Play

Download on the App Store

E27 Board Layout Diagram





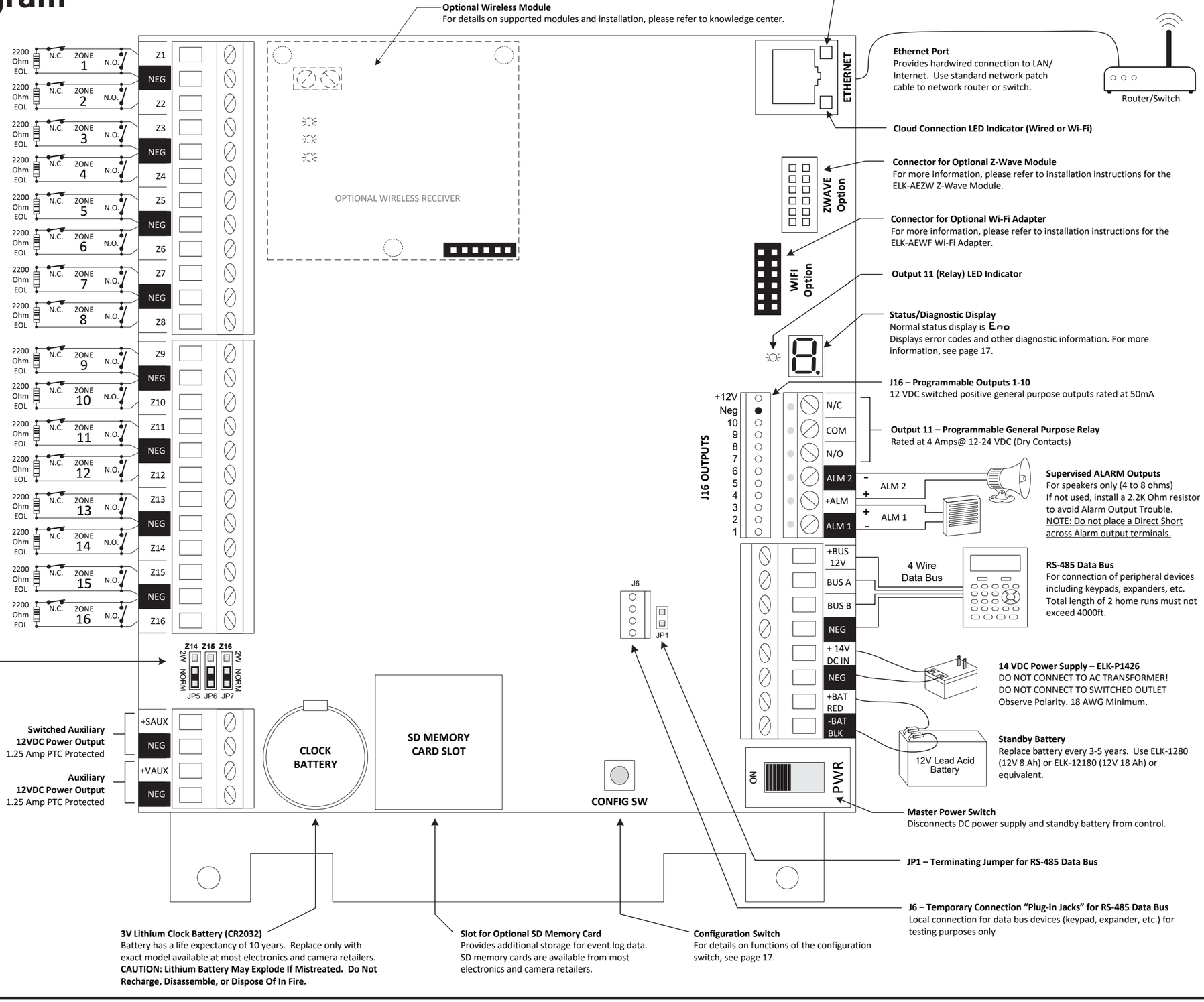


Smoke Detector covers should be kept free from dust and dirt by use of a dry or damp (water) cloth as needed. When necessary, clean the detector interior and/or replace the optical chamber according to instructions provided by the Smoke Detector Manufacturer.

Testing of this system should be performed regularly with the primary DC power de-energized.

Control panel specifications are subject to change without notice.

Current Draw
E27CB Board Only = 100mA



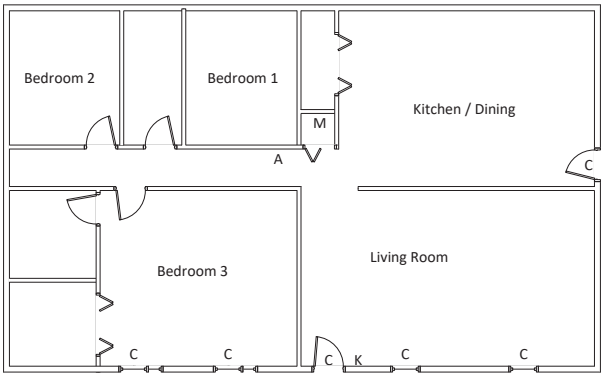
Installation and Wiring

Planning the Installation

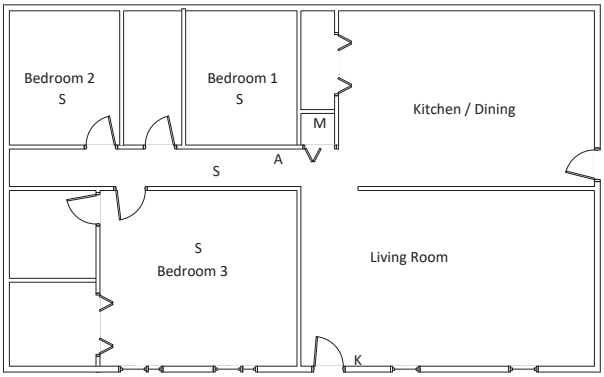
The first step in any multi-zone security system installation is planning the job.

1. Read this entire manual to familiarize yourself with all system features and procedures before actually beginning the installation. Read all the information regarding Underwriters Laboratories (UL) and NFPA requirements.
2. Perform a physical survey of the installation site. Use the diagrams below as a guide in planning the installation.
3. Discuss the installation requirements and applications with the customer.
4. Compare the installation requirements and applications with the factory default settings to determine what customized programming is needed to meet the specific installation requirements.
5. Bench test the system prior to installation.

TYPICAL BURGLARY INSTALLATION LAYOUT



TYPICAL FIRE INSTALLATION LAYOUT



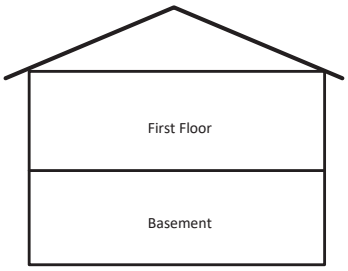
All perimeter openings 18" below ceiling should be provided with protection.

A Smoke Detector shall be located in each sleeping area and between the sleeping areas and the main living area.

Early warning fire detection is best achieved by the installation of fire detection equipment in the location shown above.

In homes with basements or multiple levels at least one smoke detector shall be on each level.

Legend
M - Main Control
A - Audible Alarm
S - Smoke Detector
C - Contact
K - Keypad



Mounting and Wiring Preparation

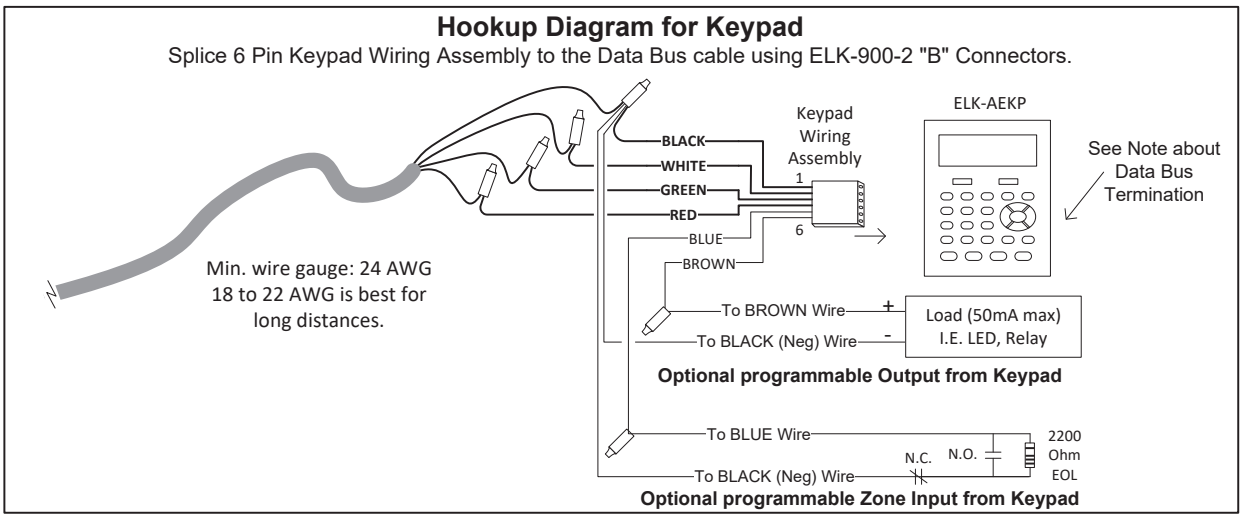
Control Mounting

DO NOT MOUNT THE CONTROL OUTDOORS OR IN A DAMP LOCATION OR WHERE THE ENVIRONMENTAL CONDITIONS ARE UNSUITABLE FOR ELECTRONIC BASED EQUIPMENT. DO NOT MOUNT IN AN UNCONDITIONED ATTIC. USE COMMON SENSE AND GOOD INSTALLATION PRACTICES. A suitable location would be inside a secure dry location where the ambient temperature inside the control box can remain at 32˚ to 120˚ Fahrenheit (0˚ to +49˚ Celsius). Choose a location that allows easy wiring to an unswitched power outlet and to a grounding conductor for the control. A central location makes running system wiring easier. Remove control box knockouts that best suit your wiring needs.

After removing all packing materials, compare the system components with those in the figure above to familiarize yourself with the part names. Mount the control using the upper center slotted hole to level. Install and connect all necessary wiring for the power transformer, detection loops, keypads and siren outputs.

Keypad Mounting and Wiring

Ideal height is 50-58 inches. Pick a location with an ambient temperature range between 32˚ and 120˚ F (0˚ to +49˚ C). Avoid direct sunlight if possible. Fasten backplate to electrical box or wall with flat head screws to prevent shorts to the back of the circuit board. Keypads have an unpluggable harness for connecting to the E27 data bus. Splice the Black, Red, White, and Green wires from the unpluggable harness to the E27 Data Bus field cabling. Plug the connector into the back of the keypad. Tuck wires neatly into back plate and install Keypad on mounting plate. The LCD keypads have connections for an optional programmable output and a programmable zone input. NOTE: Min. field wire gauge is 24 AWG, but 18 to 22 AWG is better for long distances. CAT5 (8 conductor) cable can be purchased in various wire gauge sizes. Where possible always use the larger gauge CAT5 cable. The extra conductors in CAT5 wires can be used to provide return path for the data A & B lines.



NOTE: Refer to the section 'Data Bus E.O.L. Termination' for information on multiple home run cables. NEVER SPLICE OR CONNECT WIRE WITH CONTROL POWER ON. Minimum cabling should be four conductor 22 or 24 gauge. Maximum resistance per wire is 25 Ohms. Device placement beyond 1000' is not recommended.

Control Wiring

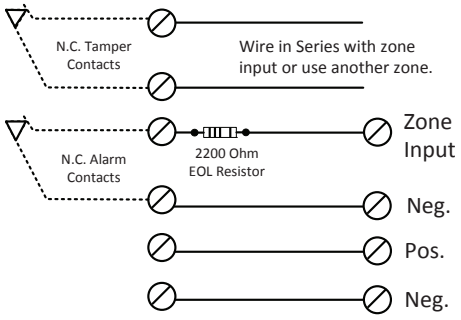
Hardwired Inputs

The mainboard has 16 hardwired inputs, Z1 through Z16. Additional hardwired inputs may be added using input expanders connected to the RS-485 4-wire data bus. Each 2 zones share a common negative terminal. A zone may be programmed for EOL resistor supervision (Default), or normally closed/normally open without a resistor. In addition, Burglar zones may be programmed for EOL with Security Alert on Short, or EOL with Security Alert on Open/Short, also referred to as a **Four (4) State Zone**. If EOL resistors are used, they should be placed at the furthest most remote end of the detection device wiring. EOL zones permit a combination of N.C. (normally closed) or N.O. (normally open) devices. **Using voltage meter probes across the zone and com terminals, a non-violated EOL zone will measures approx. 7.0 VDC. An open circuit will be approx. 13.8 VDC. A shorted circuit will be 0 VDC.**

Traditional Three (3) State Zone Wiring (1 series resistor)

Alarm Contact

Diagostic Table			Condition When:	
Zone Resistance	Approx. Range of Zone Voltage	A to D Value	Armed	Disarmed
Short ~	0 - 3.8 Volts	0 - 71	Alarm	Not Ready
2.2k Ohms	3.9 - 8.9 Volts	72 - 164	-	Ready
Open ~	9.0 - 13.8 Volts	165 - 255	Alarm	Not Ready



Powered Motion, PIR, Glassbreak, etc.

Optional Four (4) State Zone Wiring (2 series resistors w/ N.C. contacts)

Program Zone for EOL Wiring Type 4 - Supervisory on Open

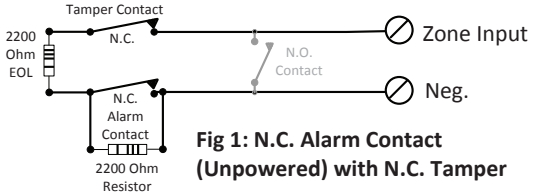


Fig 1: N.C. Alarm Contact (Unpowered) with N.C. Tamper

NOTE: Four (4) State Zones cannot be used with force arming and certain RP rules.

Diagnostic Table			Condition When:	
Zone Resistance	Approx. Zone Voltage Thresholds	A to D Value	Armed	Disarmed
Short ~	0 – 3.8 Volts	0 - 71	Alarm	Sec. Alert/Tamper
2.2k Ohms	3.9 – 8.6 Volts	72 - 158	-	Ready
4.4k Ohms	8.7 – 11.9 Volts	159 – 219	Alarm	Not Ready
Open ~	12.0 - 13.8 Volts	220- 255	Alarm	Sec. Alert/Tamper

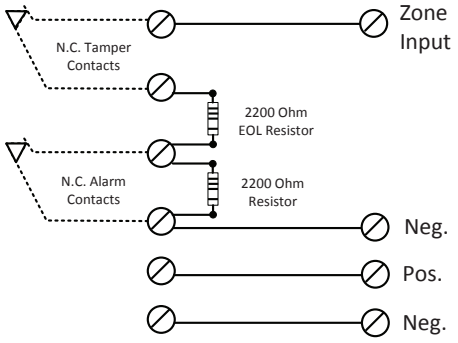


Fig 2: Powered PIR, Glassbreak, etc. with Tamper

Two-Wire Smoke Zones (Z14, Z15, Z16)

Two-wire smoke detectors are allowed on inputs 14, 15, and 16 of the E27 main board. To enable use of two-wire smoke detectors position the corresponding jumper (JP5=Z14, JP6=Z15, JP7=Z16) so that the top and middle pins are covered. Program to the sensor definition to Fire and set the Hookup type for the Hardwired Input to 2W- 2 Wire. **NOTE Use only compatible two-wire detectors listed in this manual. Do not mix brands. Do not exceed the maximum number of detectors listed in this manual. For two-wire operation, a 820 Ohm EOL resistor part # ER820 must be used instead of the 2,200 Ohm resistor part # ER2200. Use 18AWG Fire approved wire. Max. wire length = 1000 feet. Max. wire resistance should not exceed 13 Ohms.**

Switched Power Connection (+SAUX)

Four-wire smoke detector and other devices that require a temporary power disruption in order to reset or unlatch from the alarm state (i.e. smoke detectors, etc.) should be connected to the +SAUX 12 Volt DC switched power terminal. When a smoke reset is performed, the operating voltage to these devices is momentarily interrupted.

Auxiliary Power Connection (+VAUX)

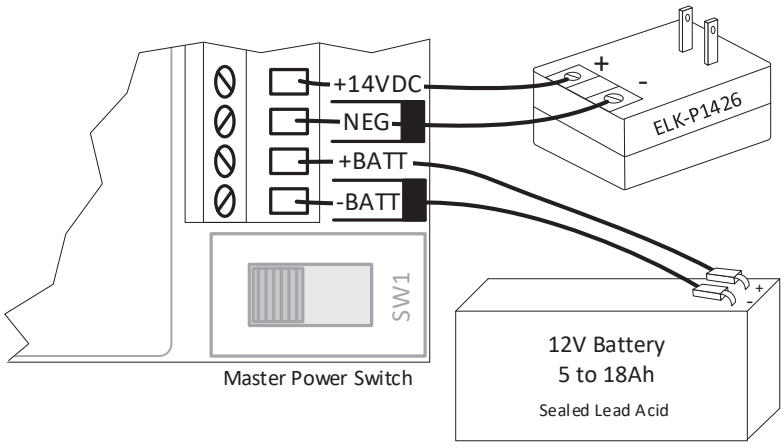
Motion detectors, glass breaks, etc. and other devices requiring unswitched 24-hour power should be connected to the auxiliary terminal, +VAUX. All negative terminals on the terminal strip are at the same reference and may be used whenever a common (circuit ground) negative is required. Use caution when wiring the control to distribute the load devices among the supply and the negative terminals evenly. **NOTE: Circuit ground refers to any negative terminal connection on this control. This does not refer to the common terminals of the relay output. These terminals are not at the same voltage potential and should not be wired so that they are electrically connected to a negative.**

PTC (Positive Temperature Coefficient) Circuit Breakers

The +VAUX Auxiliary power and J16 power output terminals are protected against shorts and overloads by a 1.25A PTC. A PTC is a solid state, auto-restoring type of circuit breaker. The +SAUX Switched (Smoke) power output is protected by a 1.25A PTC. The +BUS 12V power output is protected by a 1.25A PTC. Alarm outputs 1 & 2 are protected by a 1.25A PTC. **NOTE: Sometimes it may be necessary to remove power (unplug the outputs) for approx. 20 seconds after a short, to allow the PTC to reset. Even if the short is no longer present, the remaining residual current draw may be so high that the PTC cannot determine that the short is gone. If the PTC re-trips, check the field wiring and repair.**

Primary Power Input (DC)

The control is powered by a 14 VDC, 2.6 Amp, UL Listed power supply (ELK-P1426). The specified sized and rated power supply must be used to operate this control. The P1426 power supply must be connected to a 120 VAC, 24-hour outlet not controlled by a switch other than an approved overcurrent protection device.
Connect the power supply to the DC Power Input Terminals using 16 to 18 gauge minimum wire. **Be careful to observe polarity!** Do not exceed 50 feet between the power supply and the control or run the DC power in a multi-conductor with other system circuits. Leave the power supply unplugged as well as the standby battery until all other connections have been made.



Standby Battery Connection

Connect the BLACK wire to the Neg (-) terminal on the battery, the connect the RED wire to the Pos (+) terminal on the battery. The control is designed to operate with and recharge a 12 volt, sealed lead acid battery from 5Ah up to 18 Ah for backup of the primary power supply. The control maintains a float charge for the battery of 13.8 VDC at 200 mA. This is in addition to the continuous output of 2.4 Amps that the power supply maintains.

CAUTION: Do not reverse the battery leads! The control has special circuitry which helps protect it from battery reversal damage for short durations. However, prolonged reversal of the battery leads may cause permanent damage.

AC Failure, Low Battery, and Automatic Low Voltage Shutdown

During an AC power failure the battery automatically takes over and AC Fail trouble annunciates at the keypad. The communicator can be programmed to report AC Fail to the Central Station after a time delay.

If the battery voltage falls below 11.2 VDC a Low Battery Trouble condition will occur. The communicator can be programmed to report Low Battery to the Central Station. The battery will continue to run the control until its voltage drops below 10.2 VDC, at which time the control will disconnect and shut down to prevent a false alarm and damage to the battery. The AC Fail trouble display will clear if the AC restores. The Low Battery Trouble will clear when the battery voltage rises above 11.3VDC. An automatic battery load test is performed every 24 hours.

Ethernet (RJ45) Connection

The on-board RJ45 Ethernet connector can be used to connect the E27 main board to a network router or switch for LAN/Internet connectivity. Use a standard network patch cable for this connection.

Z-Wave Connection

If the installation will include Z-Wave integration, the ELK-AEZW Z-Wave Module must be connected to the dedicated Z-Wave connector on the E27 main board. The Z-Wave module must also be enabled in programming. See the ELK-AEZW instructions for more information.

Wi-Fi Connection

If the installation will utilize Wi-Fi as the method of connection to the network/Internet, the ELK-AEWF Wi-Fi Adapter must be connected to the dedicated Wi-Fi connector on the E27 main board. The Wi-Fi adapter must be configured upon initial connection through the ElkConnect App. See the ELK-AEWF instructions for more information.

Status/Diagnostic Display

The E27 main board features a seven segment display, which provides system status and diagnostic information. The table below outlines the various indicators and error codes that may appear on this display. Error codes consist of 3 characters and will appear on the display in sequence, one character at a time. Other indicators are a single character or symbol.

Indicator	Description
A	E27 IP Address will be displayed
E	Error code will be displayed
r	Panel is rebooting
b.L	Panel is in boot loader mode
d	Awaiting approval to factory default
n	Awaiting approval to enable Wi-Fi AP Mode
Π	Awaiting approval to enable Wi-Fi WPS Mode

Error Code	Description
E.no	No Errors
E.01	Reading Configuration
E.02	AC Power Failure
E.03	System Low Battery Trouble
E.04	Bus Device Trouble
E.05	Wireless Receiver Trouble
E.06	No Comm Over Ethernet
E.07	Ethernet Cable is Unplugged
E.08	No CS Configured
E.09	Unable to Reach CS Receiver
E.10	No DHCP Server Found
E.11	- not used -
E.12	Error Accessing Cloud
E.13	Error Accessing Z-Wave Controller
E.14	Network Packet Error
E.15	Error Accessing SD Card
E.16	Network Socket Error

CONFIG Switch

The CONFIG switch is used to activate certain functions or modes in the E27 control.

WI-FI MODES

AP Mode: Press the Config SW button 5 times. Wait for the ⌐ symbol (small n) to appear on the seven segment display, then press the Config SW button twice.

WPS Mode: Press the Config SW button 7 times. Wait for the ⌐ symbol (large n) to appear on the seven segment display, then press the Config SW button twice.

DEFAULTING PANEL

Before powering up the E27, press the Config SW and hold while turning on the power switch. Continue to hold until the d symbol (small d) appears on the seven segment display, then press the Config SW button twice.

Outputs

There are 13 outputs on the main board. Outputs may be expanded utilizing output expander boards connected to the RS-485 4-wire Keypad data bus. ALARM 1 & 2 can be triggered when an alarm is activated. All others must be enabled through Rules Programming and can be triggered by multiple conditions “events”. Do not exceed the current limits on voltage only outputs.

ALARM 1 & 2 are for speakers(s) ONLY (4 to 8 Ohms). If connecting more than 2, use series/parallel wiring to avoid going below a 4 ohm total load.

J16 Outputs 1-10 are low current, positive (+) voltage only, for driving LEDs, relays, etc.

The main board also provides a Single Pole Double Throw Relay with form “C” dry contacts (Com, N/O, and N/C).

Earth Grounding

Tests have determined that the best results against lightning and transients are obtained by isolating the control from ground. Do NOT connect any of the terminals, especially the Neg. terminals to earth ground.

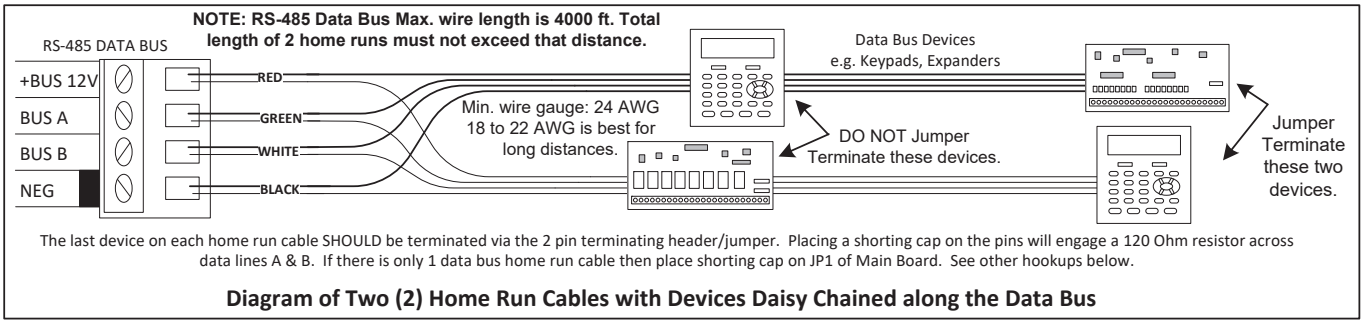
Keypad & Expanders on the RS-485 Data Bus (+BUS 12V, Data A, Data B, Neg)

Keypads and data bus expander devices connect to the four terminals marked +BUS 12V, Data A, Data B, and Neg. The keypad plug-in wire harness color code is: Red +BUS 12V, Green Data A, White Data B, and Black (-) Neg. The +BUS 12V power terminal is protected by an auto reset PTC device. In the event of a short circuit or malfunction, power will be removed from all devices until the problem is resolved. A quick connect header pin plugs (J6) under the cover of the main board may be used for temporary purposes I.E. bench testing using a four conductor ribbon cable. Do not use for permanent connections.

Data Bus E.O.L. Termination - VERY IMPORTANT!

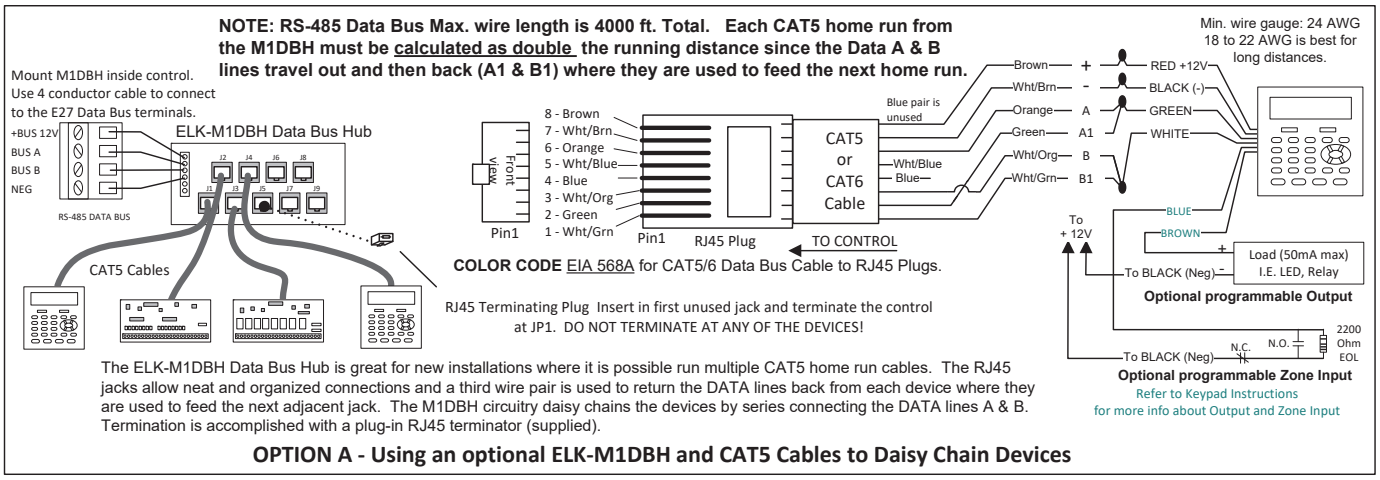
The E27 data bus conforms to EIA RS-485 standards and operates at 115,200 bits per second. The RS-485 standard stipulates there be no more than 2 home run data bus cables attached to the E27 Main Data terminals, with the end of each cable terminated by a 120 Ohm resistor connected across the data wires. The E27 board and bus devices come with built-in terminating resistors that may be activated via 2 pin jumpers (2 Gold Pins). Placing a shorting cap (included in hardware pack) on the two gold pins activates the 120 Ohm terminating resistor across Data Lines A & B. Refer to the instructions for each bus device for details on the location of the terminating jumper. From the factory, no terminating resistors are installed. Without proper termination, noise and interference can cause data corruption and missed communications.

WARNING! Do not splice or interconnect the E27 Data Bus using Telephone type 66 or 110 punch down blocks. The RS-485 Data Bus must NEVER have more than 2 terminating resistors header/jumpers installed.



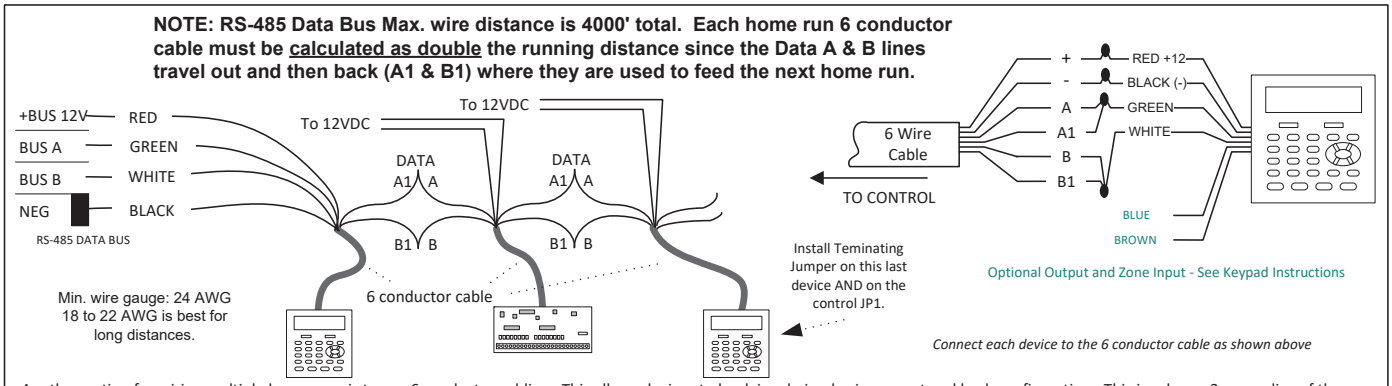
The last device on each home run cable SHOULD be terminated via the 2 pin terminating header/jumper. Placing a shorting cap on the pins will engage a 120 Ohm resistor across data lines A & B. If there is only 1 data bus home run cable then place shorting cap on JP1 of Main Board. See other hookups below.

Diagram of Two (2) Home Run Cables with Devices Daisy Chained along the Data Bus



The ELK-M1DBH Data Bus Hub is great for new installations where it is possible run multiple CAT5 home run cables. The RJ45 jacks allow neat and organized connections and a third wire pair is used to return the DATA lines back from each device where they are used to feed the next adjacent jack. The M1DBH circuitry daisy chains the devices by series connecting the DATA lines A & B. Termination is accomplished with a plug-in RJ45 terminator (supplied).

OPTION A - Using an optional ELK-M1DBH and CAT5 Cables to Daisy Chain Devices

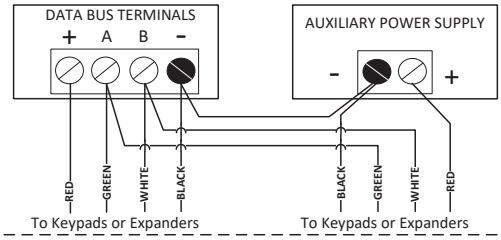


Another option for wiring multiple home runs is to use 6 conductor cabling. This allows devices to be daisy chained using an out and back configuration. This involves a 3 way splice of the BUS A (Green)wire to 2 wires of the 6 conductor cable (designated A and A1). Same is done for BUS B (White) wire. At the control wires A1 and B1 get spliced to the A and B wires feeding the next device. Terminate the last wired device and the control JP3 ONLY! The POS (+) and Neg (-) power wires should be parallel wired to the +BUS 12V and Neg terminals or to an auxiliary Power Supply if the combined current draw exceeds the rated current available from the Control.

OPTION B - Using 6 Conductor Cables and Series Splices to Daisy Chain Connection of Data Bus Devices

An Auxiliary Power Supply will be required if the control's Aux. power load for all combined loads exceeds 2.4 A. Connect as shown to the right. Be sure to connect the negative (-) terminal of the power supply to the negative (-) terminal (Data Bus NEG) on the control.

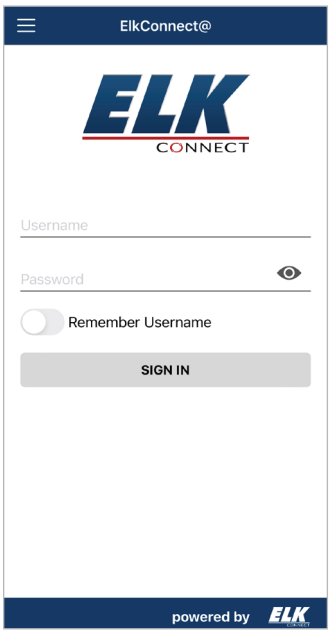
Use a battery backed-up power supply. The battery will be supplying power to the Keypads/Expanders during a power outage. The Power Supply and backup Battery should be sized to supply the Keypads/Expanders power for a minimum standby time.



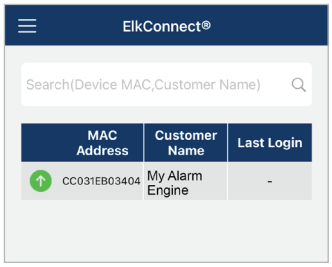
Programming Guide

This guide outlines basic navigation, operation, and configuration of the E27 Alarm Engine using the ElkConnect app.

Connecting to E27

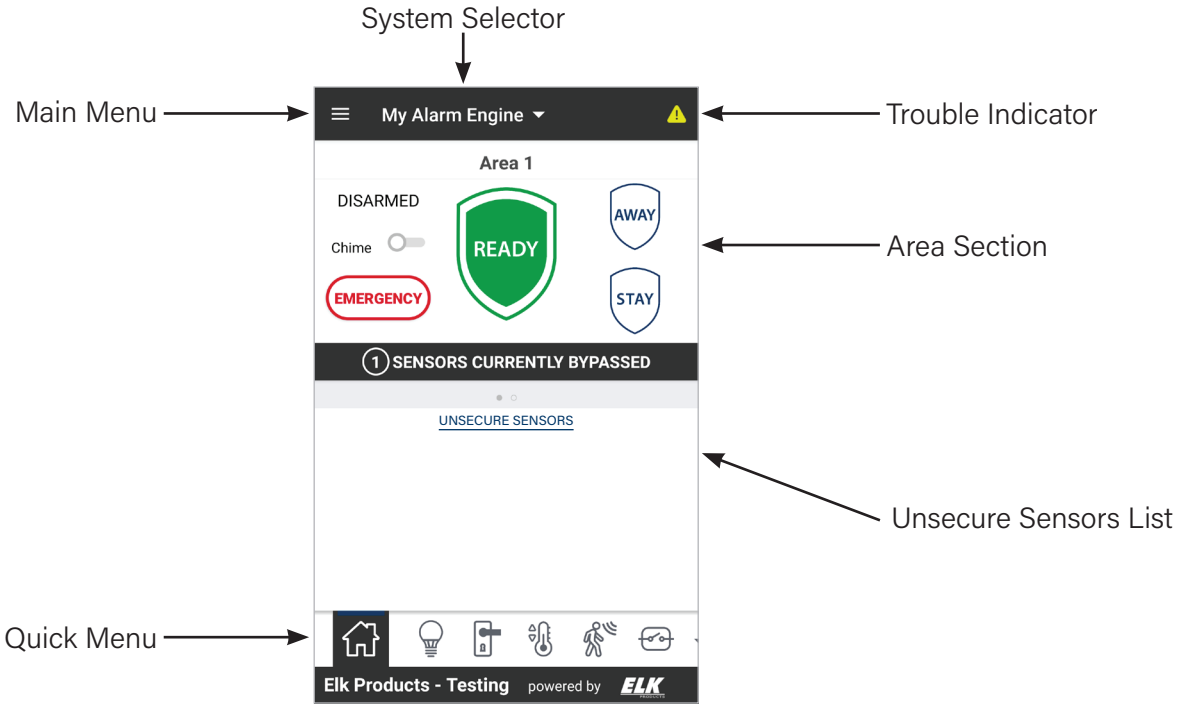


1. Ensure the E27 control is connected to a network with Internet access.
2. Launch ElkConnect app on the mobile device. Log into the app using your Installer username and password (this is the same as your elkconnect.com username and password)
3. A list of the E27 controls associated with your installer account will be displayed with MAC addresses and system names. Locate the desired control and tap to connect.



4. When prompted to enter your pin, enter the default installer code of 1728.
   If connecting via Wi-Fi, please refer to ELK-AEWF instructions for next steps.
5. ElkConnect will establish a connection with the E27 control and display the Home screen

Home Screen



Basic Navigation

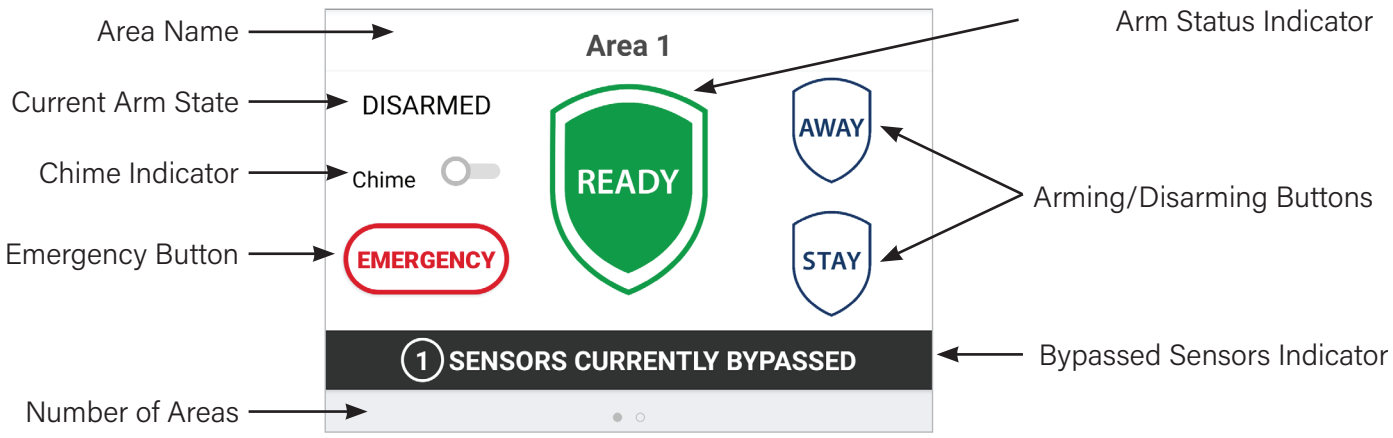
Main Menu - Tap the main menu button to see a full list of menu items. When logged in with User level credentials, some menu items related to system configuration will not appear in the Main menu.

Quick Menu - The Quick Menu provides easy access to common screens, including Home, Lights, Locks, Sensors, History, etc. Some items may be hidden when logged in as a user without Automation permissions. All items in the Quick Menu are also accessible from the Main Menu.

Switching Between Systems - The System Selector dropdown can be used to connect to a different system. Tap the System Selector, then tap the desired system name. If prompted, enter a valid installer or user code for the selected system.

Area Section

The Area section shows the current status and provides controls for each area. If multiple areas are configured, additional areas can be accessed with by swiping to the left/right.



Arming/Disarming

- When the system is Ready, tap the Away button to arm to away mode, or tap the Stay button to arm to stay mode.
- When the system is Not Ready, the system cannot be armed. Secure or bypass unsecure zones.
  Note: If the Auto-Bypass attribute is enabled in the Area Details, the area can be armed while in the Not Ready state. All non-secure bypassable zones will be automatically bypassed upon arming.
- When the system is armed Away or Stay, tap the Disarm button, then enter a valid pin to disarm the system
- When the system is armed Stay, tapping the Away button allows the system to change from Stay to Away mode.

Emergency Button

The emergency button provide access to four emergency alarm modes.

FIRE - Activates a fire alarm in current area. Configured sounder for area will be activated Alarm reporting will follow system configuration in CS Reporting section of programming.

POLICE - Activates a panic alarm in current area. Configured sounder for area will be activated Alarm reporting will follow system configuration in CS Reporting section of programming.

MEDICAL - Activates a medical alarm in current area. Configured sounder for area will be activated Alarm reporting will follow system configuration in CS Reporting section of programming.

SIREN - Activates a local siren alarm in current area. Configured sounder for area will be activated. No reporting will occur.

Chime

A Chime toggle/indicator will be displayed in the Area section. Tap the toggle to change the chime mode. When gray, chime mode is off. When green, chime mode is on and chime tones will be audible from keypads with the Chime attribute enabled.

Unsecure Sensors

A list of unsecure sensors will be displayed below the Area section of the home screen. A bypass toggle will be displayed for any sensor that has the Bypassable attribute enabled in Sensor Details. Wireless sensors will display icons representing battery status and signal strength.

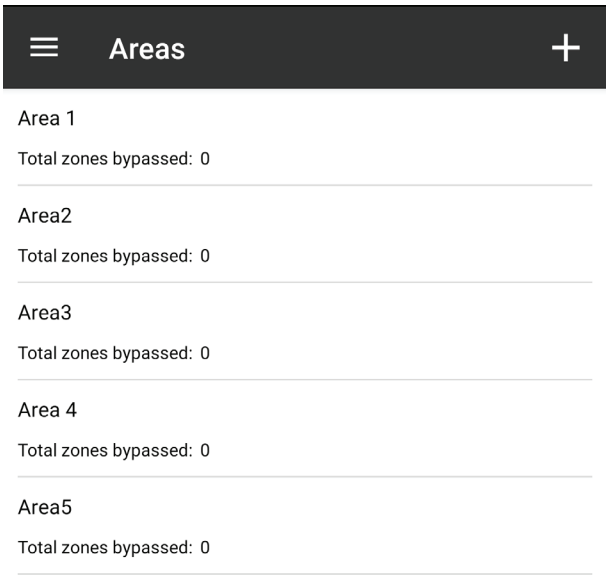
Main Menu

Areas

Displays a list of configured areas. To view or edit area details tap the name to access the Area details page (see Area Details section for more details).

To add an area, tap the + icon in the upper right corner. Configure the area and tap Save. The maximum number of areas that can be added is 8.

To delete a area, either swipe left (iOS) and choose delete or press and hold (Android) the area. Tap OK to confirm.



Areas Details

Area ID: An ID number assigned by the system when the area is created. The system supports up to 8 areas. When a new area is created the lowest available ID will be assigned to the area. This ID cannot be changed in programming.

Name: Enter a text description for the area. Name should be limited to 16 characters or less and may contain letters and numbers. Do not enter any special characters in the Area name.

Entry Delay Time: The amount to time in seconds alarm activation will be delayed after an Entry/Exit sensor (zone) is activated while the system is armed. User must disarm the system during this time period to prevent alarm activation. Range is 10 to 180 seconds.

Extended Entry Time: Applies only to Entry/Exit sensors (zones) with Extended Entry Time attribute enabled in Sensor Details. The amount to time in seconds added to the Entry delay time after an "Extended" Entry/Exit sensor (zone) is activated while the system is armed. User must disarm the system during the entry time period to prevent alarm activation. Range is 0 to 255 seconds.

Exit Delay Time: The amount of time in seconds the user has to exit the premise directly after the system is armed. Entry/Exit sensors (zones) can be opened, then closed during this time period without activating an alarm. Range is 10 to 180 seconds.

Restart Exit: During the initial Exit time, if an Entry/Exit sensor (zone) is violated a second time, the exit timer will automatically restart one time if enabled. (If the exit door opens, closes, then opens again, the timer will restart).

Ringback: If enabled, a closing ringback signal (otherwise known as closing report successful) will be emitted from the selected alarm sounder when the system communicates a closing report to the Central Station and a CS Receiver kissoff (acknowledgment) is received.

Stay No Exit: If enabled, the control will switch from Away mode to Stay mode at the end of the exit delay time if

no entry/exit sensor (zone) has been violated (no exit detected). All interior zones are inactive in Stay mode.

Single Key Arming: If enabled, a user code entry will not be required for arming. The area can be armed with a single press/tap of the Away or Stay button on a keypad or from the ElkConnect App.

Auto Bypass: If enabled, all non-secure bypassable sensors (zones) will be automatically bypassed upon arming of the area. Bypassed zones are inactive and cannot produce an alarm activation.

Auto Arm Enabled: If enabled, the area will automatically arm at the selected time to the selected arm state.

Auto Arm Time: Enter the time of day automatic arming should occur. Auto Arm Enabled must be turned on to allow automatic arming to occur.

Auto Arm Level: Select the desired Arm level; Away or Stay. Auto Arm Enabled must be turned on to allow automatic arming to occur.

Device for Alarm Sound: Select the desired sounder for alarms;

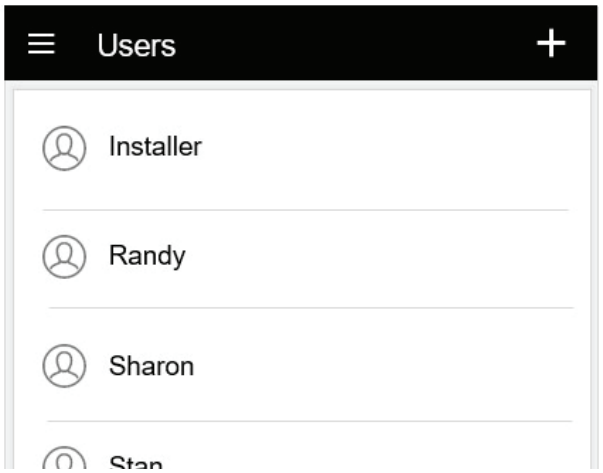
- **Control Piezo:** On-board sounder on the E27 Main Board
- **Control Alarm 1:** Alarm Output 1 on the E27 Main Board. This supervised alarm output utilizes a built-in siren driver. Designed for 8 Ohm Speakers.
- **Control Alarm 2:** Alarm Output 2 on the E27 Main Board. This supervised alarm output utilizes a built-in siren driver. Designed for 8 Ohm Speakers.

Users

Displays a list of configured users. To view or edit user details tap the name to access the User details page (see User Details section for more details).

To add a user, tap the + icon in the upper right corner. Configure the user and tap Save. The maximum number of users that can be added is 199.

To delete a user, either swipe left (iOS) and choose delete or press and hold (Android) the user. Tap OK to confirm.



User Details

User Name: Enter a text description for the user. Name should be limited to 16 characters or less and may contain letters and numbers. Do not enter any special characters in the user name.

User Pin: Enter a 4 digit PIN number for the user. Select a unique PIN for each user

User Group: Select the desired User Group. The User Group determines which area(s) and permissions will be applied to the user.

Openings/Closing: If enabled, an opening and closing report will be transmitted to the Central Station each time the user code is used to disarm and arm. Note: In order for the system to transmit an open or close report to the Central Station, the Opens/Close attribute must be enabled in the Report Categories section on the CS Reporting page.

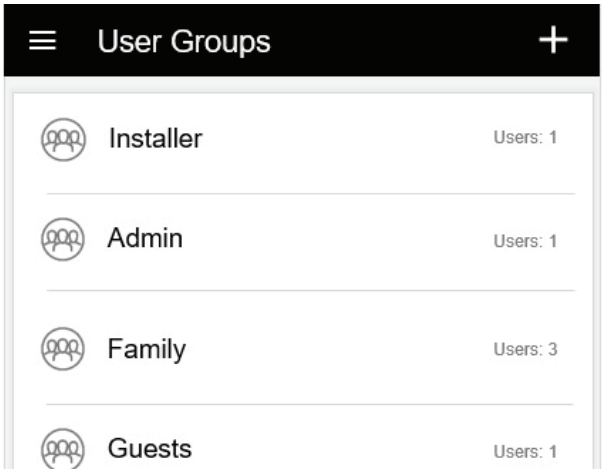
Duress: If enabled, a duress report will be transmitted to the Central Station each time the user code is used to disarm and arm. Note: In order for the system to transmit a duress report to the Central Station, the Duress attribute must be enabled in the Report Categories section on the CS Reporting page.

User Groups

Displays a list of configured user groups. To view or edit user group details tap the name to access the User Group details page (see User Details section for more details).

To add a user group, tap the + icon in the upper right corner. Configure the user group and tap Save. The maximum number of user groups that can be added is 10.

To delete a user group, either swipe left (iOS) and choose delete or press and hold (Android) the user group. Tap OK to confirm.



User Group Details

User Group Name: Enter a text description for the user group. Name should be limited to 16 characters or less and may contain letters and numbers. Do not enter any special characters in the user name.

Areas: Select the desired Areas. Users assigned this group be able to control the selected areas.

Permissions

Arm: If enabled, user(s) assigned the group can arm the area(s) assigned to the group

Disarm: If enabled, user(s) assigned to the group can disarm the area(s) assigned to the group

Bypass: If enabled, users assigned the group can bypass sensors (zones) in the areas assigned to the group

Automation: If enabled, user(s) assigned to the group can view and control lights, locks, thermostats, outputs, garage doors, tasks, and user values.

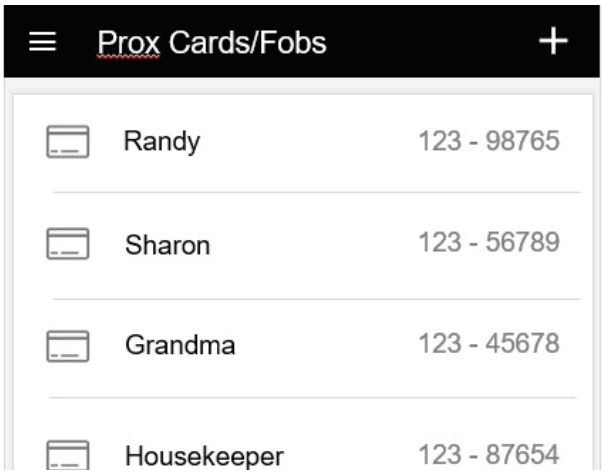
Test: If enable, user(s) assigned to the group can access system tests

Prox Cards/Fobs

Displays a list of configured prox cards/fobs. To view or edit prox card/fob details tap the name to access the Prox Card/Fob details page (see Prox Card/Fob Details section for more details).

To add a prox card/fob, tap the + icon in the upper right corner. Configure the prox card/fob and tap Save. The maximum number of prox cards/fobs that can be added is 199.

To delete a prox card/fob, either swipe left (iOS) and choose delete or press and hold (Android) the user group. Tap OK to confirm.



Prox Card/Fob Details

Facility Code: Enter the three digit number printed on a card/fob.

Card ID: Enter the five digit number printed on a card/fob.

User: Select the desire user to associate with this credential from a the list of existing users. The selected user will determine the permissions of the credential.

System Settings

SETUP

Name: Enter a text description for the system. Name should be limited to 16 characters or less and may contain letters and numbers. Do not enter any special characters in the system name.

Note: Changing the system name will cause a disconnect from the ElkConnect app. The system must re-establish connectivity with the cloud after a name change, which may take several minutes.

Enable Onboard RF Receiver: Enable this option if the AERF3 or AERF9 wireless receiver is installed on the dedicated Wireless Receiver connector on the mainboard.

Enable Z-Wave Module: Enable this option if the AEZW Z-Wave Module is installed on the dedicated Z-Wave connector on the mainboard.

Enable Cloud Access: If enabled, the E27 will connect to the ElkConnect cloud, allowing remote programming and interactive services. *Note: Interactive services and remote access require an active monthly subscription plan. See elkconnect.com for more details.*

Enable SD Card: If enabled, the E27 will save log entries to an SD card installed in the SD card slot on the main board.

Single Alarm Lockout: If enabled, alarm sounders can be activated only once per arm cycle for burglar type alarms. This feature is intended for noise abatement. The system will continue to communicate all alarms that may occur to Central Station via the programmed reporting path.

Cross Zone Time: If use of cross zoning is desired, enter the time in seconds that is allowed for two or more sensors (zones) to verify each other in an alarm condition. The Cross Zone feature is only allowed for sensors (zones) defined as Interior and having the Cross Zone attribute enabled in Sensor Details.

Cross Zone Self Verify: If enabled, a sensor (zone) with cross zone enabled may be allowed to self-verify an alarm condition with a second trip of the same sensor within the cross zone time.

Enable Piezo: If enabled, the on-board piezo will sound for audible system troubles. The on-board piezo may be utilized as a alarm sounder for areas with Control Piezo selected in the Device for Alarm Sound attribute on the Area Details page.

TIME AND LOCATION

System Up Time: Displays the amount of time in minutes the E27 has been powered up. This timer is reset each time the system is powered down

System Time: Displays the current date and time stored in the E27. The date is displayed as YYYY/MM/DD and the time is displayed in 24 hr format. The system date/time is automatically calculated based on the system location. Events written to the system log are date/time stamped based on this system date/time.

System Location: Displays the current location setting for the system. To change the location, tap the location button. A map will be displayed. Swipe the map to navigate to other locations. Pinching gestures can be used to zoom in or out. There is a search feature at the top, allowing an address to be entered and located on the map. Once the desired location is found on the map, tap and hold to drop a pin at that location. Then tap the select button to select the location and return to the system settings screen.

Observes Daylight Saving Time: If enabled, the system time will automatically be adjusted when Daylight Saving Time begins and ends.

SIREN CUT OFF TIME

Each alarm type has a cutoff timer. When an alarm occurs, the activated alarm sounder will turn off when the cutoff time expires. Each cutoff timer operates independently of other cutoff timers. If multiple alarm types are activated, the alarm sounder will operate according the priority of the alarm type and honor each cutoff time. Range is 0 to 65535 seconds. Note: Alarm sounder will not be activated for alarms originating from sensors (zones) programmed with the Silent attribute in Sensor Details.

Fire Siren Time: Alarm sounder duration in seconds for Fire Alarm.

Carbon Monoxide Time: Alarm sounder duration in seconds for Carbon Monoxide Alarm.

Burglar Time: Alarm sounder duration in seconds for Burglar Alarm.

Emergency Time: Alarm sounder duration in seconds for Emergency Alarm.

Panic Time: Alarm sounder duration in seconds for Panic Alarm.

Water Time: Alarm sounder duration in seconds for Water Alarm.

Temperature Time: Alarm sounder duration in seconds for Hi/Lo Temperature Alarm.

Local Siren Time: Alarm sounder duration in seconds for Local Siren Alarm.

AUDIBLE TROUBLE DELAY

A delay can be programmed for the audible alerts for AC Failure, Ethernet Failure and Telephone Line Failure troubles. This prevents nuisance alert sounds for short term outages of power, Internet service, or telephone service. Range is 0 to 7200 seconds.

AC Fail Delay Time: Audible alert delay in seconds for AC Failure

ETH Fail Delay Time: Audible alert delay in seconds for Ethernet/Internet Failure

POTS Fail Delay Time: Audible alert delay in seconds for Telephone Line Failure

CS Reporting

REPORT PATHS/PRIORITY

E27 can report alarms and events to a Central Monitoring Station using the on-board IP communicator and/or an optional Digital Dialer. The on-board IP communicator transmits Contact ID signals to Central Stations using the Surgard IP receiver. The Digital Dialer transmits Contact ID signals over traditional telephone lines or through a dial capture cellular communicator.

Primary: Select the desired primary report path. This path will be used for all reportable alarms/events.

Backup: Select the desired backup report path. This path will be used if the primary path fails. A backup path cannot be programmed if the Primary path is set to Disabled.

REPORT CATEGORIES

Alarms & Restorals: If enabled, alarm events will be reported for all sensors (zones) with the Report Alarms attribute enabled. Restoral events will be reported for all sensors (zones) with the Report Restorals attribute enabled.

Bypasses: If enabled, bypass events will be reported for all sensors (zones) with the Report Bypasses attribute enabled.

Troubles: If enabled, trouble events will be reported for all sensors (zones) with the Report Troubles attribute enabled.

System Events: If enabled, system events will be reported. System events include AC power trouble, system battery trouble, system reset, alarm output 1 trouble, alarm output 2 trouble, and communication trouble.

Openings/Closings: If enabled, opening and closing events will be reported for all users with the Openings/Closings attribute enabled on the User Details page.

Exception Open: If enabled, an exception open event (open after alarm) will be reported whenever a valid user disarms an area following an alarm activation.

Recent Close: If enabled, a recent close event will be reported when an alarm is acknowledged at the control within 2 minutes of a closing event.

Exit Error: If enabled, an exit error event will be reported along with an alarm report if an exit error is detected. An exit error can be used to identify an accidental alarm caused by an error while arming. If an Entry/Exit sensor (zone) remains open after the exit delay expires, the entry delay will begin. If the area is not disarmed within the entry time, an exit error is considered to have occurred.

Cancel Window: If enabled, an alarm cancel event will be reported if an area in alarm is disarmed within a 5 minute cancel window. The 5 minute cancel window begins after the Delay Before Report timer expires. This applies only to sensors (zones) with the Delay Reporting attribute enabled in Sensor Details.

Bus Devices Missing: If enabled, a missing device event will be reported if the system loses supervision of an enrolled data bus device (i.e. keypad, input expander, output expander, or digital dialer)

Duress: If enabled, a duress event will be reported if an area is armed or disarmed by a valid user code that is programmed with the Duress attribute in User Details.

Delay Before Report: The amount of time in seconds following an alarm during which the report may be aborted if the area is disarmed by a valid user. This delay applies only to sensors (zones) with the Delay Reporting attribute enabled in Sensor Details.

IP CONFIGURATION

CS Name: Enter a name for the Central Station. Name should be limited to 16 characters or less and may contain letters and numbers. Do not enter any special characters in the CS name.

Account ID: Enter the 4 character reporting account ID. This ID (account number) is provided by your Central Station. Valid characters are 0-9 and A-F.

IP Address: Enter the IP address of the Central Station IP receiver as provided by your Central Station

Port: Enter the port number of the Central Station IP receiver as provided by your Central Station

DNIS: Enter the DNIS number assigned by your Central Station.

Heartbeat Supv (secs): Change this setting only under direct instructions from your Central Station. If your Central Station requires supervision, enter the value for the heartbeat interval provided by your Central Station.

LANDLINE SETUP

CS Name: Enter a name for the Central Station. Name should be limited to 16 characters or less and may contain letters and numbers. Do not enter any special characters in the CS name.

Account ID: Enter the 4 character reporting account ID. This ID (account number) is provided by your Central Station. Valid characters are 0-9 and A-F.

Number to Dial: Enter the telephone number for the Central Station receiver. The number must be entered as it must be dialed from the phone line connected to the Digital Dialer (area code, accessing outside line, etc.). Up to 20 digits may be entered for a telephone number. Valid numeric digits are: 1, 2, 3, 4, 5, 6, 7, 8, 9, and 0.

In addition, the following special characters may be programmed.

Pause (,) = forces the dialer to pause for 2 seconds

Wait (/) = forces the dialer to pause for 125 milliseconds

Asterisk (*) = simulates the * key on a touch tone phone

Pound (#) = simulates the # key on a touch tone phone

Dial Attempts: If communication to the CS is not successful (acknowledged), the E27 will make additional attempts to communicate. This attribute determines the number of additional attempts. Enter the desired number of attempts. Range is 1-15.

TESTING

Communications to the Central Monitoring Station should be tested on a regular basis. Consult with your Central Monitoring Station to discuss any guidelines regarding the frequency and time of day test reports should be sent. Periodic and manual testing will transmit a test report signal over any active paths

Days Between Tests: Enter the desired value in days to set the frequency of the communicator test report. For daily tests, enter 1. For weekly tests, enter 7. Range is 0-30.

Test Time: Enter the desired time of day the test report should be sent.

Test Communicator Connections: Tap this button to manually send a test report to the Central Monitoring Station. A confirmation dialog will appear to indicate the test has been started. If there is a problem with any active paths, a trouble condition will be created indicating the problematic path.

Contact ID Reporting Codes:

Event Description	Contact ID Code
Medical Alarm	100
Fire Alarm	110
Panic Alarm	120
Duress Alarm	121
Silent Alarm	122
Perimeter Alarm	131
Interior Alarm	132
24 Hour Alarm	133
Entry Exit Alarm	134
Tamper Alarm	137
Water Leakage Alarm	154
High Temp Alarm	158
Low Temp Alarm	159
Carbon Monoxide Alarm	162
AC Power Trouble	301
System Low Battery Trouble	302
System Reset	305
Alarm Output 2 Trouble	321
Alarm Output 1 Trouble	322

Event Description	Contact ID Code
System Peripheral Trouble	330
Expander Low Battery	338
Expander AC Power Trouble	342
Communicator Trouble	350
Protection Loop	370
FIRE Fire Trouble	373
Open/Close By User	401
Automatic Open/Close	403
Alarm Cancel	406
Exit Error	457
Recent Close	459
Quick Arm/Closing	408
Exception Open/Close	450
Zone Bypassed	570
Swinger Bypassed	575
RF Supervision Loss	381
Manual Communicator Test	601
Periodic Communicator Test	602

NOTE: The 3 Digit Contact ID reporting code is preceded by a “1” for new events or a “3” for restore (previous reported) events.

Sensors (Zones)

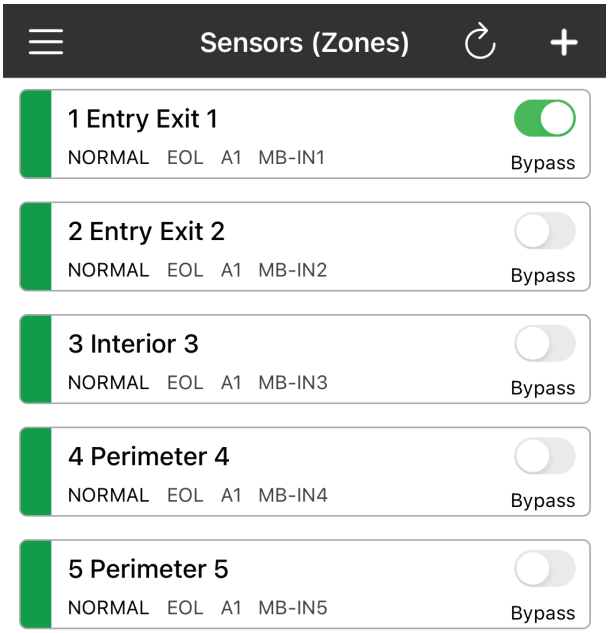
Displays a list of all zones and provides a quick view of information about each sensor (zone), including name, current status and key details about the settings of the sensor (zone).

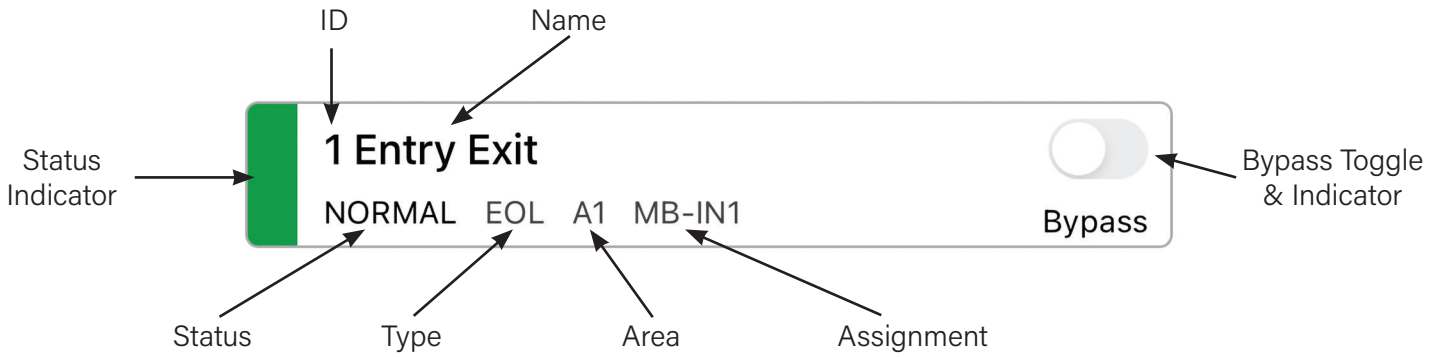
To view or change sensor configuration, tap the name to access the Sensor details page (see Sensor Details section for more details)

To add a sensor, tap the + icon in the upper right corner. Configure the sensor and tap Save. The maximum number of sensors (zones) that can be added is 128.

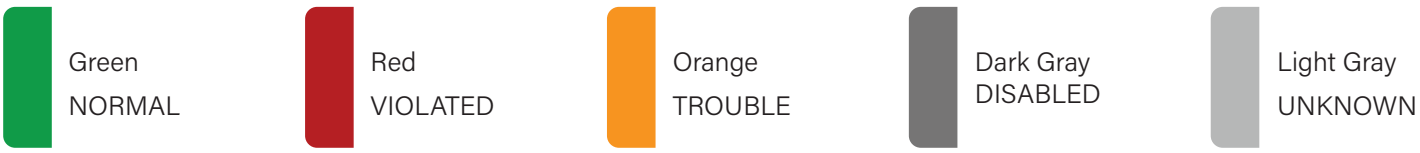
To delete sensor, either swipe left (iOS) and choose delete or press and hold (Android) the thermostat. Tap OK to confirm.

To reset SAUX power, tap the ↻ icon. Tap Yes to confirm.





Status Indicator: This colored section provides a visual indicator of the current status of the zone.



Bypass Toggle & Indicator: This toggle allow the sensor (zone) bypass state to be changed between bypassed and unbypassed. If the toggle is green, the sensor (zone) is currently bypassed. This toggle/indication will not be present for sensors (zones) that have the Bypassable attribute disabled on the Sensor Details page.

Sensor Details

ID: An ID number assigned by the system when the sensor (zone) is created. The system supports up to 128 sensors (zones). When a new sensor (zone) is created, the lowest available ID will be assigned to the area. This ID cannot be changed in programming.

Assignment: Indicates the physical input/device to which the sensor (zone) is associated. The prefix of the assignment indicates the type of input: MB = Main Board, XIN = Hardwired Input Expander, WX = Wireless Transmitter, KF = Wireless Keyfob, or KP = Keypad.

Type: Indicates the hookup type for hard wired devices.

Name: Enter a text description for the sensor (zone). Name should be limited to 16 characters or less and may contain letters and numbers. Do not enter any special characters in the sensor (zone) name.

Area: Select the desired area to which the sensor (zone) is to be assigned. Each sensor (zone) may be assigned to only one area.

Definition: Select the desired definition for the sensor (zone). This will determine how the system will respond to the sensor (zone) and will also affect the attributes available for the sensor (zone).

- UNDEFINED: Sensor setup is incomplete. System will not respond to sensor until it is defined. Do not select this option to disable sensors. Sensors can be disabled using the Disable sensor attribute.
- BURG EE DELAY: For perimeter entry/exit doors. Allows a time delay to enter and exit during arm and disarm.
- BURG PERIM INST: Windows and perimeter openings. Activates an immediate Burglary alarm if tripped during ANY armed mode. Does not provide any exit or entry delay.
- BURG INTERIOR: For motion detectors, interior doors, etc. Creates an instant alarm if tripped during the AWAY arm mode. This zone type IS NOT ACTIVE during the STAY arm mode.
- BURG 24HR: Activates a Burglary alarm if violated anytime (during armed or disarmed state).
- BURG BOX TAMPER: Activates a Tamper trouble if violated while control is disarmed. Activates a Tamper Alarm if violated while control is armed. Intended for control, siren, and bell box tamper switches.
- FIRE: Intended for Fire alarm sensors such as smoke detectors, heat detectors, pull stations, etc. Activates an immediate Fire alarm upon a short across the zone wires. A Fire Trouble will be activated if an open (break in the zone wires) should occur.
- CARBON MONOXIDE: Activates an immediate Carbon Monoxide alarm if tripped anytime (armed or disarmed).
- PANIC: Activates an immediate Panic alarm if tripped anytime (armed or disarmed).
- MEDICAL: Activates an immediate Medical alarm if tripped anytime (armed or disarmed).
- AUTOMATION: Intended for use in RULES programming. This zone type DOES NOT ACTIVATE any alarm and is not logged in the Event log. No reset is required.
- POWER SUPERVISION: For supervising an external power supply which provides alarm/trouble contacts. Wire the power supply contacts to open the zone in a Low Battery event and short the zone in an AC Failure event.
- WATER: Activates an immediate Water alarm if tripped anytime (armed or disarmed).
- HILO TEMP: Activates an immediate HI/LO Temperature alarm if tripped anytime (armed or disarmed).

Disabled: This attribute is intended to allow the installer to quickly disable a problem sensor (zone) without completely removing it from the system. If enabled, the sensor state will be ignored by the system and the sensor (zone) will not appear on the user's interfaces (apps, keypads, etc.)

Bypassable: If enabled, the sensor (zone) may be manually bypassed. A bypassed sensor (zone) will be ignored by the system. Burglar zone bypasses are canceled upon a disarm.

Force Arm: If enabled, the sensor (zone) may be temporarily bypassed upon arming. Force arm sensors (zones) automatically return to service if they become normal while armed.

NOTE: Force arm operates uniquely on entry/exit sensors (zones). Entry/Exit sensors (zones) that are also force armable can be violated during the exit delay and still become force armed. This is designed to allow a user to arm, open a garage door, back out, and close the door at their leisure, without creating a false alarm and without a long exit delay time. As soon as the garage door is closed, it will return to service.

Chime: If enabled, the sensor (zone) will be allowed to create a chime annunciation when the chime feature is on.

Note: Each area and each keypad have a Chime attribute to allow further customization of the chime feature. Chime can only be turned on in areas with the Chime attribute enabled. Chime tones are only emitted from keypads with the Chime attribute enabled on the Keypad Details page.

Silent: If enabled, the sensor (zone) will not produce an audible alarm from the programmed alarm output for the assigned area or from any keypad. However, a visual display will occur on keypad(s) assigned to the same area as the sensor (zone) and in the ElkConnect app.

Extended Entry Delay: If enabled, additional entry time will be provided when the sensor (zone) is opened while the area is armed. The Extended Entry Time in Area Details must be set to a value other than 0.

Report Alarms: If enabled, alarm events will be reported for this sensor (zone). The Alarms & Restorals reporting category must be enabled in CS Reporting.

Report Troubles: If enabled, trouble events will be reported for this sensor (zone). The Troubles reporting category must be enabled in CS Reporting.

Report Restorals: If enabled, restoral events will be reported for this sensor (zone). The Alarms & Restorals reporting category must be enabled in CS Reporting.

Report Bypasses: If enabled, bypass events will be reported for this sensor (zone). The Bypasses reporting category must be enabled in CS Reporting.

Delay Reporting: If enabled, reports will be delayed for this sensor (zone). The Delay Report time must be set to a value other than 0 in CS Reporting. This sensor (zone) attribute must be enabled if Alarm Cancel reporting is desired.

Swinger Shutdown: If enabled, this attribute prevents a runaway communicator by shunting the sensor (zone) after 2 trips. The sensor (zone) cannot transmit another alarm report until alarm is acknowledged.

Ignore Tamper: If enabled, the built-in tamper switch of a sensor (zone) will be ignored. This feature primarily applies to wireless transmitters.

Interior Follower: If enabled, an Interior sensor (zone) will utilize an entry delay, only if an Entry/Exit sensor (zone) is violated before the Interior sensor (zone). Otherwise, the Interior sensor (zone) will trigger an instant alarm. This attribute may only be enabled on Interior sensors (zones).

Cross Zone: If enabled, sensor (zone) cannot trigger an alarm unless another sensor (zone) with the Cross Zone attribute enabled is activated with the Cross Zone Time (as defined in the Area Details programming). If Cross Zone Self-Verify is enabled in Area Details, a sensor (zone) with the Cross Zone attribute enabled may trigger an alarm with two or more violations within the Cross Zone Time window. This attribute may only be enabled on Interior sensors (zones).

No Indication: If enabled, a Panic sensor (zone) will produce alarm when tripped. There will be no audible or visual indication of the alarm at the keypad or within the ElkConnect app. However, the alarm will be logged and reported to CS in accordance with CS Reporting settings. This attribute may only be enabled on Panic sensors (zones).

Fire Verification: Enable only for smoke detectors in high-risk false alarm areas. Upon initial activation (short across the zone), the control ignores the alarm and removes smoke power for 5 seconds to reset the detectors. During this 5 seconds, and for 20 additional seconds afterwards, no alarms will be recognized from this zone. Following this is a 60 second verification time window, during which any additional activation will be regarded as verification of the initial alarm and the control will initiate a Fire Alarm. If the 60 seconds expires with no further activations, the entire process is cleared (reset). This attribute may only be enabled on Fire sensors (zones).

Detect High Temp: If enabled, a HILO sensor (zone) will activate a High Temp alarm when tripped. If disabled, a HILO sensor (zone) will activate a Low Temp alarm when tripped. This attribute may only be enabled on HILO sensors (zones).

Wireless Transmitters

Displays a list of a wireless transmitters, providing a quick view of current sensor assignment, transmitter ID, and wireless series/frequency.

To view or change wireless transmitter configuration, tap the name to access the Transmitter details page. This page displays the configuration options for the transmitter. The configuration options will vary depending on the model or type of transmitter. Some transmitters may have advanced settings. Make the desired changes to the configuration, the tap Save.

To replace a transmitter, either swipe left and choose replace (iOS) or press and hold and choose replace (Android) the area. Enter the transmitter ID of the new device, then tap Save.

To delete transmitter, either swipe left (iOS) and choose delete or press and hold (Android) the thermostat. Tap OK to confirm.

ADDING WIRELESS TRANSMITTER

Each wireless transmitter has a unique identifier. This identifier may be labeled as EX-ID (two-way wireless), TX-ID (319.5 MHz) or DL # (319.5 MHz). To add a new bus devices, tap the + icon in the upper right corner of the ElkConnect app and choose one of the three enrollment methods.

Learn Mode: With this method, the E27 commands the wireless receiver to listen for "learn" signals from new transmitters. Tap Learn Mode. A 120 second timer will be displayed. Once in this mode, activate the learn signal from the transmitter by triggering the tamper switch, installing the battery, or tripping the sensor. The required action varies depending on the type of transmitter.

Scan QR Code: Compatible with ELK Two-Way Wireless Sensors Only. This method uses the camera of the device running the ElkConnect app to scan a QR code on a label on the transmitter. The QR code contains the transmitter identifier, allowing that device to be enrolled. Tap Scan QR. Scan the QR code on the transmitter, verify the transmitter identifier, then tap OK.

Manually: The method allows the installer to manually enter the transmitter identifier found on the device label. Tap Manually. Select the type of wireless transmitter to be enrolled; ELK Two-Way or 319.5 MHz. Enter the transmitter identifier, then tap OK.

With any of these methods, once the transmitter is added, a Transmitter Details page will be displayed, allowing the settings for the transmitter to be viewed, edited, and saved.

Transmitter Details

Note: The information and attributes displayed in Transmitter details will vary based on the model, series/frequency, and type of transmitter. Some attributes described below will not be display/available for some transmitters.

SETUP

Assigned Sensor (Zone): Select the desired sensor (zone) to associate with the input. A list of available (currently unassigned) sensors (zones) will be provided to choose from. If the desired sensor (zone) is not in the list, go to the Sensors (Zones) menu and add the desired zones (see Sensors Page 29).

ADVANCED SETTINGS

Tap the advanced settings button to access option and loop settings that determine the operating characteristics of the transmitter. Reference the Wireless Transmitter Setup Guide in the Alarm Engine Knowledge Center detailed

information on applicable settings by sensor model.

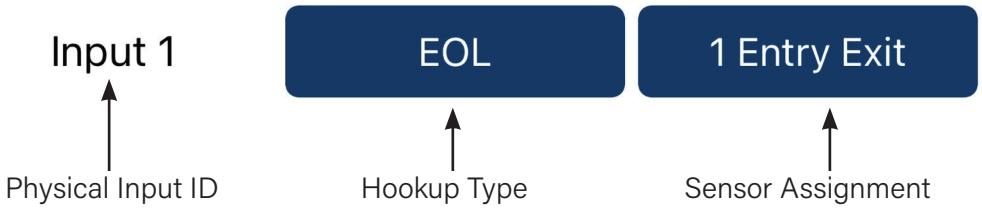
- **Opt 1 (Enable External Contact):** This setting is used with certain transmitters that support the connection of an external contact. Use the toggle to enable or disable this setting as needed. Check the instructions for the transmitter or the Wireless Transmitter Setup Guide for details.
- **Opt 2 (Open/Closed Swap):** For certain transmitters that support the connection of an external contact, this setting allows the configuration to be switched from normally closed to normally open or vise versa. Use the toggle to enable or disable this setting as needed. Check the instructions for the transmitter or the Wireless Transmitter Setup Guide for details.
- **Loop #:** Certain transmitters require a particular loop number to configured in order for the transmitter to operate correctly. Tap the desired loop number to select it. Check the instructions for the transmitter or the Wireless Transmitter Setup Guide for details.

Main Board I|O

The Main Board I|O section allows for the configuration and assignment of the physical inputs and outputs on the E27 mainboard.

INPUTS

The Main Board of the E27 has 16 hardwired inputs. Each input has two programmable attributes. The current setting for each attribute is displayed on the button for the attribute. To change the attribute, tap the button and make the desired selection in the dialog box.



Physical Input ID: This identifier corresponds to the physical input on the main board. Input 1 corresponds to main board input Z1, Input 2 corresponds to Z2, etc.

Hookup Type: This attribute identifies the wiring configuration of the device(s) connected to the input.

- **EOL - End of Line:** Requires 2.2K Ω end-of-line resistor.
- **N/C - Normally Closed:** No resistor required.
- **N/O - Normally Open:** No resistor required.
- **T/S - Tamper on Short w/EOL:** Requires 2.2K Ω end-of-line resistor. While disarmed, a Security Alert will occur if the sensor (zone) is shorted. The Security Alert must be acknowledged by the user. While armed, an alarm will occur if the sensor (zone) is shorted or opened.
- **T/O - Tamper on Open w/EOL:** Requires 2.2K Ω end-of-line resistor. While disarmed, a Security Alert will occur if the sensor (zone) is opened. The Security Alert must be acknowledged by the user. While armed, an alarm will occur if the sensor (zone) is shorted or opened.
- **4/S - 4 State:** Provides both alarm notification (armed) and daytime tamper (not armed) notification from a sensor (zone) with a separate tamper contact. Requires two (2) 2.2K Ω end-of-line resistors and two (2) N/C contacts for alarm and tamper contacts. While disarmed the Zone will be violated (Not Ready) when the alarm contact opens. If the tamper contact opens, OR if the zone wiring is open (cut) or shorted, a Security Alert will occur. The Security Alert must be acknowledged by the user. While armed an alarm will occur

regardless of what condition (open, short, etc.) occurs to the loop.

- **2/W - 2-Wire Smoke:** Intended specifically for 2-wire smoke detectors. Requires 820 Ω end-of-line resistor. Supported on main board inputs 14, 15, and 16 only.
- **4/W - 4-Wire Smoke:** Intended for 4-wire smoke detectors. Requires 2.2K Ω end-of-line resistor. Supported on any input.

Sensor Assignment: Select the desired sensor (zone) to associate with the input. A list of available (currently unassigned) sensors (zones) will be provided to choose from. If the desired sensor (zone) is not in the list, go to the Sensors (Zones) menu and add the desired zones (see Sensors Page 29).

OUTPUTS

The Main Board of the E27 has 11 programmable outputs; 10 voltage outputs on the J16 connector and 1 relay output. Each output has a single programmable attribute, allowing the physical output to be associated with an output on the Outputs page. The current assignment for each output is displayed on the button. To change the assignment, tap the button. A list of available (currently unassigned) outputs will be provided to choose from. Make the desired selection in the dialog box. If the desired output is not in the list, go to the Outputs menu and add the desired Outputs (see Outputs Page 43).

Bus Devices

Bus devices are peripherals that connect to the E27 data bus. These include LCD keypad, input expanders, output expanders, and digital dialers. Each bus device has a serial number that is used to identify the device on the bus and eliminates the need for setting addresses on each device.

ADDING BUS DEVICES

To add a new bus device, tap the + icon in the upper right corner of the ElkConnect app and choose one of the three enrollment methods.

Discovery: This method broadcasts a discovery command over the data bus that new devices respond to, allowing new devices to be enrolled. The discovery process may take up to 120 seconds. When the discovery process is complete, a list of discovered bus devices will displayed.

Scan QR Code: This method uses the camera of the device running the ElkConnect app to scan a QR code on a label on the device. The QR code reads the device serial number, allowing that device to be enrolled.

Manually: This method allows the installer to manually enter the serial number found on the device label.

REPLACING A BUS DEVICE

To replace a bus device, either swipe left and choose replace (iOS) or press and hold and choose replace (Android) the area. Enter the serial number of the new device, then tap Save.

DELETING A BUS DEVICE

To delete a bus device, either swipe left and choose delete (iOS) or press and hold (Android) the area. Tap OK to confirm.

Keypad Details

Keypad ID: An ID number assigned by the system when the keypad is added to the system. The system supports up to 8 keypads. When a new keypad is added the lowest available ID will be assigned to the area. This ID cannot be changed in programming.

Name: Enter a name for the keypad. Name should be limited to 16 characters or less and may contain letters and numbers. Do not enter any special characters in the keypad name.

SETUP

Area: Select the desired area to which the keypad is to be assigned. Each keypad may be assigned to only one area. The keypad will display information and control the assigned area.

Backlight: Select the desired backlight level. The keypad will dim to this level 30 seconds after the last button press.

Enable Quiet Mode: If enabled, all non-alarm beeps will be suppressed between the quiet time start and stop times.

Quiet Mode Start Time: Select the desired time to begin quiet mode.

Quiet Mode End Time: Select the desired time to end quiet mode.

LEDs Off: If enabled, the keypad will go dark 60 seconds after the last key press. All LEDs and the LCD display will turn off.

Silent Entry: If enabled, the keypad will not emit any entry tones during the entry delay time. The entry delay countdown will be displayed on the keypad.

Silent Exit: If enabled, the keypad will not emit any exit tones during the exit delay time. The exit delay countdown will be displayed on the keypad.

Enable Chime: If enabled, the keypad can emit chime tones. The activation of chime tones is based on the chime status for the area, and the Chime attribute in Sensor Details. If the Chime feature is on and a sensor with the chime attribute enabled is tripped, a chime tone will be emitted from any keypads in the Area that have Enable Chime enabled.

Show Area Name: If enabled, the keypad will display the area name on the second line of the LCD display

F-Key Single Press: If enabled, a single press of an F key on the keypad will activate the assigned function of the key. If disabled, an F-key must be pressed twice within a 10 second period to activate the assigned function.

F1-Fire: If enabled, the F1 key on the keypad can activate a Fire Alarm.

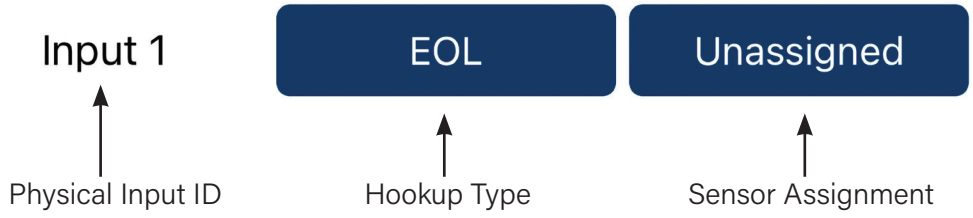
F2-Police: If enabled, the F2 key on the keypad can activate a Police Alarm.

F3-Emergency: If enabled, the F3 key on the keypad can activate an Emergency (Medical) Alarm.

F4-Run Rule: If enabled, the F4 key on the keypad can activate a command defined by a programmed rule.

INPUTS

Each keypad has a single hardwired input, with two programmable attributes. The current setting for each attribute is displayed on the button for the attribute. To change the attribute, tap the button and make the desired selection in the dialog box.



Physical Input ID: This identifier corresponds to the physical input on the keypad.

Hookup Type: This attribute identifies the wiring configuration of the device(s) connected to the input.

- **EOL - End of Line:** Requires 2.2K Ω end-of-line resistor.
- **N/C - Normally Closed:** No resistor required.
- **N/O - Normally Open:** No resistor required.
- **T/S - Tamper on Short w/EOL:** Requires 2.2K Ω end-of-line resistor. While disarmed, a Security Alert will occur if the sensor (zone) is shorted. The Security Alert must be acknowledged by the user. While armed, an alarm will occur if the sensor (zone) is shorted or opened.
- **T/O - Tamper on Open w/EOL:** Requires 2.2K Ω end-of-line resistor. While disarmed, a Security Alert will occur if the sensor (zone) is opened. The Security Alert must be acknowledged by the user. While armed, an alarm will occur if the sensor (zone) is shorted or opened.
- **4/S - 4 State:** Provides both alarm notification (armed) and daytime tamper (not armed) notification from a sensor (zone) with a separate tamper contact. Requires two (2) 2.2K Ω end-of-line resistors and two (2) N/C contacts for alarm and tamper contacts. While disarmed the Zone will be violated (Not Ready) when the alarm contact opens. If the tamper contact opens, OR if the zone wiring is open (cut) or shorted, a Security Alert will occur. The Security Alert must be acknowledged by the user. While armed an alarm will occur regardless of what condition (open, short, etc.) occurs to the loop.
- **2/W - 2-Wire Smoke:** NOT ALLOWED FOR KEYPAD INPUTS. Supported on main board inputs 14, 15, and 16 only.
- **4/W - 4-Wire Smoke:** Intended for 4-wire smoke detectors. Requires 2.2K Ω end-of-line resistor. Supported on any input.

Sensor Assignment: Select the desired sensor (zone) to associate with the input. A list of available (currently unassigned) sensors (zones) will be provided to choose from. If the desired sensor (zone) is not in the list, go to the Sensors (Zones) menu and add the desired zones (see Sensors Page 29).

OUTPUTS

Each keypad has a single programmable output. This physical output can to be associated with an output on the Outputs page. The current assignment on the button. To change the assignment, tap the button. A list of available (currently unassigned) outputs will be provided to choose from. Make the desired selection in the dialog box. If the desired output is not in the list, go to the Outputs menu and add the desired Outputs (see Outputs Page 43).

Expander Details (AEXIN)

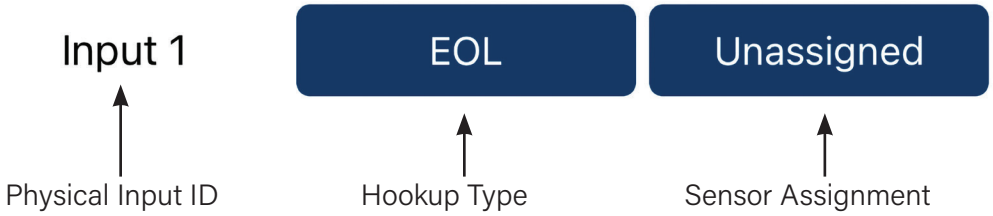
The Expander section allows for the configuration and assignment of the physical inputs and outputs on the AEXIN Input Expander.

Device ID: Displays the serial number of the AEXIN Input Expander.

Name: Enter a text description for the AEXIN Input Expander. Name should be limited to 16 characters or less and may contain letters and numbers. Do not enter any special characters in the name.

INPUTS

The AEXIN Input Expander has 16 hardwired inputs. Each input has two programmable attributes. The current setting for each attribute is displayed on the button for the attribute. To change the attribute, tap the button and make the desired selection in the dialog box.



Physical Input ID: This identifier corresponds to the physical input on the AEXIN. Input 1 corresponds to AEXIN input Z1, Input 2 corresponds to Z2, etc.

Hookup Type: This attribute identifies the wiring configuration of the device(s) connected to the input.

- **EOL - End of Line:** Requires 2.2K Ω end-of-line resistor.
- **N/C - Normally Closed:** No resistor required.
- **N/O - Normally Open:** No resistor required.
- **T/S - Tamper on Short w/EOL:** Requires 2.2K Ω end-of-line resistor. While disarmed, a Security Alert will occur if the sensor (zone) is shorted. The Security Alert must be acknowledged by the user. While armed, an alarm will occur if the sensor (zone) is shorted or opened.
- **T/O - Tamper on Open w/EOL:** Requires 2.2K Ω end-of-line resistor. While disarmed, a Security Alert will occur if the sensor (zone) is opened. The Security Alert must be acknowledged by the user. While armed, an alarm will occur if the sensor (zone) is shorted or opened.
- **4/S - 4 State:** Provides both alarm notification (armed) and daytime tamper (not armed) notification from a sensor (zone) with a separate tamper contact. Requires two (2) 2.2K Ω end-of-line resistors and two (2) N/C contacts for alarm and tamper contacts. While disarmed the Zone will be violated (Not Ready) when the alarm contact opens. If the tamper contact opens, OR if the zone wiring is open (cut) or shorted, a Security Alert will occur. The Security Alert must be acknowledged by the user. While armed an alarm will occur regardless of what condition (open, short, etc.) occurs to the loop.
- **2/W - 2-Wire Smoke:** NOT ALLOWED FOR EXPANDER INPUTS. Supported on main board inputs 14, 15, and 16 only.
- **4/W - 4-Wire Smoke:** Intended for 4-wire smoke detectors. Requires 2.2K Ω end-of-line resistor. Supported on any input.

Sensor Assignment: Select the desired sensor (zone) to associate with the input. A list of available (currently unassigned) sensors (zones) will be provided to choose from. If the desired sensor (zone) is not in the list, go to the Sensors (Zones) menu and add the desired zones (see Sensors Page 29).

OUTPUTS

The AEXIN Input Expander has a single programmable output. This physical output can to be associated with an output on the Outputs page. The current assignment on the button. To change the assignment, tap the button. A list of available (currently unassigned) outputs will be provided to choose from. Make the desired selection in the dialog box. If the desired output is not in the list, go to the Outputs menu and add the desired Outputs (see Outputs Page 43).

Expander Details (AEXOU)

The Expander section allows for the configuration and assignment of the physical outputs on the AEXOU Output Expander.

Device ID: Displays the serial number of the AEXOU Output Expander.

Name: Enter a text description for the AEXOU Output Expander. Name should be limited to 16 characters or less and may contain letters and numbers. Do not enter any special characters in the name.

OUTPUTS

The AEXOU Output Expander has a 8 programmable relay outputs. Each of these physical outputs can to be associated with an output on the Outputs page. The current assignment on the button. To change the assignment, tap the button. A list of available (currently unassigned) outputs will be provided to choose from. Make the desired selection in the dialog box. If the desired output is not in the list, go to the Outputs menu and add the desired Outputs (see Outputs Page 43).

Expander Details (AEXRFA)

The Expander section allows for the configuration of the AEXRFA Bus Adapter for RF Receiver/Transceiver.

Device ID: Displays the serial number of the AEXRFA Bus Adapter.

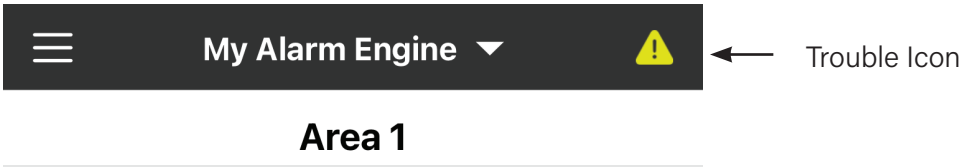
Name: Enter a text description for the AEXRFA Bus Adapter. Name should be limited to 16 characters or less and may contain letters and numbers. Do not enter any special characters in the name.

Dialer Details (AEXDD)

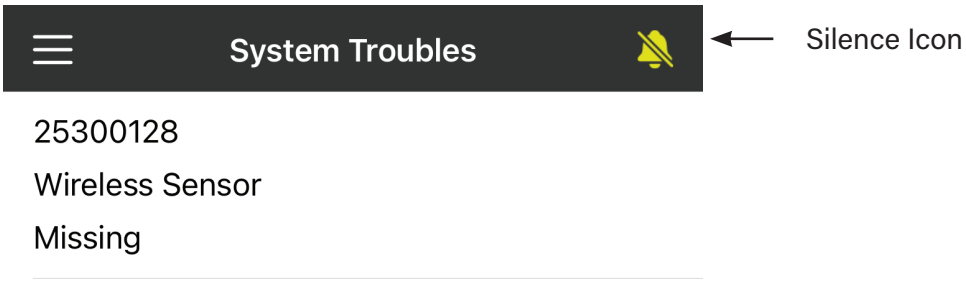
The AEXDD Digital Dialer must be added to Bus Devices in order to properly function. Only one Digital Dialer may be added. There are no programmable attributes in the Dialer Details section. Programming must be completed in CS Reporting. Tap the Dialer Configuration button to go to the CS Reporting page to configure the dialer.

Troubles

When trouble conditions exist, they will be displayed on the Troubles page and a trouble icon will be displayed in the upper right corner of the screen. To access the Troubles page, tap the trouble icon or navigate to Troubles from the main menu.



All current troubles will be listed on the troubles page, with a description and any relevant device information. To silence troubles, tap the silence icon in the upper right corner of the Troubles page. A confirmation pop-up will be displayed. Tap Yes to silence all current trouble notifications. If a new trouble occurs after silencing, notifications for the new trouble will annunciate.



SYSTEM TROUBLES
System Low Battery
AC Power Failure
Alarm Output 1 Supervision Lost
Alarm Output 2 Supervision Lost
On-board RF Receiver Missing
Cloud Connection Trouble
Network LAN Trouble
SD Card Log is Full
Bus Device Missing

CS COMMUNICATOR TROUBLES
IP Synchronization Error with CS
IP Failed to Communicate with CS
Digital Dialer Phone Line Fault
Digital Dialer Failed to Communicate
Digital Dialer Synchronization Error

AREA TROUBLES
Fire Trouble
CO Trouble
Tamper Trouble
Panic Trouble
Emergency Trouble
Water Trouble
Temperature Trouble

WIRELESS TRANSMITTER TROUBLES
Wireless Transmitter Low Battery
Wireless Transmitter Missing

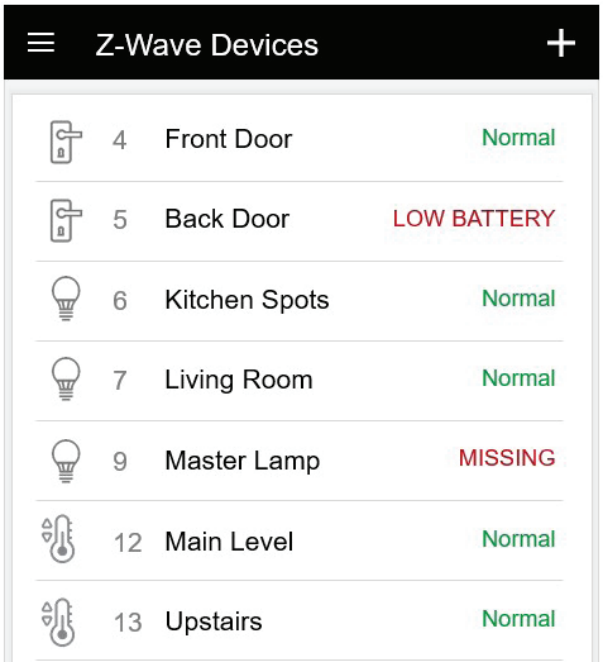
Z-WAVE TROUBLES
Z-Wave Controller Missing
Z-Wave Controller Not Ready
Z-Wave Device Low Battery
Z-Wave Device Missing

Z-Wave Devices

Displays a list of configured Z-Wave devices, with the current assignment, type and status of each. E27 supports Z-Wave lights, thermostats, locks, and garage doors.

To view Z-Wave device details or edit the assignment of an existing Z-Wave device, tap the name. The Z-Wave Details page shows the Z-Wave ID, class type, and the entity (assignment). This page also displays some additional details including status, signal strength, routing path, and battery level (where applicable)

To change the entity, tap the button beside Entity and select the desired entity. Then tap Save.

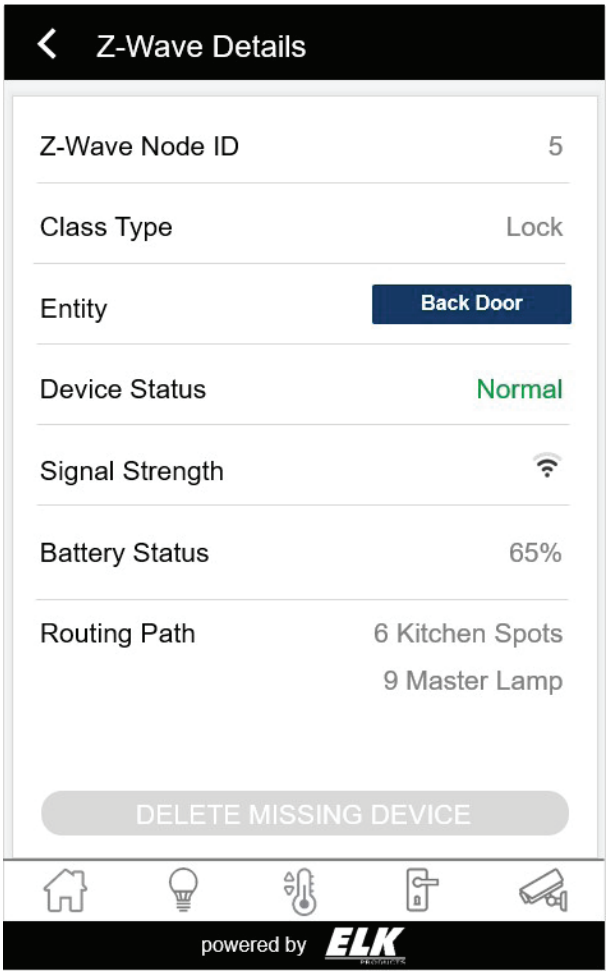


Inclusion Process

For each Z-Wave device, there is a specific procedure or sequence required to include the device into a Z-Wave network. It is important to familiarize yourself with the necessary steps for each device prior to initialing Z-Wave inclusion. A Z-Wave device can be included into only one Z-Wave network. If the device was previously included in another Z-Wave network, it must be excluded before it can be included into a new network.

To include a new Z-Wave device, tap the + icon in the upper right corner of the Z-Wave devices page. Then choose Inclusion. A 75 second timer will be displayed. During this time, perform the necessary procedure to include the device.

When the Z-Wave controller receives the inclusion signal from the device, a Success message will be displayed in the app. Click OK on this message.



Exclusion Process

For each Z-Wave device, there is a specific procedure or sequence required to exclude the device from a Z-Wave network. This may or may not be the same process for inclusion. It is important to familiarize yourself with the necessary steps for each device prior to initialing Z-Wave exclusion.

To exclude a new Z-Wave device, tap the + icon in the upper right corner of the Z-Wave devices page. Then choose Exclusion. A 75 second timer will be displayed. During this time, perform the necessary procedure to exclude the device.

When the Z-Wave controller receives the exclusion signal from the device, an acknowledgment message will be displayed in the app. Click OK on this message.

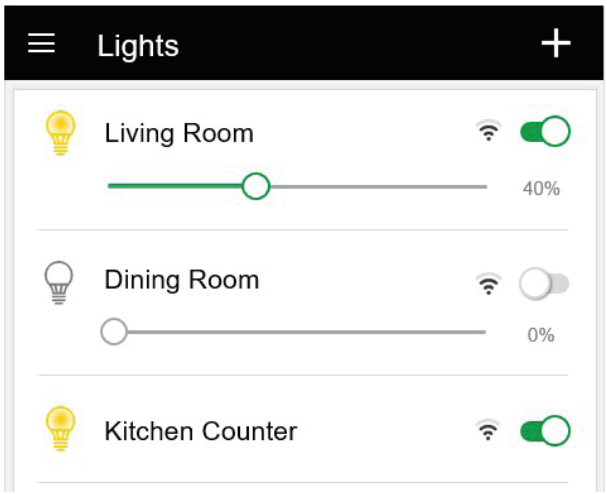
Deleting a Device

The proper way to remove a device from a Z-Wave network is Exclusion. However, if a device is lost or damaged, and the Exclusion process cannot be completed, the device can be deleted from the Z-Wave network. Only devices with a status of MISSING can be deleted.

To delete a missing device, tap the device to access the Z-Wave Details page for that device. Tap the blue DELETE MISSING DEVICE button located at the bottom of the page (this button will be grayed out and inactive for any device that is not MISSING). A acknowledgment message will be displayed in the app. Click OK on this message.

Lights

Displays a list of configured lights, each with a status indicator, and on/off toggle for controlling the light. A dimming slider is displayed for dimmable lights, allowing the dim level of the light to be adjusted.



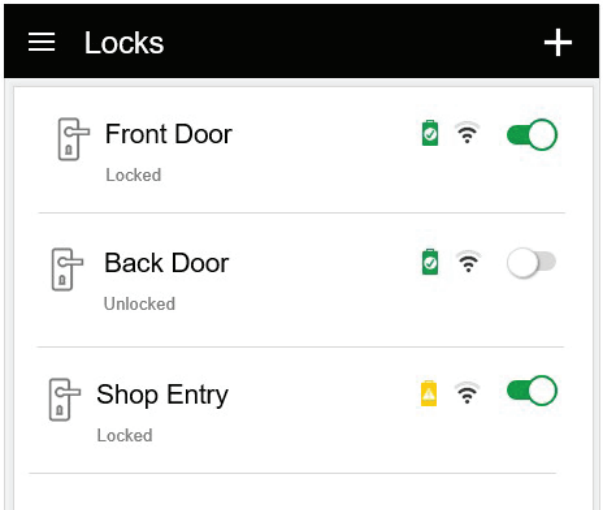
To view light details or edit the name of an existing light, tap the name. The light detail pop-up shows the current name and the device assignment. To change the name, enter a new name in the Name field and tap Save.

To add a light, tap the + icon in the upper right corner. Then enter a name for the light and tap Save. The new light will display Unassigned until it has been associated with a Z-Wave Device (see the Z-Wave Devices section for details). The maximum number of lights that can be added is 64.

To delete a light, either swipe left (iOS) and choose delete or press and hold (Android) the light. Tap OK to confirm.

Locks

Displays a list of configured locks, each with a status indicator, and toggle for controlling the lock.



To view lock details or edit the name of an existing lock, tap the name. The lock detail pop-up shows the current name and the device assignment. To change the name, enter a new name in the Name field and tap Save.

To add a lock, tap the + icon in the upper right corner. Then enter a name for the lock and tap Save. The new lock will display Unassigned until it has been associated with a Z-Wave Device (see the Z-Wave Devices section for details). The maximum number of locks that can be added is 8.

To delete a lock, either swipe left (iOS) and choose delete or press and hold (Android) the lock. Tap OK to confirm.

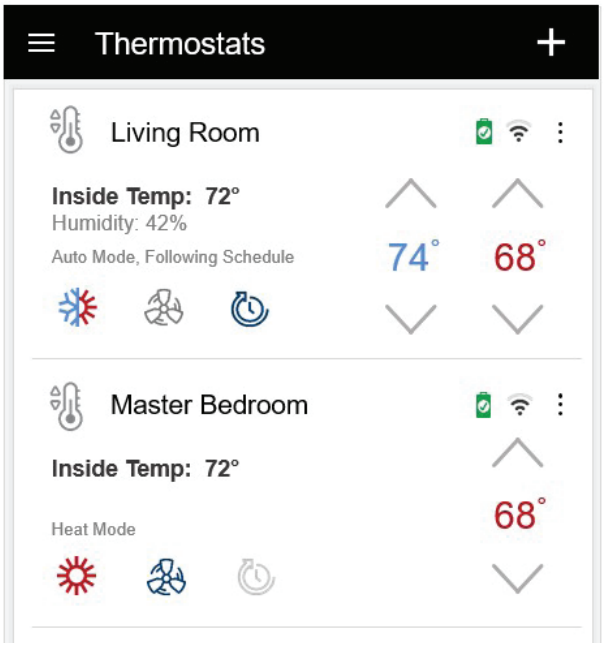
Thermostats

Displays a list of configured thermostats, with current temperature, setpoints, modes and other data/controls for the thermostat.

To view thermostat details or edit the name of an existing thermostat, tap the name. The thermostat detail pop-up shows the current name and the device assignment. To change the name, enter a new name in the Name field and tap Save.

To add a thermostat, tap the + icon in the upper right corner. Then enter a name for the thermostat and tap Save. The new thermostat will display Unassigned until it has been associated with a Z-Wave Device (see the Z-Wave Devices section for details). The maximum number of thermostats that can be added is 4.

To delete a thermostat, either swipe left (iOS) and choose delete or press and hold (Android) the thermostat. Tap OK to confirm.



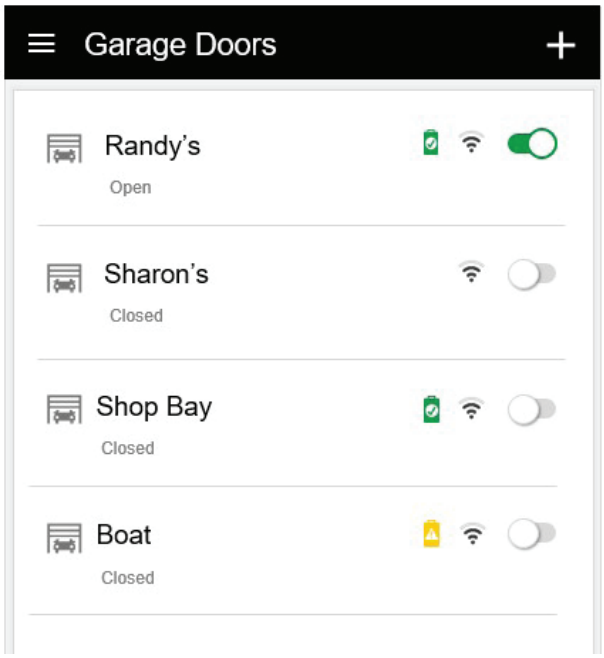
Garage Doors

Displays a list of configured garage doors, each with a status indicator, and a toggle for controlling the garage door.

To view garage door details or edit the name of an existing garage door, tap the name. The garage door detail pop-up shows the current name and the device assignment. To change the name, enter a new name in the Name field. Tap Save to save changes.

To add a garage door, tap the + icon in the upper right corner. Then enter a name for the garage door. Tap Save to save changes. The new garage door will display Unassigned until it has been associated with a Z-Wave Device (see the Z-Wave Devices section for details). The maximum number of outputs that can be added is 4.

To delete a garage door, either swipe left (iOS) and choose delete or press and hold (Android) the lock. Tap OK to confirm.



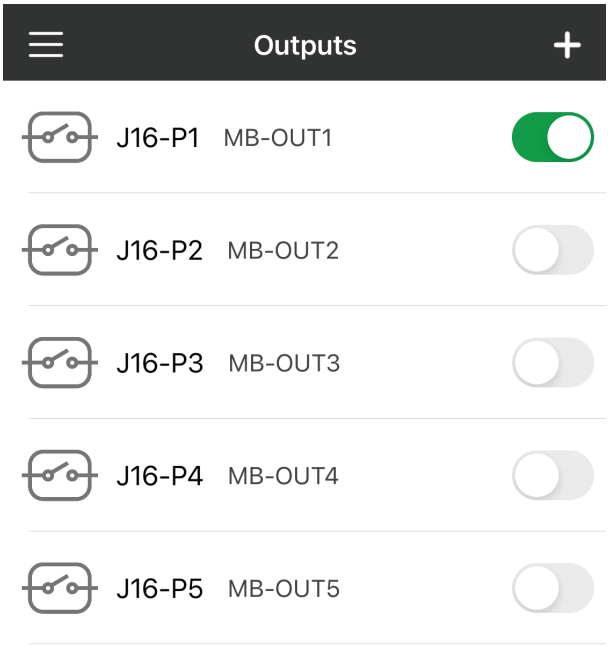
Outputs

Displays a list of configured outputs, each with a status indicator, and on/off toggle for controlling the output.

To view output details or edit the name of an existing output, tap the name. The output detail pop-up shows the current name and the device assignment. To change the name, enter a new name in the Name field To hide the output from the user interface, tap the Hide toggle. Tap Save to save changes.

To add an output, tap the + icon in the upper right corner. Then enter a name for the output. To hide the output from the user interface, tap the Hide toggle. Tap Save to save changes. The new output will display Unassigned until it has been associated with a device. Outputs can be associated with the main board, keypad, expander, or Z-wave device. The maximum number of outputs that can be added is 32.

To delete a output, either swipe left (iOS) and choose delete or press and hold (Android) the lock. Tap OK to confirm.



Tasks

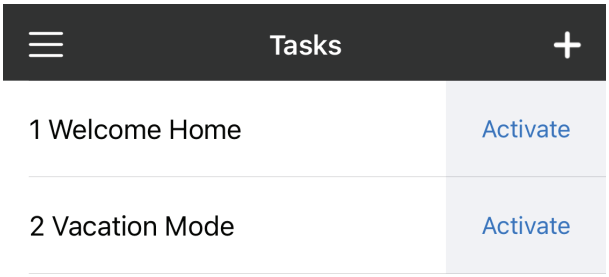
Displays a list of configured tasks, each with an activate button for activating the task.

To view task details or edit the name of an existing task, tap the name. The task detail pop-up shows the current name. To change the name, enter a new name in the Name field To hide the task from the user interface, tap the Hide toggle. Tap Save to save changes.

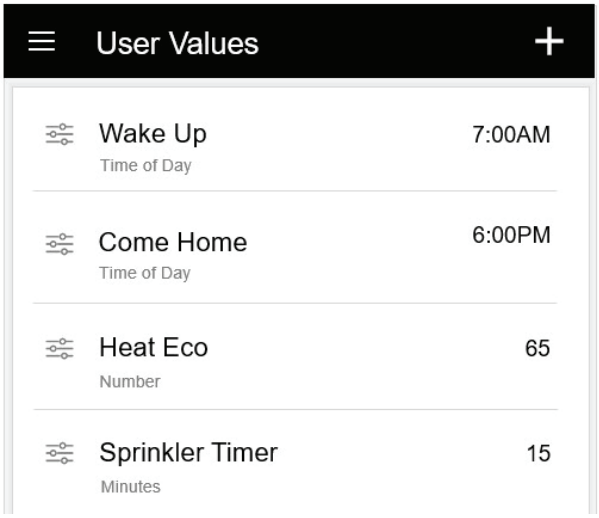
To add a task, tap the + icon in the upper right corner. Then enter a name for the task. To hide the task from the user interface, tap the Hide toggle. Tap Save to save changes. The maximum number of tasks that can be added is 16.

To delete a task, either swipe left (iOS) and choose delete or press and hold (Android) the lock. Tap OK to confirm.

The actions or functions of a task are defined by creating a rule through the ElkConnect Portal.



User Values



Displays a list of configured user values, with the current type and value for each.

What is a User Value?

User Values allow the installer to incorporate variables within automation rules. The installer sets the initial value and the end user can change the value, which will change the operation of the rule the User Value is incorporated into.

User Value Data Types

User value can be either a number, time of day, or a timer.

A number user value can be used to allow the user to change a thermostat setpoint or in a comparative statement regarding temperature or setpoints.

A time of day user value can be used to allow the user to adjust a time reference in a rule, whether it be the time a rule is to be executed, or a comparative statement (before or after a particular time).

A timer user value can be seconds, minutes, or hours. These can used to allow the user to adjust how long a device (light, output, etc.) is turned on, or how frequently a condition is checked.

To edit user value details, tap the name. The user value detail screen shows the current name, value and type. To change the name, enter a new name in the Name field. To change the value, enter a new value in the Value field.

There are five possible data types; Number, Time of Day, Seconds, Minutes, and Hours. To change the data type, tap the data type button and choose the desired data type.

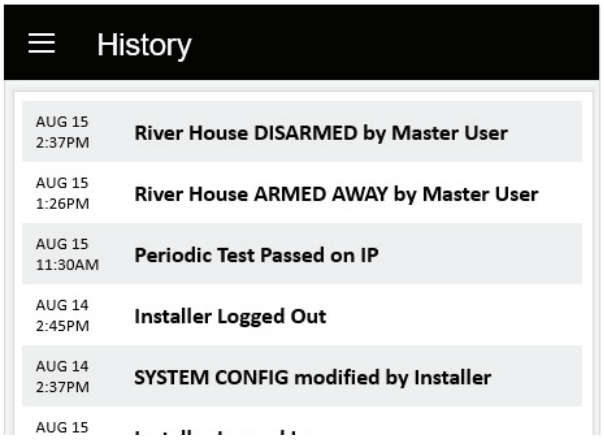
To hide the user value from the user interface, tap the Hide toggle. Tap Save to save changes.

To add a user value, tap the + icon in the upper right corner. Then enter a name for the user value, enter the desired value, and select the desired data type. To hide the user value from the user interface, tap the Hide toggle. Tap Save to save changes. The maximum number of user values that can be added is 16.

To delete a user value, either swipe left (iOS) and choose delete or press and hold (Android) the lock. Tap OK to confirm.

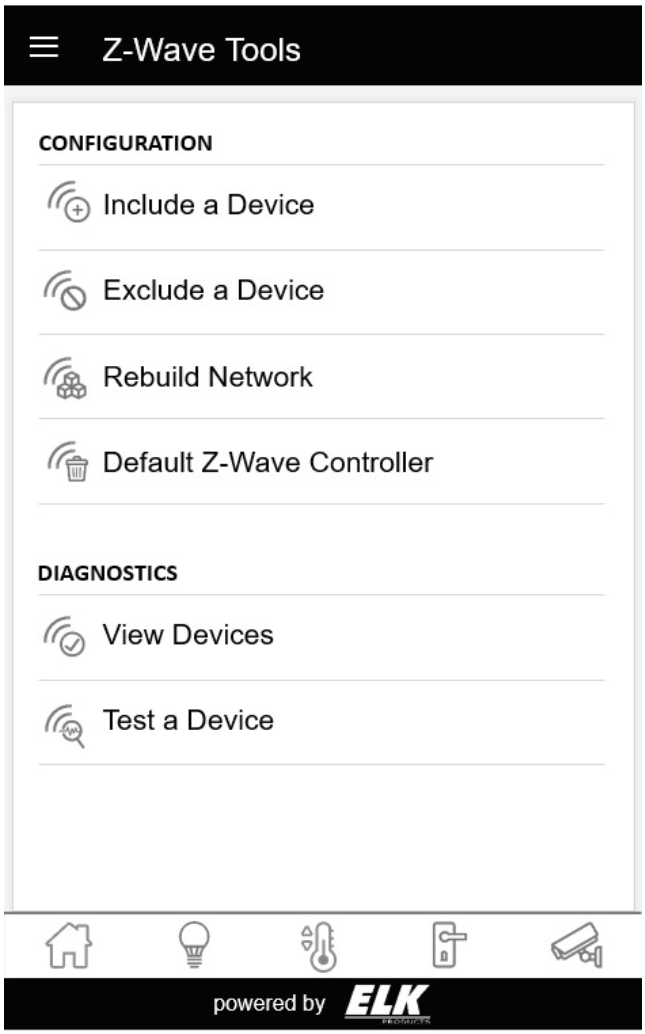
History

Displays a list of system events with the date and time of each event. The newest events appear at the top of the list. Scroll down the list to see older events. The History log holds approximately 500 events.



Z-Wave Tools

The Z-Wave Tools page provides configuration and diagnostic tools for management of the Z-Wave network.



Include a Device

For each Z-Wave device, there is a specific procedure or sequence required to include the device into a Z-Wave network. It is important to familiarize yourself with the necessary steps for each device prior to initialing Z-Wave inclusion. A Z-Wave device can be included into only one Z-Wave network. If the device was previously included in another Z-Wave network, it must be excluded before it can be included into a new network.

To include a new Z-Wave device, tap Include a Device. A 75 second timer will be displayed. During this time, perform the necessary procedure to include the device.

When the Z-Wave controller receives the inclusion signal from the device, a Success message will be displayed in the app. Click OK on this message.

Exclude a Device

For each Z-Wave device, there is a specific procedure or sequence required to exclude the device into a Z-Wave network. This may or may not be the same process for inclusion. It is important to familiarize yourself with the necessary steps for each device prior to initialing Z-Wave exclusion.

To exclude a new Z-Wave device, tap Exclude a Device. A 75 second timer will be displayed. During this time, perform the necessary procedure to exclude the device.

When the Z-Wave controller receives the exclusion signal from the device, an acknowledgment message will be displayed in the app. Click OK on this message.

Rebuild Network

As a mesh network, the addition, removal, or relocation of devices can affect the functionality and strength of the Z-Wave network. It may be necessary to rebuild the Z-Wave network to improve functionality or resolve communication issues. Rebuilding the network allows a device to update the routing paths used to communicate with the Z-Wave controller.

To rebuild the Z-Wave network, tap Rebuild Network. A confirmation pop-up will be displayed. Tap OK to Rebuild the network. The Z-Wave controller will rebuild the network and update the routing path for all Z-Wave devices. When complete, a Success message will be displayed in the app. Click OK on this message.

Default Z-Wave Controller

When the AEZW Z-Wave controller is defaulted, all devices will be deleted from the controller and the Z-Wave network table will be erased. This action is typically reserved as a troubleshooting step under the advisement of technical support. This process only clears the memory of the AEZW controller. It does not exclude individual Z-Wave devices.

To default the AEZW Z-Wave Controller, tap Default Z-Wave Controller. A confirmation pop-up will be displayed. Tap Yes to default the controller. All Z-Wave device data will be cleared from the AEZW Z-Wave controller. When complete, a Success message will be displayed in the app. Click OK on this message.

View Devices

Displays a list of configured Z-Wave devices, with the current assignment, type and status of each. E27 supports Z-Wave lights, thermostats, locks, and garage doors.

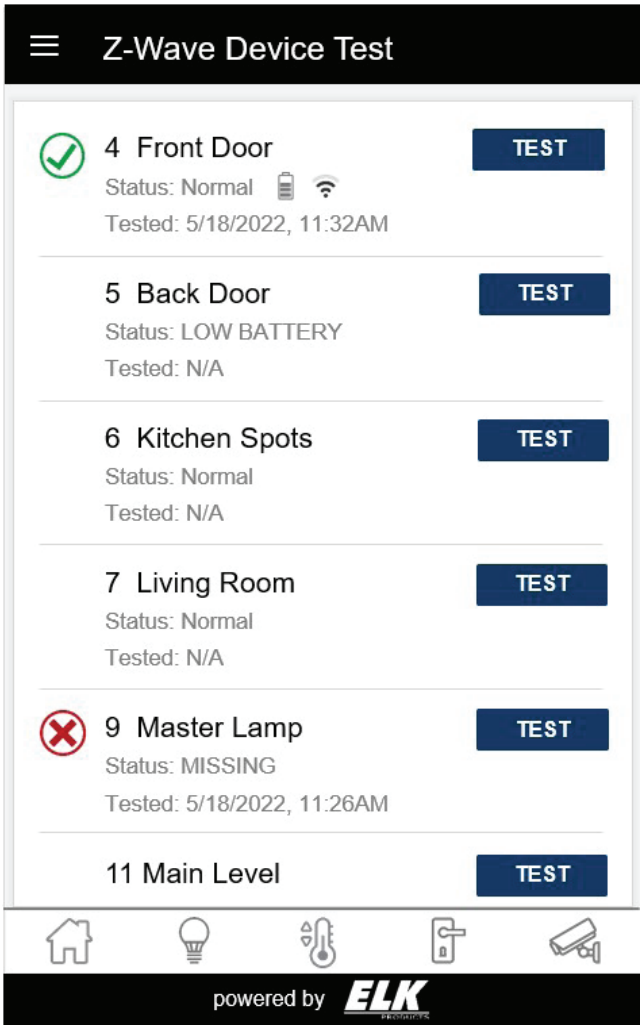
To view Z-Wave device details or edit the assignment of an existing Z-Wave device, tap the name. The Z-Wave Details page shows the Z-Wave ID, class type, and the entity (assignment). This page also displays some additional details including status, signal strength, routing path, and battery level (where applicable). To change the entity, tap the button beside Entity and select the desired entity. Then tap Save.

Test a Device

Displays the Z-Wave Test Device page. This page shows a list of Z-Wave devices with their last know status. To test a device, tap the Test button beside the device you wish to test. The Z-Wave controller will poll the device to test communications. The Tested time/date stamp will be updated to reflect when the device was tested.

If the device responds to the test poll, a green check icon will appear to the left of the device name. Device information will be updated after a successful test, displaying current device status, battery level (where applicable), and signal strength.

If the device does not respond to the test poll, a red X icon will appear to the left of the device name. The device status will be changed to MISSING



Regulatory Agency Statements

FCC AND IC COMPLIANCE STATEMENT:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- This device may not cause interference.
- This device must accept any interference, including interference that may cause undesired operation of the device

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- L'appareil ne doit pas produire de brouillage;
- L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

CAN ICES-3 (B)/NMB-3(B)

E27 Alarm Engine Limited Warranty

The ELK-E27 and its associated component products are warranted by Elk Products, Inc. ("Manufacturer") against defects in material and workmanship for a period of two (2) years from the date of manufacture. If product is found to be defective during the first 180 days, manufacturer may allow an over the counter exchange, subject to inspection and approval by one of it's representatives. Manufacturer's obligations under this Limited Warranty shall be limited to repairing or replacing, at its option, free of charge, during this warranty period, any product returned to Manufacturer freight prepaid. After the expiration of the warranty period, product will be repaired based on a fixed charge per device.

Manufacturer shall have no obligation under this Limited Warranty or otherwise if (1) the Product has been damaged by negligence, accident, mishandling, lightning or flood, or other Acts of God, (2) the Product has not been operated in accordance with its operating instructions, (3) the Product has been altered or repaired by anyone outside Manufacturer's authorized facilities (4) adaptations or accessories have been made or attached to the Product which, in Manufacturer's sole determination, have adversely affected its performance, safety or reliability.

If a Product should malfunction or fail during it's warranty period, contact ELK or one of its authorized distributors for a Return Authorization (RMA) number. Returned Products must include a complete description of the problem, along with the RA number clearly marked on outside of the package. Manufacturer will not be responsible for any unnecessary items included with any returned Product.

THIS WARRANTY IS THE EXCLUSIVE WARRANTY FOR ANY PRODUCT. MANUFACTURER SPECIFICALLY DISCLAIMS ANY AND ALL OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR OF MERCHANTABILITY. MANUFACTURER SHALL NOT BE LIABLE IN TORT, INCLUDING NEGLIGENCE OR STRICT LIABILITY, AND SHALL HAVE NO LIABILITY AT ALL FOR INJURY TO PERSONS OR PROPERTY.

MANUFACTURER'S LIABILITY FOR FAILURE TO FULFILL ITS OBLIGATION UNDER THIS LIMITED WARRANTY OR ANY OTHER LIABILITY IN CONNECTION WITH A PRODUCT SHALL BE LIMITED TO THE AMOUNT OF THE PURCHASE PRICE RECEIVED BY MANUFACTURER FOR THE PRODUCT. THE REMEDIES STATED IN THIS LIMITED WARRANTY ARE THE CUSTOMER'S EXCLUSIVE REMEDIES AGAINST MANUFACTURER REGARDING ANY PRODUCT. UNDER NO CIRCUMSTANCES SHALL MANUFACTURER BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, INCLUDING LOST PROFITS AND REVENUES, INCONVENIENCE OR INTERRUPTIONS IN OPERATIONS, OR ANY OTHER COMMERCIAL OR ECONOMIC LOSSES OF ANY KIND. THESE LIMITATIONS AND DISCLAIMERS ARE NOT MADE BY MANUFACTURER WHERE PROHIBITED BY LAW. SOME STATES PROHIBIT LIMITATIONS OF WARRANTIES AND THE CUSTOMER MAY HAVE ADDITIONAL RIGHTS IN THOSE STATES.