



RAPID ACCESS

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Knox Company • 1601 W. Deer Valley Road, Phoenix, Arizona 85027 • 800-552-5669 • Fax 623-687-2299 • www.knoxbox.com • E-mail: info@knoxbox.com



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A Complete System for Lake County

LAKE COUNTY, FL

Lake County (Florida) Fire Department has been using the Knox® System for about ten years. Shortly after they adopted the Knox System they decided to outline their Knox program to help bring some uniformity to the program's implementation. "To bring consistency to the program we developed an Access System Guide", shared Chief John Jolliff. "We put everything together for the consumer." The guide outlines the purpose and goal of the program and how it is to be carried out.

Lake County's Access System Guide is provided to property owners during the plan review process for new construction projects and all remodeling projects that require a permit. The property owner uses the guide to help them determine what access items, if any, they will need to install on their property to receive their occupancy permit.

This guide is a detailed document. It outlines how the program is to be implemented and the different applications impacted. It also provides information on why the program is needed and the department's authority in carrying out the program. The guide also provides guidelines on the installation of the required items. "The guide helps keep it all uniform," Jolliff said.

Only those commercial structures "served by Internal Automatic Fire Detection

or Suppression System, having a connection to a Central or Remote Station Monitoring Facility" are required to have an access box approved by the department. The approved box is a Knox-Box®. The guide outlines where the box is to be installed and what contents (and how they should be labeled) are required to be kept inside the box. The property owner purchases and installs the box. The contents are locked up during the final inspection and the location of the



Lieutenant Robert Fickett opening a Knox-Box®

box is noted in the department's computer system.

Like many communities across America, Lake County has seen the growth of gated communities and secured areas in their jurisdiction. Emergency access to these areas are addressed in the Access Guide.

Even the FDCs located within their jurisdiction are addressed in the Access Guide. Lake County requires all "automatic fire sprinkler system and standpipe

Continued on next page

EDITORIAL

In this issue of Rapid Access we visit two departments who have both implemented a complete Knox Program addressing lock boxes and FDC connections. Both departments have strived to make their programs' implementation consistent throughout their jurisdictions by requiring existing and new commercial buildings to comply.

We're getting ready to head into the busiest part of the trade show year. On page 6, you will find a short listing of some of the upcoming shows where we will be exhibiting. We hope to see you at one or more of the shows. We have several new products we'd like to share with you.

At Knox, we are very proud to say our products are made in the USA. As many companies move part or all of their operations overseas, Knox is committed to producing its products in the USA.

Thank you for your support of the Knox System. We look forward to serving your department for years to come.

Cynthia Jones



Publisher
Knox Company

Editor **Art Director**
Cynthia Jones Cynthia Weiss

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A Complete System for Lake County *Continued*

LAKE COUNTY, FL



Firefighter Clayton Vaughn inputting his PIN into the Knox MedVault®

system fire department connections to be protected against damage, vandalism, and physical attack". Jolliff shared, "the plugs have been helpful in preventing brass theft. With the plugs on they can't put a pole in and twist the connection off. Since installing the plugs we haven't noticed FDCs being tampered with." All responding crews carry the Knox Key Wrench to access the FDCs during an emergency.

To help maintain the integrity of their system, Lake County Fire Department keeps their master key in a KeySecure® Master Key Retention unit on the department's apparatus. "We wanted control of the (master) key," explained Jolliff. When access to a box is needed, an authorized member enters their unique PIN code into the unit to retrieve the key. Once finished, they return the key to the unit. The KeySecure unit maintains an audit trail showing who gained access to the key and when. Lake County selected the strobe light version of KeySecure to help remind members to return the key to the unit. Lake County recently updated their KeySecure units. "They (Knox Tech Support) walked us through the update over the phone. They provided very good service," Jolliff shared.

In 2009, Lake County added MedVault® Narcotic Drug lockers to all their ALS units - 15 of their 23 stations run ALS. Similar to KeySecure, the MedVault locker allows every authorized member to access the locker with their own unique PIN code and provides an audit trail showing who gained access and when. "It's the best thing since sliced bread. We know who is accessing the drugs and when," Jolliff said. "It's paid for itself over and over".

The department has applied the same uniformity to the products used internally by the department as they did the product installed by property owners. "KeySecure units and MedVault lockers are uniformly installed throughout the department so if one firefighter/paramedic is covering at another station, it's located in the same location," explained Jolliff. The department reviews the audit trail for their KeySecure and MedVault units every six months and whenever there is a question or discrepancy.

Lake County became a career department in 1987. They serve a population of 297,000 with 190 firefighters. Lake County is located in central Florida and gets its name from the numerous lakes located in the area.

Updating Codes and Connections



In 2004, Union Township, New Jersey passed an ordinance that required any commercial building with a fire alarm or fire sprinkler system to install a lock box. The lock box the department settled on was the Knox-Box®. The ordinance required all commercial buildings, including existing buildings to comply. It was also made part of the plan review process for all new construction. The goal was for all commercial buildings, regardless of their age, to have a Knox-Box.

For those commercial buildings that had to retrofit their building for a box, they were given some time to bring the building up to code. The department went through the list of buildings that had a sprinkler system or fire alarm and sent each building's owner a notice that gave them 90 days to bring their building into compliance with the new ordinance. If they weren't compliant by the end of the 90 days, they were issued a citation. The department did work with businesses to give them more time to make the upgrade when asked.

All Knox-Box key boxes in Union Township are required to be installed 6-7 feet from the ground so that no one can play with the box. "We need a step ladder to reach it. We wanted it high enough that they can't tamper with it," explained Captain Gary Steitz.

"We had a few who objected (to installing a box) but when we were able to get in (to their building) at 3am without having them come down they finally understood the benefit," shared Steitz.

Union Township has experienced many benefits from their retrofit program. "It's so much easier to get in. We don't have to wait for a key holder or have to tie up a rig when someone's half an hour



out," Steitz said. "It's worked out very well for us."

"There's no door we can't get through one way or another. The boxes save on a lot of damage and we're able to get in quicker without damage. If the department does any damage when trying to get in, it makes the department look bad," explained Steitz.


Gated communities are required to install a Knox Key Switch or a Knox-Box. A few years back the department responded to a multiple alarm fire that was within a gated community. There was no Key Switch at the back gate. "The mutual aid companies' apparatus' got bounded up at the main entrance. It looked like a parade," Steitz shared. Afterwards the fire department worked with the gated community to have a key switch installed at all gates leading into the community so that this wouldn't happen again.

A few years back Union Township made another change that impacted all commercial buildings with a fire sprinkler system. They decided to switch to a Storz connection and had all existing buildings replace their Siamese FDC connections with a Storz connection. "It's a whole lot easier putting one hose on than two (hoses) and the water flows better," explained Steitz. One of the main benefits

to a Storz connection is that a hose can be locked using a ¼ turn while most Siamese connections are threaded and require several turns to connect. As a result, the Storz connection is often called a 'quick connector'. All Storz connections are required to have a locking Knox StorzGuard installed.

The StorzGuard helps to protect the connection from damage while preventing unauthorized material from getting inside the connection or lines. The StorzGuard is easily removed with the Knox Keywrench.

"There was a little grumbling at first but it went very smoothly. We're about 98% complete on the retro fits. We tried to work with them as much as we can and give them enough time. Overall it was a very smooth transition," Steitz said.

Union Township Fire Department is a 104 career member department located in central New Jersey. Their jurisdiction covers 9.3 square miles. They average 6,000 runs annually. Kean University, one of the largest public universities in New Jersey, is located within their jurisdiction. 



KNOX® 4500 Shutdown Station



For the past several years the Knox Company has been working on the concept and development of an emergency electrical shutdown box. Given the hazards to firefighters when attempting to shut down electrical power for tactical operations, this product is long overdue. This has proven to be a daunting process given the requirements of the industry, the fire service, and UL. The 4500 is effectively a Listed Allen-Bradley switch mounted inside an approved NEMA container. This switch and container are then secured into a Listed Knox Vault that has been modified to meet the requirements of UL. Our engineers have written the article below to help fire officials understand our design parameters and the intended usages. The Knox 4500 Series recently passed all of the testing criteria of UL and is now fully Listed, and is currently being used in many jurisdictions.

Larry Pigg
Director of Public Affairs



In recent years, there has been a noted increase in firefighter injuries related to attempts to shut off power in large structures. In responding to calls where electrical hazards are present, fire crews must wait for city electricians to come to the scene and cut power before entering. The sooner the power can be shut off, the quicker the fire can be put out and the less damage is done.

In some jurisdictions, the response of fire officials has been the adoption of a requirement in the National Electrical Code (NEC) 230.205 Disconnecting Means which requires a high-voltage service disconnect to be located "outside and within sight of, or inside nearest the point of entrance of, the service conductors" of the building or structure being supplied. This requirement is not currently part of the fire code, but both

the International Code Council (ICC) and the National Fire Protection Association (NFPA) are discussing the development of codes for fire protection that would require external shunt trip controls on structures where exposure to high-voltage is a risk.

Many jurisdictions are adopting these requirements early, however, before now no product has been commercially available to meet the needs of this application. Building owners have therefore resorted to their own solutions. In many cases, standard off-the-shelf outdoor enclosures have been used to house push buttons, mushroom switches or key switches that are wired into a shunt trip circuit.

The difficulty with this approach is that any enclosures used for this application must meet UL requirements for housing industrial control switches (UL508, now transitioning to UL60947-1). Most commercially available electrical enclosures meeting these requirements lack the necessary security to be used as an emergency shunt trip station. An emergency shunt trip station must be adequately protected against an attack with the intent to cause an unauthorized shut down event which could cause damage to sensitive systems and incur considerable expense in lost time, data corruption, or system restart costs.



The switch can be tagged with breakaway tamper seals



Fire officials have turned to the Knox Company to develop a box that will meet the needs of first responders. The **Knox® 4500 Remote Electrical Power Shutdown Station** is a derivative of the 4400 Knox-Vault® making it a highly trusted and recognizable addition to the Knox Rapid Entry System.

The Knox 4500 is designed to be mounted on the outside of a building giving first responders the ability to control shunt trip devices from a safe distance. It is designed so that its contents are restricted only to first responders in possession of a Knox Master Key. It contains a switch mounted in a water-tight enclosure with clearly marked controls for safely de-energizing equipment or an entire facility in an emergency. Markings in large, bold type on a color-coded label clearly identify the two positions of the switch. The switch is able to be tagged with breakaway tamper seals to help indicate when the switch has been thrown or to tag the switch in the OFF position after it has been thrown. The Knox 4500 is offered in both surface-mount and recessed-mount configurations. Recessed configurations make the Knox 4500 even more secure against unauthorized entry. Tamper switches are provided as an option for monitored security on all configurations.

Knox® 4500 Remote Electrical Power Shutdown Station



APPLICATIONS


The Knox 4500 can be used in a variety of applications. Typical examples include:

- Total Building Power Cut-Off
- Saw Mills
- Industrial Presses
- Automated Welding Equipment
- Boilers
- Batch Plants (Paint, Concrete, etc.)
- Large Milling Machines
- Automated Machining Lines
- Large Wind Generating Stations
- Photovoltaic (Solar Arrays)
- Electrical / Diesel Electric Fire Pumps
- Electric Security Fences
- Pump motors for commercial hot tubs, pools, spas (NEC 680-12)
- Light Rail Power Distribution Stations
- Amusement Park Rides

power source of a building or piece of equipment but should only be connected to a remote shunt circuit.

In February 2011, a man was seriously injured while cleaning a wind turbine tower he thought had been de-energized. However the backup generator was still running, and while using a cleaning solution the man touched several wires electrocuting him and knocking him from his ladder. Applications in which backup power generation is used, either in the form of generators (fueled, wind, solar, etc), battery cells, or secondary grid sources, must have a power shut down protocol that renders both the primary and backup power sources de-energized for the protection of first responders. Depending on the complexity of the system being controlled multiple Knox 4500 Shutdown Stations may have to be employed.

For ease of access to remote shutdown stations in large facilities, multiple normally-open Knox 4500 stations can be wired in parallel to one or more paralleled shunt trip breakers so that any Knox 4500 in the system can trip all breakers. Power cannot be restored to equipment or to a building via the Knox 4500 switch. After returning the Knox 4500 to the ON position, power must be reset at the circuit breaker that was tripped by the remote trip device.

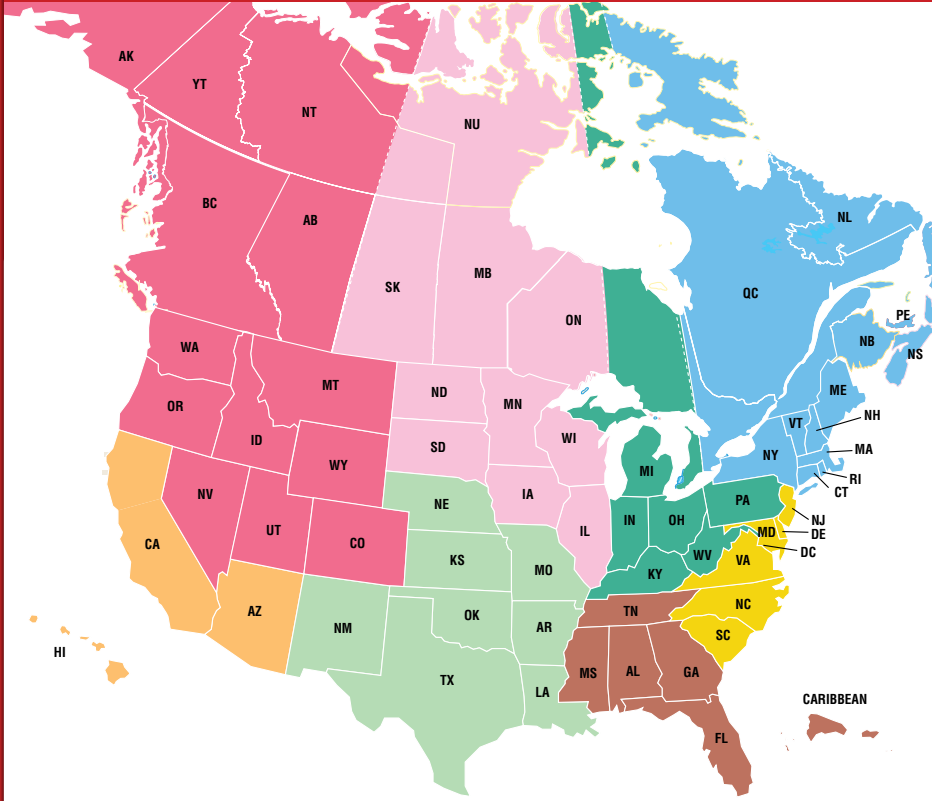
Because of the number of different applications and configurations in which the Knox 4500 could be used, Knox does not provide specific instructions for electrical installation. Knox does stipulate that the shutdown station must be installed by a qualified, licensed electrician following the guidelines of the shunt trip system to which it is being connected. 



A special Alert Decal can be used when a Knox 4500 Shutdown Station is on-site

It is important to note that the Knox 4500 is not intended to be accessed by building personnel or used as an emergency stop in the event of equipment failure. Its only purpose is to give first responders in possession of a Knox Master Key the opportunity to eliminate sources of electrical shock hazard and electrical combustion. The Knox 4500 is not designed to be connected to the primary

Knox Contacts



FIRE SERVICE MANAGERS

Northwest

Jeff Moser
866-361-5844
Fax 866-361-5845
jmoser@knoxbox.com



Central

Joe Shanley
866-223-2623
Fax 866-223-2640
jshanley@knoxbox.com



Northeast

Jon Kemp
866-436-0493
Fax 866-436-0494
jkemp@knoxbox.com



West

Marlene Briones
866-702-4406
Fax 866-275-4039
mbriones@knoxbox.com



North Central

Larry Lulich
866-889-4181
Fax 866-613-9412
llulich@knoxbox.com



Atlantic

Bryan McIntosh
877-707-5286
Fax 877-773-4197
bmcintosh@knoxbox.com



Southwest

Rebecca Heller
866-417-8458
Fax 800-704-0889
rheller@knoxbox.com



Southeast

Bill Brown
888-342-3530
Fax 888-342-6655
bbrown@knoxbox.com



SUPPORT CONTACTS

FIRE DEPARTMENT SUPPORT

This department provides customer service to fire departments.

**800-KNOX-BOX
(800-566-9269)**

ELECTRONIC SUPPORT

This department deals exclusively with technical questions regarding KeySecure®, Sentralok® and MedVault® units.

**866-KNOX-BOX
(866-566-9269)**

PROPERTY OWNER SUPPORT

Property Owners & General Inquiries to Knox should be directed to our main number.

**800-552-KNOX
(800-552-5669)**

KNOX NEWS

Trade Show Schedule

Show & Location	Dates
Northwest Fire & Rescue Expo, Portland, OR	May 18-19
Metro Chiefs, Louisville, KY	May 18-23
Fire Expo, Harrisburg, PA	May 18-20
Washington Fire Chiefs, Yakima, WA	May 22-23
EMSAAC, Long Beach, CA	June 5-6
SC Fire Rescue, Myrtle Beach, SC	June 6-9
NFPA, Las Vegas, NV	June 11-14
EMSCC, Vancouver, BC	June 13-15
New York Fire, Verona, NY	June 14-16
Wisconsin Fire Chiefs, Wisconsin Dells, WI	June 21-24
New England Fire Rescue, Springfield, MA	June 22-24
TN Fire Chiefs, Nashville, TN	July 15-16
Firehouse Expo, Baltimore, MD	July 19-21
Arizona Fire Chiefs, Glendale, AZ	July 25-26
IAFC DoD, Denver, CO	July 30 - August 3
IAFC Fire Rescue, Denver, CO	July 31-August 4
South Atlantic Fire Expo, Raleigh, NC	August 8-12
Canadian Fire Chief, St Johns, NF	Sept 23-26

Reminder:
Check for
Knox Software
Updates
Quarterly

Knox Software and Firmware Updates

Software and firmware is constantly evolving with most of the changes rather minor. Knox encourages all Knox administrators to check for software and firmware updates on a quarterly basis and before adding any new units to your existing program. These updates are available at no charge.

To check for updates, please log on to the Knox Fire Department Login area at www.knoxbox.com and follow the installation instructions provided on the website.


Feel free to contact Knox electronic support if you have any questions requiring technical assistance or need a login ID. 866-KNOX-BOX (866-566-9269)

IMPORTANT: Prior to performing ANY software or firmware updates, be sure to conduct an audit trail download from the unit, as audit trail records may be overwritten during the upgrade.



What do these departments have in common?



Above is just a sampling of the departments that have added their department logo to our website department search results. Adding your logo helps to orient property owners in your jurisdiction when placing an online order and reduces the chance of an incorrect order. To add your logo, department coordinators can simply log in and click the "Upload Profile Logo" link, or email your department logo to cweiss@knoxbox.com. 

The Key to a Secure System

Knox System security is always important. Protecting the Knox® Master Key and documents listing installation addresses helps ensure that the Knox System is solely for the benefit of your department.

The four security steps listed below are the ways your department contributes to the security of the Knox program in your community. Thank you for following these simple yet important rules.

1. **Keep all Knox keys in a secure place.**
2. **Do not release the Knox provided keys to any non fire department or law enforcement personnel.**
3. **Do not provide Knox installation database access to any non fire department or law enforcement personnel unless required by law.**
4. **Notify Knox immediately of loss, theft or attempted duplication of any key.**

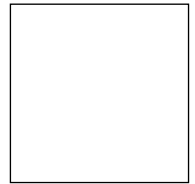


KNOX
Serving First Responders Since 1975

1601 W. Deer Valley Road
Phoenix, Arizona 85027

623-687-2300
800-552-5669

623-687-2299 Fax
www.knoxbox.com




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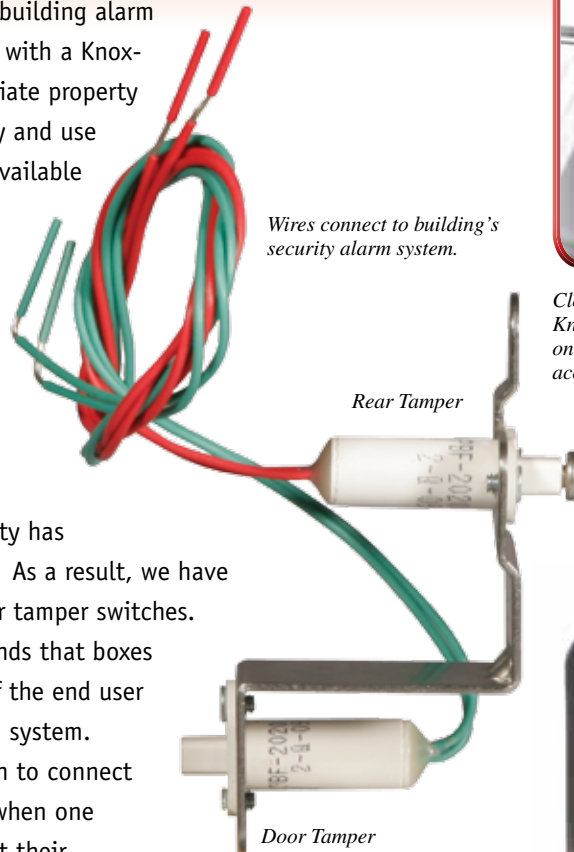
An Added Layer of Security – Tamper Switches

Tamper switches add another layer of security to already attack resistant Knox[®] products by having the building alarm system monitor any activity that occurs with a Knox-Box[®] key box. These switches will alleviate property owner concern about unauthorized entry and use of building keys. Tamper switches are available on nearly all models of Knox products.

The “tamperers” are pre-installed at the factory and are easy to connect to a building alarm system. Do not connect a tamper switch to the fire alarm. The “tamperers” detect movement of a Knox-Box door and the attempted removal of the box from its mounting. In the past few years’ security has become a major concern for businesses. As a result, we have seen a steady increase in the request for tamper switches.

The Knox Company highly recommends that boxes be ordered with tamper switches even if the end user currently does not have a security alarm system. This gives the property owner the option to connect the box to the building’s alarm system when one is installed rather than having to retrofit their existing box with a tamper switch at a later date.

As a reminder, the tamper switch should be connected to a building burglar alarm and not the fire alarm. 



Wires connect to building's security alarm system.

Rear Tamper

Door Tamper



Closeup of a tamper switch for a recess mount Knox-Box[®]. Recess mounted Knox devices require only a door tamper switch. Wall mounted devices accommodate both door and rear tamper switches.

