2-WAY WIRELESS SUPERVISED
PHOTOELECTRIC SMOKE DETECTOR

Model: EL-4703

INSTALLATION INSTRUCTIONS

PROVIDENT
TECHNOLOGIES

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GENERAL DESCRIPTION

Electronics Line's smoke detector is single station, photoelectric smoke detector with a built-in supervised wireless transmitter.
When sufficient smoke is detected, or the test feature is operated, the detector will sound its alarm horn and the transmitter will send an ALARM message. The Alarm output in the receiver will remain activated until the alarm condition clears.
The smoke alarm base lock discourages unauthorized removal of the smoke alarm by requiring a screwdriver to remove the alarm from the base.
The smoke alarm provides the following signals to the control panel:

- Alarm
- Alarm restore
- Low battery
- Tamper
- Supervision

WARNINGS:

This smoke detector is designed for use in a single residential unit only, which means that it should be used inside a single family home or apartment. It is not meant to be used in lobbies, hallways, basements, or another apartment in multi-family buildings, unless there are already working detectors in each family unit. Smoke detectors, placed in common areas outside of the individual living unit, such as on porches or in hallways, may not provide early warning to residents. In multi-family buildings, each family living unit should set up its own detectors.
This detector is not to be used in non-residential buildings. Warehouses, industrial or commercial buildings, and special purpose non-residential buildings require special fire detection and alarm systems. This detector alone is not a suitable substitute for complete fire detection systems for places where many people live or work, such as hotels or motels. The same is true of dormitories, hospitals; nursing homes or group homes of any kind, even if they were once single - family homes. Please refer NFPA 101, the Life Safety Code, NFPA71, 72A, 72B, 72C, 72D, and 72E for smoke detector requirements for fire protection in buildings not defined as “households”.

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SELECTING A LOCATION

Smoke detectors should be installed in accordance with the NFPA Standard 74 (National Fire Protection Association, Batterymarch Park, Quincy, MA 02169). For complete coverage in residential units, smoke detectors should be installed in all rooms, halls, storage areas, basements, and attics in each family living unit. Minimum coverage is one detector on each floor and one in each sleeping area and attics in each family living unit. Minimum coverage is one detector on each floor and one in each sleeping area.

- Install a smoke detector in the hallway outside every separate bedroom area, as shown in Figure 1. Two detectors are required in homes with two bedroom areas, as shown in Figure 2.
- Install a smoke detector on every floor of a multi-floor home or apartment, as shown in Figure 3.
- Install a minimum of two detectors in any household.
- Install a smoke detector inside every bedroom.
- Install smoke detectors at both ends of a bedroom hallway if the hallway is more than 40 feet (12 meters) long.
- Install a smoke detector inside every room where one sleeps with the door partly or completely closed, since smoke could be blocked by the closed door and a hallway alarm may not wake up the sleeper if the door is closed.
- Install basement detectors at the bottom of the basement stairwell.
- Install second-floor detectors at the top of the first-to-second floor stairwell.
- Be sure no door or other obstruction blocks the path of smoke to the detector.
- Install additional detectors in your living room, dining room, family room, attic, utility and storage rooms.
- Install smoke detectors as close to the center of the ceiling as possible. If this is not practical, put the detector on the ceiling, no closer than 4 inches (10 cm) from any wall or corner, as shown in Figure 4.

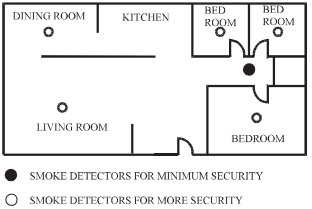

Figure 1: Locations for placing smoke detectors for single residence with only one sleeping area

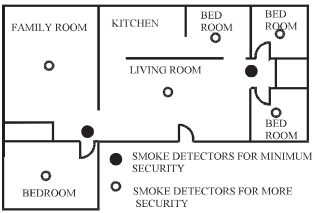

Figure 2: Locations for placing smoke detectors for single-floor residence with more than one sleeping area

- If ceiling mounting is not possible and wall mounting is permitted by your local and state codes, put wall-mounted detectors between 4 and 6 inches (10 ~ 15 cm) from the ceiling, also see Figure 4.
- If some of your rooms have sloped, peaked, or gabled ceilings, try to mount detectors 3 feet (0.9 meter) measured horizontally from the highest point of the ceiling as shown in Figure 5.

CAUTION:
(As required by the California State Fire Marshall)

"Early warning fire detection is best achieved by the installation of fire detection equipment in all rooms and areas of the household as follows: (1) A smoke detector installed in each separate sleeping area (in the vicinity, but outside of the bedrooms), and (2) Heat or smoke detectors in the living rooms, dining rooms, bedrooms, kitchens, hallways, attics, furnace rooms, closets, utility and, storage rooms, basements and attached garages."
For your information, NFPA Standard 74, Section 2-4 reads as follows:
"2-4.1.1 Smoke detectors shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms and on each additional story of the family living unit including basements and excluding crawl spaces and unfinished attics.
The provisions of 2-4.1.1 represent the minimum number of detectors required by this standard. It is recommended that the householder consider the use of additional smoke detectors for increased protection for those areas separated by a door from the areas protected by the required smoke detectors under 2-4.1.1 above. The recommended additional areas are living room, dining room, bedroom(s), kitchen, attic (finished or unfinished), furnace rooms, utility room, basement, integral or attached garage, and hallways not included in 2-4.1.1 above. However, the use of additional detectors remains the option of the householder." We recommend complete coverage and use of additional smoke detectors.

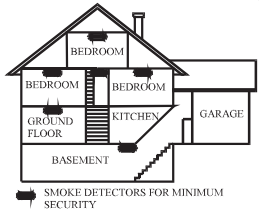

Figure 3: Location for placing smoke detectors for a multi-floor residence

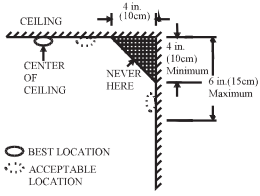

Figure 4: Recommended best and acceptable locations to mount smoke detectors

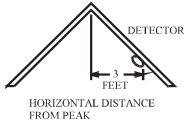

Figure 5: Recommended location to mount smoke detectors in rooms with sloped, gabled, or peaked ceiling

Where to Install Your Smoke Detectors in Mobile Homes and RVs

Mobile homes and RVs built after about 1978 were designed and insulated to be energy-efficient. In mobile homes and RVs built after 1978, smoke detectors should be installed as described above. Older mobile homes and RVs may have little or no insulation compared to current standards. Outside walls and roofs are often made of non-insulated metal, which can transfer thermal energy flow from outdoors. This makes the air right next to them hotter or colder than the rest of the inside air. These layers of hotter or colder air can keep smoke from reaching a smoke detector. Thereby, install smoke detectors in such units only on inside walls. Place them between 4 and 6 inches (10 ~ 15 cm) from the ceiling. If you are not sure how much insulation is in your mobile home or RV, then install the detector on an inside wall. If the walls or ceiling are unusually hot or cold, then install the detector on an inside wall. Install one detector as close to the sleeping area as possible for minimum security, or install one detector in each room for security. Before you install any detector, please read the following section on “Where not to install your smoke detectors”.

Where Not to Install Your Smoke Detectors

False alarms occur when smoke detectors are installed where they will not work properly. To avoid false alarms, do not install smoke detectors in the following situations:

- Combustion particles are by-products of something burning. Do not install smoke detectors in or near areas where combustion particles are present, such as kitchens with few windows or poor ventilation, garages where there may be vehicle exhaust, near furnaces, hot water heaters and space heaters.
- Do not install smoke detectors less than 6 meters (20 feet) away from places where combustion particles are normally present, like kitchens. If a 20-foot distance is not possible, e.g. in a mobile home, try to install the detector as far away from the combustion particles as possible, preferably on the wall. To prevent false alarms, provide good ventilation in such places.

  IMPORTANT:
  Never try to avoid false alarms by disabling the detector.
- Do not mount smoke detectors in the path of fresh air intake. The flow of fresh air in and out can drive smoke away from the smoke detector; thus reducing its efficiency. Figure 6 indicates the correct and incorrect locations concerning this problem.
- Near paint thinner fumes.
- In close proximity to an automobile exhaust pipe; this will damage the detector.
- In damp or very humid areas or near bathrooms with showers. Moisture in humid air can enter the sensing chamber, then turns into droplets upon cooling, which can cause false alarms. Install smoke detectors at least 3 meters (10 feet) away from bathrooms.

- In very cold or very hot areas, including unheated buildings or outdoor rooms. If the temperature goes above or below the operating range of smoke detector, it will not work properly. The temperature range for your smoke detector is 4°C to 38°C (40°F to 100°F).
- In very dusty or dirty areas, dirt and dust can build up on the detector's sensing chamber, to make it overly sensitive.
- Additionally, dust or dirt can block openings to the sensing chamber and keep the detector from sensing smoke.
- Near fresh air vents or very drafty areas like air conditioners, heaters or fans. Fresh air vents and drafts can drive smoke away from smoke detectors.
- Dead air spaces are often at the top of a peaked roof, or in the corners between ceilings and walls. Dead air may prevent smoke from reaching a detector. See Figures 8 and 9 for recommended mounting locations.
- In insect-infested areas. If insects enter a detector's sensing chamber, they may cause a false alarm. Where bugs are a problem, get rid of them before putting up a detector.
- Near fluorescent lights, electrical "noise" from fluorescent lights may cause false alarms. Install smoke detectors at least 1.5 meters (5 feet) from such lights.

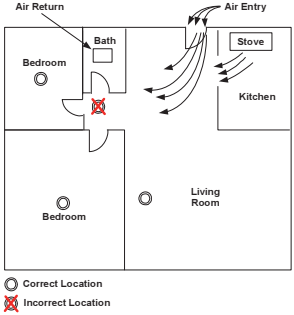

Figure 6: Recommended Smoke Detector Locations

INSTALLATION

The smoke detector is to be mounted on the ceiling or on the wall, if necessary. Since the smoke detector is a single-station type, it cannot be linked to other detectors.

WARNING:
Do not connect the smoke detectors to any other alarm or auxiliary device. Connecting anything else to this detector will prevent it from working properly.

Read the "Where To Install Your Smoke Detector" and "Where Not To Install Your Smoke Detectors" sections in this Manual before installing. To install the detector, perform the following steps (see *Figure 7*).

Registration

The EL-4703 must identify itself to the iConnect 2-Way receiver as follows:

1. Set the system to registration mode.
   a. Go to the main menu and select [9]>[1]>[1] (Programming > Devices > Zones)
   b. Select a zone and press '√'.
2. Open the detector housing.
3. Apply battery power.. The detector will send a transmission. If the transmission is successfully received by the system it will play a confirmation sound. If no confirmation sound is heard send another transmission by pressing and releasing the tamper switch of the device.

   NOTE:
   Due to the occurrence of voltage delay in lithium batteries that have been in storage, the batteries may initially appear to be dead. In this case, leave the unit in Test mode for a few minutes until the battery voltage level is stabilized.

4. As soon as 'Save?' appears, press '√'

Mounting a Detector

- Select the installation location.
- Remove locking pin securing the mounting bracket to the unit (see Figure 7).
- Remove the mounting bracket from the unit by rotating it counterclockwise.
- Use the bracket as a template for marking the mounting holes
- Using an appropriate drill, drill two holes at the marks and insert anchors.
- Using screws (supplied) attach the bracket to the wall as in Figure 7.
- Line up the side slot of the bracket and the detector. Push the detector onto the mounting bracket and turn it clockwise to fix it into place.
  Insert the locking pin in order to secure the mounting bracket to the detector (see figure 7).
- Pull the detector outward to make sure it is securely attached to the mounting bracket.

WARNING:
This detector is not suitable for installation in a hazardous location, as defined in the national electrical code. Do not use detector in an outlet controlled by a wall switch.

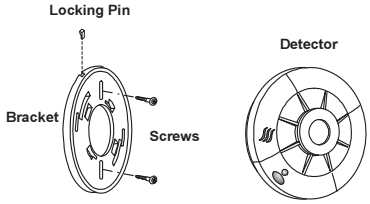

Figure 7: Smoke Detector Installation

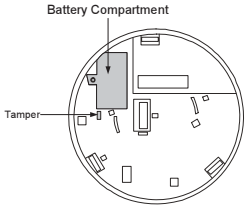

Figure 8: Batteries Compartment/Tamper

Deleting a Smoke Detector

To delete a smoke detector from the system:

1. Set the system to Delete mode.
   a. Go to the main menu and select [9]>[1]>[1] (Programming > Devices > Zones).
   b. Select a zone and press '√'
   c. Press >12 >3.
2. Open the detector and take out the battery.
3. Press the tamper switch. While the tamper switch is being pressed insert the battery. Within five seconds open the tamper and close it again

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RED INDICATOR

When the red LED indicator (see *Figure 9*) flashes once in 30 seconds, it indicates the detector is under normal operation. When the red LED flashes very frequently and an audible alarm sounds simultaneously, it indicates that the detector senses smoke.

NOTE:

The red LED behaves according to one of the following set modes:
Mode 1: The red LED indicator will not reset automatically at the end of an alarm event. This means that after the smoke chamber is cleared, the audible alarm will stop automatically, but the red LED indicator will continue to flash, until it is manually restored by the user. To restore – press the test button for 2-3 seconds, the LED will stop flashing.
Mode 2 (Default): The red LED will reset automatically at the end of an alarm event.

The user can check to which mode the detector is defined and switch between modes.
- To check the mode, press the Test button. The red LED will light up. If the red LED lights up continuously the detector is in Mode 1. If the red LED is blinking the detector is in Mode 2.
- To switch from one mode to another, press the Test button for 8 seconds. The buzzer will sound and the red LED will change its behavior either from a continuous light to a blinking light or from a blinking light to a continuous light.

TESTING YOUR SMOKE DETECTOR

To be sure that detector is working correctly test the detector weekly by performing the following procedure:
Use your finger to firmly press the test button. If the detector is functioning correctly, the alarm horn sounds. To stop the alarm horn, press the test button again. If the detector fails to test properly, have it repaired or replaced immediately.
If the alarm horn begins to beep once every 35 seconds, it means that the detector's batteries are weak. Replace the batteries immediately. Keep fresh batteries on hand for this purpose.

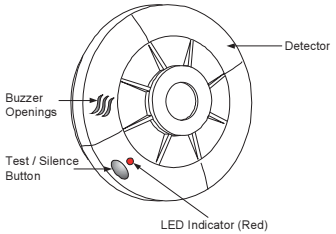

Figure 9: Smoke Detector Cover

NOTE:

Cooking smoke or a dusty furnace (sometimes called "friendly fires") can cause the alarm to sound. If this happens, open a window or fan the air to remove the smoke or dust. The alarm will turn off as soon as the air is completely clear. Do not disconnect the batteries from the detector. This will cancel your protection from fire.

TAKING CARE OF YOUR SMOKE DETECTOR

To keep your detector in good working condition, you must test the detector weekly, according to the “Testing Your Smoke Detector” section.

CLEANING THE SMOKE DETECTOR

Clean the housing with a dry or damp cloth to remove dust and dirt. If necessary, open the smoke chamber and clean the interior of the detector.

1. Remove the detector from the detector base.
2. Remove the batteries.
3. Using a flat screwdriver release the smoke detector cover.
4. Using a flat screwdriver lift the smoke chamber housing slightly.
5. Use a fine paintbrush to remove dirt from the chamber.
6. After cleaning, close the smoke chamber, fix the housing and remount the detector on the ceiling.

DO NOT FORGET TO REPLACE THE BATTERIES!

BATTERY REPLACEMENT

Replace the detector batteries once a year or immediately when the low battery “beep” signal sounds once every 35 seconds. The low-battery "beep" should last at least 30 days before the batteries die out completely.

NOTE:
If false alarms keep coming from the detector, you should check whether the detector’s location is adequate. Refer to section “WHERE TO INSTALL SMOKE DETECTORS.” Have your detector moved if it is not located properly. Clean the detector as described above.

WARNING! LIMITATIONS OF SMOKE ALARMS

Wireless smoke alarms are very reliable, but may not work under all conditions. No fire alarm provides total protection of life or property. Smoke alarms are not a substitute for life insurance.
Smoke alarms require a source of power to work.
This smoke alarm will not operate and the alarm will not sound if batteries are dead or not installed properly.
Smoke alarms may not be heard. A sound sleeper or someone who has taken drugs or alcohol may not awaken if the alarm is installed outside a bedroom. Closed or partially closed doors and distance can block sound. This alarm is not designed for the hearing impaired.
Smoke alarms may not always activate and provide warning early enough. Smoke alarms only activate when enough smoke reaches the alarm. If a fire starts in a chimney, wall, roof, on the other side of closed doors, or on a different level of the property enough smoke may not reach the alarm for it to alarm.
Smoke alarms are a significant help in reducing loss, injury and even death. However, no matter how good a detection device is, nothing works perfectly under every circumstance and we must warn you that you cannot expect a smoke alarm to ensure that you will never suffer any damage or injury.

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Specifications

Operating Voltage:	6VDC
Typical Average Standby Current:	0.04mA
Typical Test Current:	55mA
Typical Alarm Current:	55mA
Peak Trouble Pulse Current:	4.73mA
Peak Pulse Current:	0.074mA
Battery Life:	At least 1 year under normal conditions with Lithium Batteries
Battery Type:	2xCR123 3V Lithium battery
Low Battery Threshold:	5.2VDC
Low Battery Beep rate:	One beep every 30 seconds
Low Battery Life:	At least 30 days from warning signal
Operating Temperature:	-10°C to 40°C (14°F - 104°F)
Operating Humidity:	10% to 85% RH, no condensation or icing
Color:	White
Dimensions:	Diameter: 148 mm (5.83") Height: 53 mm (2")
Alarm Sound Level:	Exceeds 85dB at 3m (10 feet)
Transmitter Characteristics:	
Nominal Center Frequency	868.35 MHz, 433.92 MHz,
Supervision Time	10 min
Catalog Number	E8US206SMK0A @ 868.35 MHz E4US206SMK0A @ 433.92 MHz

In order to continue improving the product, Electronics Line reserves the right to change specifications and/or designs without prior notice.

Note:

Smoke detectors are not to be used with detector guards unless the combination has been evaluated and found suitable for that purpose.