NOTIFIER®

Division of Pittway Corporation

CPX-751 and CPX-751A Plug-in Intelligent Ionization Sensors with Communications Installation and Maintenance Instructions

Before installing the sensor, please read the system wiring and installation manual, I56-407-XX. This manual includes detailed information on sensor spacing, placement, zoning, and special applications. Copies of this manual are available from Notifier.

GENERAL DESCRIPTION

Models CPX-751 AND CPX-751A intelligent ionization sensors use a state-of-the-art sensing chamber. These sensors are designed to provide open area protection and are intended for use with compatible control panels only. For installation in Canada, refer to CAN/ULC-S524-M86**,** *Standard for the Installation of Fire Alarm Systems* and CEC Part 1, Sec. 32.

Two LEDs on each sensor light to provide a local, visible sensor indication. The LEDs can be latched on by code command from the control panel for an alarm indication. The LEDs can also be unlatched to the normal condition by code command. Remote LED annunciator capability is also available as an optional accessory (RA400Z).

SPECIFICATIONS

Operating Voltage Range:	15 to 32 VDC
Max. Avg. Standby Current:	300μA @ 24 VDC (one communication every 5 sec. with LED blink enabled)
Max. Alarm Current (LED on):	6.5 mA @ 24 VDC
Operating Humidity Range:	10% to 93% Relative Humidity, noncondensing
Operating Temperature Range	0° to 49°C (32° to 120°F)
Height:	1.7 inches (43 mm) installed in B710LP Base
Diameter:	6.2 inches (155 mm) installed in B710LP Base
	4.1 inches (104 mm) installed in BX-501 Base
Weight:	3.6 oz. (102 g)

WIRING GUIDE

Refer to the installation instructions for the plug-in base being used. As indicated in Figure 1, terminals for power, ground, and the optional RA400Z Remote Annunciator are included in the base. Base Models B710LP (shown in Figure 1) and BX-501 are electrically identical.

NOTE: All wiring must conform to all applicable codes, ordinances, and regulations.

NOTE: Verify that all sensor bases are installed and that polarity of the wiring is correct at each base.

⚠WARNING

Disconnect loop power before installing sensors.

1. Sensor Installation
   a. Set the sensor to the desired address and record that address on the label attached to the base.
   b. Insert the sensor into the base and rotate it clockwise until it drops into place.
   c. Continue to rotate the sensor until it locks into the base.

⚠CAUTION

Dust covers are an effective way to limit the entry of dust into smoke detector sensing chambers. However, they may not completely prevent airborne dust particles from entering the detector. Therefore, System Sensor recommends the removal of detectors before beginning construction or other dust producing activity.

Be sure to remove dust covers from any sensors that were left in place during construction as part of returning the system to service.

2.Tamper-Resistance

Models CPX-751 AND CPX-751A include a tamper-resistant capability that prevents their removal from the bracket without the use of a tool. Refer to the base manual for details on making use of this capability.

3. After all sensors have been installed, apply power to the system.
4. See Figure 2. Test the sensor by positioning a test magnet (M02-24) against the sensor plastic just to the left of LED1. The alarm level should be recognized at the panel and the LED controlled by communication command from the panel.
5. Reset the sensor by communication command from the panel.

TESTING

Detectors must be tested after installation and following periodic maintenance. However, before testing, notify the proper authorities that the smoke detector system is undergoing maintenance and the system will be temporarily out of service. Disable the zone or system undergoing maintenance to prevent unwanted alarms.

Notifier, 12 Clintonville Rd., Northford, CT 06472-1652, (203) 484-7161

Test the sensors as follows:

A. Test Magnet (Model M02-24 – optional)

1. Test the sensor by positioning the optional test magnet against the sensor plastic just to the left of LED1, as shown in Figure 2.
2. Both LEDs should latch on within 30 seconds, indicating an alarm and annunciating the panel.

B. Calibrated Sensitivity Test (MOD400R)

Use the MOD400R Test Module with a digital or analog voltmeter to test calibrated detector sensitivity as described in the test module manual.

C. Aerosol Generator in accordance with NFPA 72.

The Gemini Model 501 aerosol generator can be used to test the sensor. Set the generator to represent 4%/ft to 5%/ft obscuration, following the instructions in the generator manual. Use a bowl shaped applicator to apply aerosol to the sensor. It should alarm after 30 seconds.

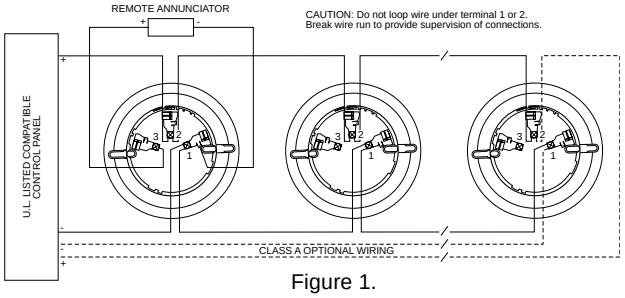

Figure 1.

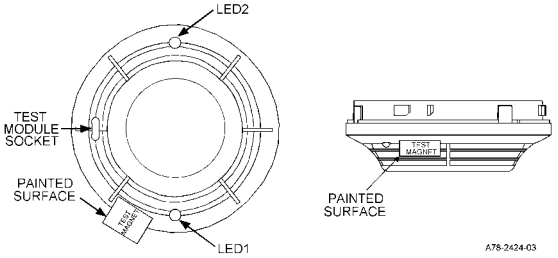

Figure 2. Test Magnet Positioning.

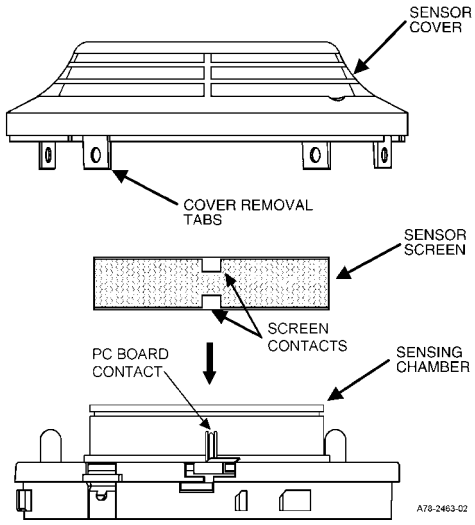

Figure 3.

CLEANING

Before cleaning, notify the proper authorities that the system is undergoing maintenance and will be temporarily out of service. Disable the system to prevent unwanted alarms.

1. Remove the sensor to be cleaned from the system.
2. Remove the sensor cover. Use a small standard screwdriver to release each of the four cover removal tabs that hold the cover in place.
3. Vacuum the outside of the screen carefully without removing it.
4. Remove the sensor screen. Pull the screen straight away from the sensing chamber until it snaps out of place. Replacement screens are available.
5. Use a vacuum cleaner or clean, compressed air to remove dust and debris from the sensing chamber.
6. Reinstall or replace the sensing chamber screen by sliding the edge without the tabs over the sensing chamber. Make sure that one of the screen contacts touches the circuit board contact.
7. Reinstall the sensor cover. Use the test module socket and LEDs to align the cover with the sensor. Snap the cover into place.
8. When all sensors have been cleaned, restore power to the system and test the sensor(s) as described in the TESTING section of this manual.

⚠WARNING

Limitations of Smoke Detectors:

This smoke detector is designed to **activate and initiate** emergency action, but will do so only when it is used in conjunction with an authorized fire alarm system. This detector must be installed in accordance with NFPA standard 72.

Smoke detectors will not work without power. AC or DC powered smoke detectors will not work if the power supply is cut off.

Smoke detectors will not sense fires which start where smoke does not reach the detectors. Smoldering fires typically do not generate a lot of heat which is needed to drive the smoke up to the ceiling where the smoke detector is usually located. For this reason, there may be large delays in detecting a smoldering fire with either an ionization type detector or a photoelectric type detector. Either one of them may alarm only after flaming has initiated which will generate the heat needed to drive the smoke to the ceiling.

Smoke from fires in chimneys, in walls, on roofs or on the other side of a closed door(s) may not reach the smoke detector and alarm it. A detector cannot detect a fire developing on another level of a building quickly or at all. For these reasons, detectors **shall be located on every level and in every bedroom within a building.**

Smoke detectors have sensing limitations, too. Ionization detectors and photoelectric detectors are required to pass fire tests of the flaming and smoldering type. This is to ensure that both can detect a wide range of types of fires. Ionization detectors offer a broad range of fire sensing capability but they are somewhat better at detecting fast flaming fires than slow smoldering fires. Photoelectric detectors sense smoldering fires better than flaming fires which have little, if any, visible smoke. Because fires develop in different ways and are often unpredictable in their growth, neither type of detector is always best, and a given detector may not always provide early warning of a specific type of fire.

In general, detectors cannot be expected to provide warnings for fires resulting from inadequate fire protection practices, violent explosions, escaping gases which ignite, improper storage of flammable liquids like cleaning solvents which ignite, other similar safety hazards, arson, smoking in bed, children playing with matches or lighters, etc. Smoke detectors used in high air velocity conditions may have a delay in alarm due to dilution of smoke densities created by frequent and rapid air exchanges. Additionally, high air velocity environments may create increased dust contamination, demanding more frequent maintenance.

Smoke detectors cannot last forever. Smoke detectors contain electronic parts. Even though smoke detectors are made to last over 10 years, any part can fail at any time. Therefore, smoke detectors shall be replaced after being in service for 10 years. The smoke detector system that this detector is used in must be tested regularly per NFPA 72. This smoke detector should be cleaned regularly per NFPA 72 or at least once a year.