

Installation Instructions Models ILP-1/ILPT-1

These instructions are written in accordance with the installation guidelines of NFPA 72, National Fire Alarm Code, and CAN/ULC-S524, The Installation of Fire Alarm Systems.

CAUTION: Detector Device Storage

DO NOT install this detection device until all construction is completed.

DO NOT store this detection device where it can be contaminated by dirt, dust, or humidity.

DETECTOR PLACEMENT

Although no specific spacings are set for the detectors used for a clean air application, use 30 foot center spacing (900 sq ft) from NFPA Standard 72 Chapter 5 and CAN/ULC-S524, if practical, as a guide or starting point for a detector installation layout. This spacing, however, is based on ideal conditions - smooth ceiling, no air movement, and no physical obstructions. In some applications, therefore, considerably less area is protected adequately by each smoke detector. This is why it is mandatory to closely follow the installation drawings. In all installations place the detector on the ceiling, a minimum of 6 inches from a side wall, or on a wall, 6 inches from the ceiling.

If you have any questions regarding detector placement, follow the drawings provided or approved by Siemens Building Technologies, Inc. or by its

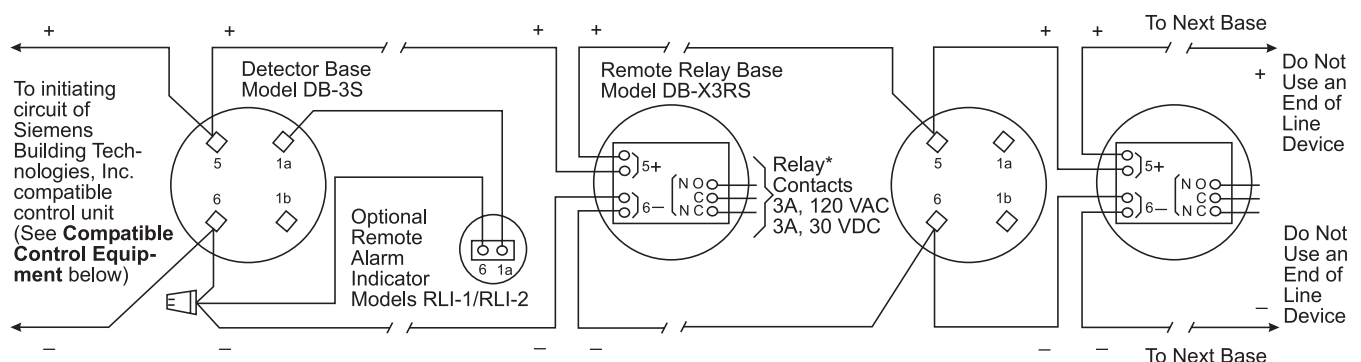
authorized distributors. This is extremely important! The detector placements shown on these drawings were chosen after a careful evaluation of the area that is protected. Factors such as air currents, temperature, humidity, pressure, and the nature of the load were carefully considered. Especially noted were the room or area configuration and the type of ceiling (sloped or flat, smooth or beamed). Siemens Building Technologies, Inc.'s extensive experience in the design of the system assures the best detector placement by following these drawings. Sound engineering judgement by qualified personnel must be followed.

To avoid nuisance alarms:

Do not locate the detector next to an oil burner, electric heaters, kitchens, or garages where exhaust fumes can trigger an alarm. Other causes of false alarms are dust accumulation, heavy concentrations of steam, heavy pipe or cigar smoking, **high relative humidity or other humid areas where condensation may occur**, and concentrated aerosol sprays.

AIR CURRENTS

Before a detector can sense a fire, the products of combustion or smoke must travel from the fire to the detector. This travel is especially influenced by air currents; therefore, consider air movement when designing the system. While combustion products tend to rise, drafts from hallways, air diffusers, fans, etc., may help or hinder the travel of combustion products



*The relay contacts are shown after a System reset pulse, which represents the non-alarm condition.

**Figure 1
Installation and Wiring Diagram**

to the detector. When positioning a detector at a particular location, give consideration to windows and doors, both open and closed, to ventilating systems, both in and out of operation, and to other factors influencing air movement. Do not install a detector in the air stream of a room air supply diffuser. It is better to position a detector closer to an air return.

The distance that products of combustion or smoke travel from a fire to the detector is not usually the shortest linear route. Combustion products or smoke usually rise to the ceiling, then spread out. Average ceiling heights of 8 to 10 feet do not abnormally affect detector response. High ceilings, located in churches, warehouses, auditoriums, etc., do affect detector response and should be considered.

SPECIAL CEILING CONSTRUCTION FACTORS

Ceiling obstructions can change the natural movement of air and combustion products. Depending on the direction of smoke travel, joists and beams can slow the movement of heated air and smoke, while pockets between them can contain a reduced level of smoke. Take obstructions created by girders, joists, beams, air conditioning ducts, or architectural design into consideration when determining area protection. Refer to the Initiating Devices chapter of NFPA Standard 72 for Location and Spacing requirements for specific types of construction; e.g. beam, suspended, level, sloped and peaked ceilings.

TEMPERATURE – HUMIDITY – PRESSURE – AIR VELOCITY

The temperature range for the ILP-1/ILPT-1 detector is from 32°F (0°C) to 100°F (38°C). Use the detector in environments where the humidity does not exceed 93% (non-condensating). Normal changes of atmospheric pressure do not affect detector sensitivity. The air velocity range is 0-4000 ft/min for open areas applications.

ILP-1 Air Duct Applications

In Air Duct applications, the Model ILP-1 requires Air Duct Cover P/N 305-093076. Do not use the Model ILP-1 with any other air duct covers. The air duct cover part numbers are located on the air duct cover flange near the sensitivity test jack trap door.

The ILP-1 detector is UL listed for use only with Air Duct Cover P/N 305-093076. When installing the ILP-1 in older existing installations, order a new ILP-1 Air Duct Cover Kit DA-303, P/N 500-093078 and use it in that installation. This kit includes the required cover.

DETECTOR MOUNTING

To ensure proper installation of the detector head into the base, be sure the wires are properly dressed at installations:

1. Position all wires flat against the base.
2. Take up all slack in the outlet box
3. Route wires away from connector terminals.
4. When mounting the detector base and routing wires through the cutouts in the air shield, make sure the shield is sealed against air leaks. Open the cutouts only as much as required.

INSTALLATION OF DETECTOR HEAD

1. Align notch in detector cover to raised surface on outer ring of base; refer to Figure 2.

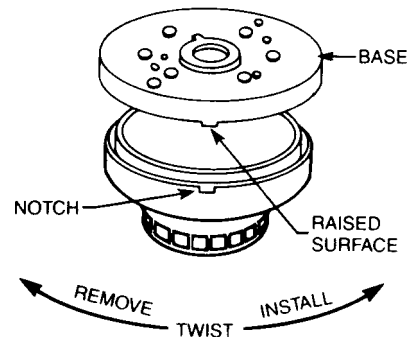


Figure 2
Mounting The Base

2. Push detector head into base and rotate clockwise to make electrical connections. The detector automatically stops and locks into place.
3. To remove, push detector head up into the base while rotating the detector head counterclockwise. Continue to rotate counterclockwise until stop is reached; then pull downward to disengage from base.

PROGRAMMING

Each detector on a loop must be programmed to respond to a unique system address.

1. To program the detector address, use the **SIEMENS** Model FPI-32 Programmer/Tester. Refer to the **FPI-32 OPERATIONS MANUAL**, P/N 315-090077.
2. Record the loop and device number (system address) for the detector on the detector label and on the base to prevent installing the detector in the wrong base.

SENSITIVITY ADJUSTMENT

XL3 Systems

The sensitivity of each detector can be adjusted from the System XL3 Control Panel. Refer to the **SYSTEM XL3 OPERATION, INSTALLATION AND MAINTENANCE MANUAL**, P/N 315-083206.

MXL Control Panel

The sensitivity of each detector can be adjusted from the MXL/MXLV/MXL-IQ control panel. Refer to the **MXL/MXLV OPERATION, INSTALLATION, AND MAINTENANCE MANUAL**, P/N 315-092036, or the **MXL-IQ OPERATION, INSTALLATION, AND MAINTENANCE MANUAL**, P/N 315-093624, as applicable.

ICON-1 Modules (in IXL Systems)

The sensitivities of detectors on an ICON-1 module are set from the IXL Control Panel. Refer to **ICON-1 Instructions**, P/N 315-093087, as well as the **IXL Programming Manual**, P/N 315-092394, for additional information.

TESTING AND SENSITIVITY MEASUREMENTS

XL3 Systems

Only qualified service personnel should test. Refer to the **SYSTEM XL3 OPERATION, INSTALLATION AND MAINTENANCE MANUAL**, P/N 315-083206. Test as frequently as required by the *Installation and Test Guidelines* of NFPA 72. Obtain detector sensitivity measurements from the System XL3 Control Panel. Refer to System XL3 Manual for further information. The detector sensitivity indicated by the System XL3 Control Panel should fall within the range on the detector nameplate label. If not, refer to the **DETECTOR CLEANING** section.

MXL/MXL-IQ Control Panels

Only qualified service personnel should test. Refer to the **MXL/MXLV OPERATION, INSTALLATION, AND MAINTENANCE MANUAL**, P/N 315-092036, or the **MXL-IQ OPERATION, INSTALLATION, AND MAINTENANCE MANUAL**, P/N 315-093624, as applicable. Test as frequently as required by the *Installation and Test Guidelines* of NFPA 72. Obtain detector sensitivity measurements from the MXL Control Panel. Refer to the MXL/MXLV/MXL-IQ Manual for further information. The detector sensitivity indicated by the MXL Control Panel should fall within the range on the detector nameplate label. If not, refer to **DETECTOR CLEANING** below.

ICON-1 Modules (in IXL Systems)

Only qualified service personnel should test. Refer to the IXL Manuals, P/Ns 315-092394 and 315-092371 as well as the ICON-1 Instructions P/N 315-093087 for information. Test as frequently as required by the *Installation and Test Guidelines* of NFPA 72. Obtain detector sensitivity measurements from the IXL Control Panel. The detector sensitivity indicated by the IXL Control Panel should fall within the range on the detector nameplate label. If not, refer to the **DETECTOR CLEANING** section.

IMPORTANT

If the XL3, MXL/MXLV/MXL-IQ, or IXL (ICON-1) is connected to a Fire Department, etc., or activates an external system (fire extinguishing, etc.), disarm the appropriate outputs before servicing to prevent activation. (Refer to the appropriate Manual for the procedure.) Be sure to reset and re-arm the system at completion of servicing. Notify facility personnel that the system is being serviced so that any alarm soundings can be ignored during the period of service.

The ILP-1/ILPT-1 detectors can also be tested using the FPI-32 Programmer/Tester. Refer to the **OPERATIONS MANUAL**, P/N 315-090077.

DETECTOR CLEANING

Systems XL3 and MXL automatically indicate the trouble message INPUT DEVICE REQUIRES SERVICE for any detector whose smoke sensitivity increases to the level where normally low levels of

smoke generate an alarm. (Refer to the appropriate System Manual for further explanation.) In such circumstances, the detector may require cleaning as a result of dust accumulation; follow the **CLEANING PROCEDURE** steps described below.

MAINTENANCE

The recommended requirement for detector maintenance consists of the annual cleaning of dust and debris from the detector head. Cleaning program intervals should be geared to the individual detector environment.

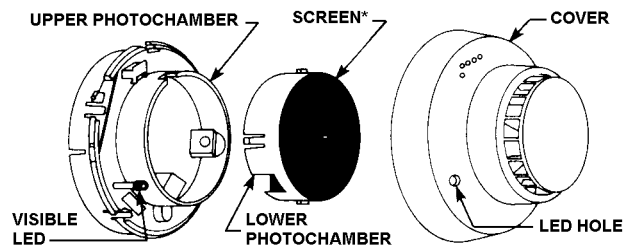
CLEANING PROCEDURE

1. Notify the proper building personnel that the fire alarm system is being serviced.
2. Remove the detector being cleaned from its base and remove the detector cover.

NOTE: The cover on the ILPT-1 is permanently wired to the detector PCB assembly. There is enough length in the connecting wire, however, to allow access for cleaning, **but do not disconnect the wire.**

Place the detector assembly on a flat surface with the photochamber visible and accessible.

3. To clean the cover, carefully use a small brush or blow any additional dust from the cover.



* Some ILP-1/ILPT-1 detectors may use a foam bug screen which is located in the cover. Make sure this foam bug screen is in the proper position when reassembling the detector after cleaning.

Figure 3
Disassembling of the Photochamber

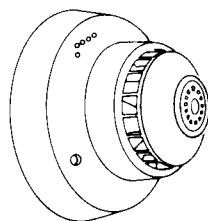


Figure 4
Model ILPT-1

4. (Refer to Figures 3 and 4 and the **NOTE** in No. 2 above.) Remove the lower section of the photochamber by gently squeezing the sides to disengage the locking tabs and then pulling the lower section out.
5. Use a small soft brush to loosen dust in the crevices. Vacuum any dust from the lower photochamber. Do not use cleaners or solvents on the lower photochamber.
Another method for cleaning the photochamber after removing the lower section is to blow out the dust. However, do not use compressed air that might contain oils. When not used properly, some commercially available compressed gas cleaning canisters (those used on computer equipment, for example) disperse liquid instead of gas. If these products are used in cleaning, be careful that no liquid deposits occur, since such deposits will permanently alter detector sensitivity.
6. Clean the upper photochamber by repeating the procedures used in Step 3, observing same precautions.
7. (Refer to Figures 3 and 4.) Replace the lower photochamber by aligning the locking tabs and gently pressing the chamber into position.
8. Replace the cover of the detector assembly, positioning the visible LED correctly. Replace the detector in the base.
9. Clean all other Model ILP-1/ILPT-1 detectors following Steps 2 through 8.
10. Recheck the sensitivity of the detector.
11. If the sensitivity of the detector is still outside the limit shown on the nameplate, return the detector to the factory for repair.
12. Notify building personnel that the system is reactivated.

CAUTION

No field repair of the detectors should be attempted.
The detectors are factory repairable only.

COMPATIBLE CONTROL EQUIPMENT

Refer to the **SYSTEM XL3 OPERATION, INSTALLATION, AND MAINTENANCE MANUAL**, P/N 315-083206, the **MXL/MXLV OPERATION, INSTALLATION, AND MAINTENANCE MANUAL**, P/N 315-092036, or the **MXL-IQ OPERATION, INSTALLATION, AND MAINTENANCE MANUAL**, P/N 315-093624, or the **ICON-1 INSTRUCTIONS**, P/N 315-093087.