Installation/Wiring Instructions
Model ILP-2 Detector

These instructions are written in accordance with the installation guidelines of NFPA No. 72, NATIONAL FIRE ALARM CODE.

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 the 0 to 4000 ft/min clean air velocity application, use 30 foot center spacing (900 sq ft), from NFPA Standard 72 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...
Figure 1
Installation and Wiring Diagram

To avoid nuisance alarms:
Do not locate the detector next to an oil burner, electric heaters, kitchens, or garages where exhaust smoke 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 to the detector. When positioning a detector at a particular location, give

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 Cerberus Pyrotronics 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). Cerberus Pyrotronics extensive experience in the design of the system assures the best detector placement. Sound engineering judgment by qualified personnel must be followed.

*The relay contacts are shown just after a System reset pulse, which represents the non-alarm condition.
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. Take obstructions created by girders, joists, beams, air conditioning ducts, or architectural design into consideration when determining area protection. Consider girders, joists, or beams 8 inches or less in depth equivalent to a smooth ceiling in view of the spillover effect of smoke. If obstructions are over 8 inches in depth, movement of heated air and smoke may be slowed by the pocket or bay formed by the girders, joists, or beams. In this case, reduce spacing. If obstructions exceed 18 inches in depth and are more than 8 foot centers, treat each bay as a separate area requiring at least one detector.
TEMPERATURE – HUMIDITY – PRESSURE – AIR VELOCITY

The temperature range for the ILP-2 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-condensing). Normal changes of atmospheric pressure do not affect detector sensitivity. The air velocity range is 0-4000 ft/min for open area applications.

ILP-2 Air Duct Applications

IMPORTANT NOTE

In Air Duct applications, the ILP-2 minimum smoke sensitivity indicated on the nameplate is 2.5%/ft. For application/sensitivity setting, 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.

In Air Duct applications, the Model ILP-2 requires Air Duct Cover P/N 305-093076. Do not use the Model ILP-2 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.

When installing the ILP-2 in existing installations, order a new ILP-2 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 into the base, be sure the wires are properly dressed:
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 shield 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.
2. Push detector into base and rotate clockwise to make electrical connections. The detector automatically stops and locks into place.
3. To remove, push detector up into the base while rotating the detector counterclockwise. Continue to rotate counterclockwise until stop is reached; then pull downward to disengage from base.

Figure 2
Installing Detector Head
PROGRAMMING
Each detector on a loop must be programmed to respond to a unique system address.

1. To program the detector address, use the Cerberus Pyrotronics Model FPI-32 Programmer/Tester. Refer to the FPI-32 OPERATIONS MANUAL, P/N 315-090077.

   NOTE: If using FPI-32 with Revision 1.3 software, use system selection 2=MXL.

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.

DETECTOR/SYSTEM CONFIGURATION
ILP-2 with MXL Control Panels
When the ILP-2 is used with MXL/MXLV/MXL-IQ systems, it can be programmed to optimize environmental response using Application Specific Detection (ASD). All parameters, such as Sensitivity, Pre-Alarm and Cerberus Pyrotronics’ new Advanced Environmental Algorithms are downloaded to the detector from the MXL control panel. For air duct applications, the proper ASD application (DUCT) must be selected. 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.
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TESTING AND SENSITIVITY MEASUREMENT

Only qualified service personnel should test. The minimum test schedule may be found in the current edition of NFPA 72, Chapter 7.

ILP-2 with MXL Family Control Panels

The MXL Control Panel must be placed into "TEST" mode. 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. 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.
IMPORTANT
If the MXL/MXLV/MXL-IQ 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-2 detector can also be tested using the FPI-32 Programmer/Tester. Refer to the OPERATIONS MANUAL, P/N 315-090077.

DETECTOR CLEANING
System MXL automatically indicates 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 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. 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.

4. (Refer to Figure 3.) Remove the lower section of the photo-chamber 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 Figure 3.) 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-2 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, replace it with a new one and return the defective 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 MXL/MXLV OPERATION, INSTALLATION, AND MAINTENANCE MANUAL, P/N 315-092036, or the MXL-IQ OPERATION, INSTALLATION, AND MAINTENANCE MANUAL, P/N 315-093624. The ILP-2 is only compatible with MXL/MXLV Rev. 8.0 or greater firmware and MXL-IQ Rev. 3.0 or greater firmware.