

TYPICAL WIRING DIAGRAM

Figure 1.a shows the typical wiring diagram of 2-wire multiple-station smoke detector system.

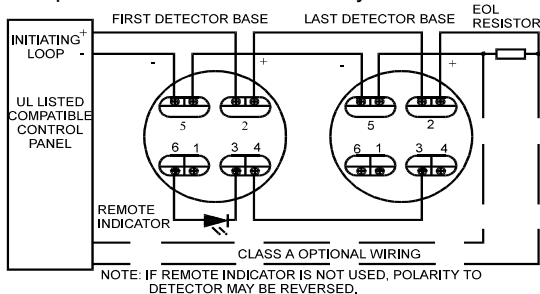


Fig. 1.a Installing the 2-wire multiple station smoke detector base

DO NOT USE LOOPED WIRE UNDER TERMINALS 2 AND 5 BREAK WIRE RUN TO PROVIDE SUPERVISION OF CONNECTIONS
Figure 1.b shows the typical wiring diagram of 4-wire multiple-station smoke detector system.

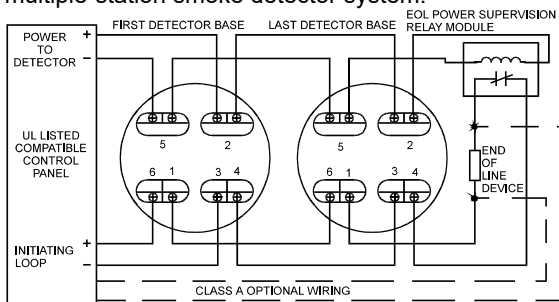


Fig. 1.b Installing the 4-wire multiple station smoke detector base

DO NOT USE LOOPED WIRE UNDER TERMINALS 2 AND 5 BREAK WIRE RUN TO PROVIDE SUPERVISION OF CONNECTIONS

WARNING
TO PREVENT DETECTOR CONTAMINATION AND SUBSEQUENT WARRANTY CANCELLATION, SMOKE DETECTOR MUST REMAIN COVERED UNTIL AREA IS CLEAN AND DUST FREE.

INSTALLING THE BASE

- To insure proper installation of the detector head to the base, all the wires should be properly addressed at installation:
 - Position all the wires flat against terminals.
 - Fasten the wires away from connector terminals.
- If you use the jumper wire to connect the poles of terminal 2 and 5 when testing the detector loop continuity, be sure to remove the jumper wire prior to the installation of the detector head.
- The end-of-line device shown in figure 1.A & 1.B should be compatible with the control unit. The end-of-line supervisory relay used should list the rated DC power voltage used.
- Per UL listing, open area smoke detectors are intended for mounting on a ceiling no less than 6 inches from a wall or mounting on a wall than no less than 4 inches and no more than 12 inches from a ceiling.

- The base of smoke detector can be mounted directly onto electrical junction box such as octagonal (3", 3.5" or 4"), round (3"), and square (4" length) box without using any type of mechanical adapter.

INSTALLING THE HEAD

- Align the components as shown in figure 2.
- Mate the detector head onto the base and twist clockwise to secure it.
- Do not install the detector until the area is thoroughly cleaned of construction debris, dusts, etc. The maximum number of smoke detector installed in the same loop is 30 units.

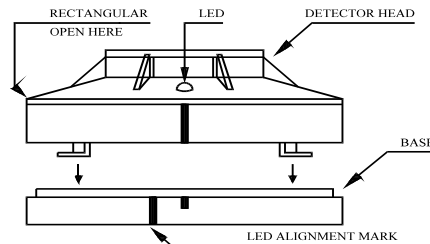


Fig. 2 Mating detector head onto base

ADJUSTMENT THE RELAY POSITION

4-wire type: Adjust the relay set-position for wiring unit to the security monitoring system by the following steps:

- The reset position for the relays is at "normal open" (NO) position, when energizing all the relays.
- If one needs to adjust the relay set point, use a screwdriver to push up the rectangular hole located on the side between the front cover and base to remove the front cover. See figure 3. There is a jump head next to the relay on the PCB, adjust it to select set point either "normal close" (NC) or "normal open" (NO) position.
- Relay contact rating:
1A@30VDC,
0.5A@125VAC.
Operating voltage:
Max.: 26VDC
Min.: 8.4VDC

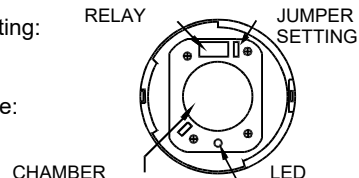


Fig. 3 Schematic of detector structure when front cover is open.

TESTING

- All the alarm signal services, releasing device and extinguisher system should be disengaged during the test period and must be reengaged immediately at the conclusion of testing.
- For 2-wire/4-wire type: turn power on and energize the detector head for at least 1 minute before proceeding the following testing procedures. After energizing the detector head for approximately one minute, check to see the indicator LED flashing. If LED fails to flash, the detector is not functioning or the wiring is faulty. Recheck the wiring or replace the detector if necessary.
- Allow smoke from a cotton wick or a punk to enter the detector's sensing chamber for at least 10 seconds.

When sufficient smoke has entered the chamber, an alarm signal will take place by indicating with a continuous illumination of the LED. After it alarms, Reset each detector and/or control unit before attempting to test the additional detector in the same zone. If the alarm fails in this step, it indicates a defective unit which requires service.

that duct smoke detector must not used as a substitute for open area smoke detector. Duct smoke detector is solely intended to use in the air handing equipments for such purposes like dampers or shutting down the air handing units.

HEAT SENSOR TESTING

The detector to be tested should be subject to a flow of warm air at a temperature between 140°F and 180°F. Some domestic hair dryers can meet such requirements. Proceed as follows:

1. Switch on the warm airflow and check that temperature is correct and stable.
2. From a distance of inches, direct the airflow at the guard protecting the thermistor. The detector should alarm within 30 seconds.
3. When alarm is on, immediately remove the heat source and check that the detector's red LED is lit. Reset the detector from the control panel.
4. If the detector fails to go into alarm within 30 seconds it is too insensitive and needs to be returned to the distributor for servicing.
5. After testing check that the system is set for normal operation and notify the appropriate authorities that the testing operation is complete and the system is active again.

NOT SUITABLE FOR INSTALLATION IN AREAS WHERE AIR VELOCITIES EXCEED 300 ft/min

MAINTENANCE

The recommended minimum requirement for detector maintenance consists of an annual cleaning of dust from the detector head by using a vacuum cleaner cleaning program should be agreed to the individual environment in conformance with NFPA-72A standard.

CAUTION: DO NOT ATTEMPT TO REMOVE THE SCREWS, WHICH HOLD THE ASSEMBLY OF SMOKE-SENSING CHAMBER AND PRINTED CIRCUIT BOARD (PCB). THIS ASSEMBLY IS SEALED FOR YOUR PROTECTION AND IS NOT INTENDED TO BE SEPARATED FOR SERVICING BY USERS. OPENING SUCH ASSEMBLY WILL VOID THE WARRANTY.

**REFERENCE TO THE TECHNICAL BULETIN
ISSUE NO. SDTB19960306 REV.E, JAN 13, 1998**

NOTES FOR USING DETECTOR

The National Fire Protection Association (NFPA) states

SPECIFICATION

Model	2/4 wire	Heat Sensor Setting	Voltage DC (Max./Min.)	Standby Current (Max.)	Alarm Current (Max./Min.)	Alarm Impedance (Max./Min.)	Surge Current (Max.)	Star-Up Time (Max.)	Permissible Current (Max.)	Frequency	Alarm contact	Base model
SD-4WT	4	135 ±5 °F	24/12V	370 μA	35/10mA	-	-	60 Sec.	-	3-5 Sec.	Form A	SDB-4W
SD-4WP	4	-	24/12V	370 μA	35/10mA	-	-	60 Sec.	-	3-5 Sec.	Form A	SDB-4W
SD-2WT	2	135 ±5 °F	28/12V	150 μA	70/10mA	620/150Ω	160 μA	60 Sec.	80mA	3-5 Sec.	—	SDB-2W
SD-2WP	2	-	28/12V	150 μA	70/10mA	620/150Ω	160 μA	60 Sec.	80mA	3-5 Sec.	—	SDB-2W
SD-2WT-LED	2	135 ±5 °F	28/12V	150 μA	70/10mA	700/300Ω	160 μA	60 Sec.	80mA	3-5 Sec.	—	SDB-4W
SD-2WP-LED	2	-	28/12V	150 μA	70/10mA	700/300Ω	160 μA	60 Sec.	80mA	3-5 Sec.	—	SDB-4W

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