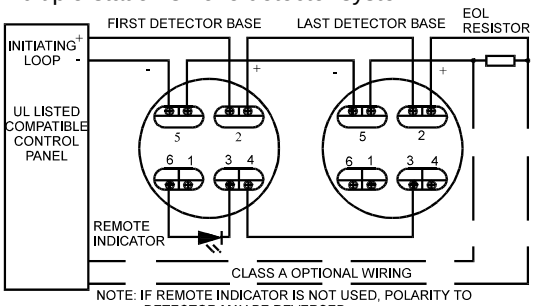
Photoelectric
Smoke Detector

SD119 series
Installation Wiring Diagram

TYPICAL WIRING DIAGRAM

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



NOTE: IF REMOTE INDICATOR IS NOT USED, POLARITY TO DETECTOR MAY BE REVERSED.

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.

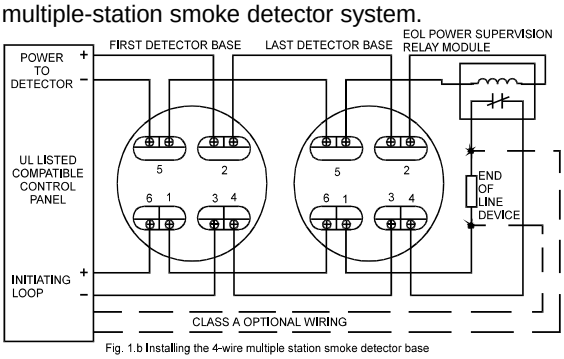


Fig. 1.b Installing the 4-wire multiple station smoke detector base

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 CANCELL-TION, SMOKE DETECTOR MUST REMAIN COVERED UNTIL AREA IS CLEAN AND DUST FREE.

INSTALLING THE BASE

1. To insure proper installation of the detector head to the base, all the wires should be properly addressed at installation:
   (A)Position all the wires flat against terminals.
   (B)Fasten the wires away from connector terminals.
2. 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.
3. 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.
4. 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.
5. 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

1. Align the components as shown in Figure 2.
2. Mate the detector head onto the base and twist clockwise to secure it.
3. Do not install the detector head 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.

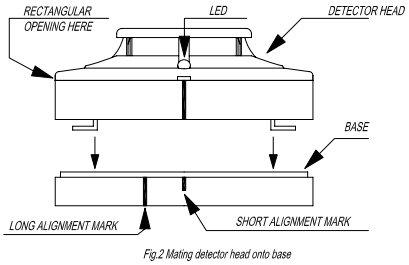


Fig.2 Mating detector head onto base

Fig. 2 Mating detector head onto base

ADJUSTMENT OF THE RELAY POSITION

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

1. The reset position for the relays is at "normal open" (NO) position, when energizing all the relays.
2. If one needs to adjust the relay set point, use a screwdriver to loose two screws on the back of the base. 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.
3. Relay contact rating:
   1A @30VDC,
   0.5A @125VAC.

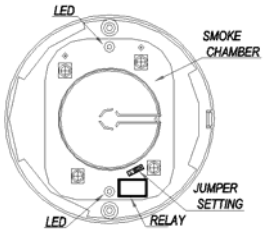


Fig. 3 Schematic of detector structure
When front cover is open

TESTING

1. All the alarm signal services, releasing device and extinguisher system should be disengaged during the test period and must be re-engaged immediately at the conclusion of testing.
2. After energizing the detector head for approximately one minute, check to see the indicator red LED flashing once every 1~3 seconds. If red LED fails to flash, it indicates the non-functioning of the detector or faulty wiring. Re-check the wiring or replace the detector if necessary.

3. 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 detectors in the same zone. If the alarm fails in this step, it indicates a defective unit, which requires service.

HEAT SENSOR TESTING

The detector to be tested should be subject to a flow of warm air at a temperature between 140℉ and 180℉. Some domestic hair dryers can meet such requirement.
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.

NOTES FOR USING DETECTOR

The National Fire Protection Association (NFPA) states 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.

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.

REFER TO THE TECHNICAL BULTTIN ISSUE NO. STSD20080702S01, REV.D, July 02, 2008

SPECIFICATION

Model	2/4 wire	Heat Sensor Setting	Voltage DC (Min./Max.)	Standby Current (Max.)	Alarm Current (12/24V)	Surge Current (Max.)	Start-Up Time (Max.)	Permissible Current (Max.)	Cycle Time	Alarm contact	Base Model No.
SD119-4H(12V)	4	135±5℉	12V	80μA	30mA	-	30 Sec.	-	1-3 Sec.	Form A	P/N854001
SD119-4H(24V)	4	135±5℉	24V	80μA	45mA	-	30 Sec.	-	1-3 Sec.	Form A	P/N854001
SD119-4 (12V)	4	-	12V	80μA	30mA	-	30 Sec.	-	1-3 Sec.	Form A	P/N854001
SD119-4 (24V)	4	-	24V	80μA	45mA	-	30 Sec.	-	1-3 Sec.	Form A	P/N854001
SD119-2HL	2	135±5℉	10.8~33V	80μA	22/55mA	160μA	30 Sec.	80mA	1-3 Sec.	—	P/N854001
SD119-2L	2	-	10.8~33V	80μA	22/55mA	160μA	30 Sec.	80mA	1-3 Sec.	—	P/N854001
SD119-2H	2	135±5℉	10.8~33V	80μA	22/55mA	160μA	30 Sec.	80mA	1-3 Sec.	—	P/N852001
SD119-2	2	-	10.8~33V	80μA	22/55mA	160μA	30 Sec.	80mA	1-3 Sec.	—	P/N852001

Remark: L- remote indicator output; **H-**Heat sensor; **AR-**Auto-reset; **B-**Sound

2-wire devices are UL Recognized, the 4-wire devices are UL Listed

LIMITED WARRANTY STATEMENT

SENTEK ELECTRONICS INC. declares that this product is free from defects in material and workmanship. And it will repair or replace any product or part thereof which proves to be defective in workmanship or material for a period of twelve (12) months from the date of purchase but not to exceed eighteen (18) months after shipment by the manufacturer. For a full description of SENTEK'S LIMITED WARRANTY, which, among other things, limits the duration of warranties of merchantability and fitness for a particular purpose and excludes liability for consequential damages. Please read the entire LIMITED WARRANTY on the SENTEK quotation. Acceptance of order and/or original invoice which will become part of your sales agreement. Please contact SENTEK directly for a return merchandise authorization (RMA) number before returning goods to the factory, Shipment must be prepaid and SENTEK will repair or replace your returned detector.

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