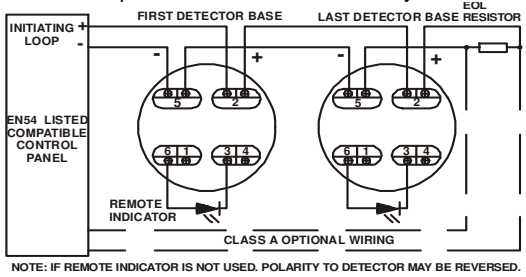
EA318 Photoelectric Smoke Detector
Installation Wiring Diagram

TYPICAL WIRING DIAGRAM

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



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

DO NOT PLACE LINKS BETWEEN THE WIRING POSITIONS OF TERMINALS 2 AND 5 TO PROVIDE POWER SUPERVISION

Figure 1(b) shows the typical wiring diagram of the 4-wire multiple-station smoke detector system.

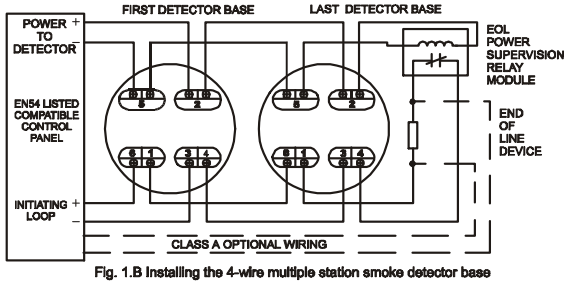


Fig. 1.B Installing the 4-wire multiple station smoke detector base

DO NOT PLACE LINKS BETWEEN THE WIRING POSITIONS OF TERMINALS 2 AND 5 TO PROVIDE POWER SUPERVISION

WARNING

TO PREVENT DETECTOR CONTAMINATION AND SUBSEQUENT WARRANTY CANCELLATION, THE SMOKE DETECTOR MUST REMAIN COVERED UNTIL THE 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 a 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 fig. 1(a) and 1(b) should be compatible with the control unit. The end-of-line supervisory relay used should be rated for the DC power voltage used.
4. Open area smoke detectors are intended for mounting on a ceiling or a wall in accordance with the fire standard in your country.
5. The base of the smoke detector can be mounted directly onto an electrical junction box such as an octagonal (75mm, 90mm or 100mm), a round (75mm), or a square (100mm) 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.

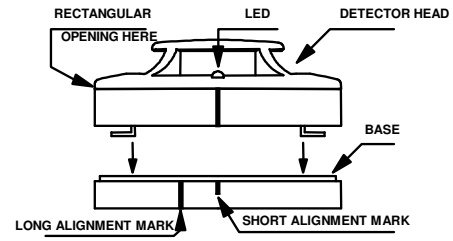


Fig. 2 Mating detector head onto base

ADJUSTING THE RELAY FOR NO/NC

The normal condition for the relay is “normally open” (NO).

1. To adjust the normal condition of the relay to “normally closed” (NC), insert a screwdriver into the rectangular hole located on the side between the front cover and base and rotate to remove the front cover.

2. Refer to figure 3. There is a jumper head next to the relay on the PCB. Remove the jumper head and reinsert it in the NC position.
3. Carefully replace the front cover.
   Relay contact rating:
   1A@30VDC,
   0.5A@125VAC.

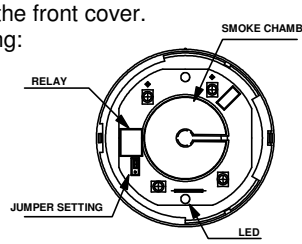


Fig. 3 Schematic of detector structure
When front cover is open.

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 green LED flashing once every 3~5 seconds. If green 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 test smoke aerosol to enter the detector-sensing chamber for at least 10 seconds. When sufficient smoke has entered the chamber, the detector will signal an alarm, this being visible by a continuous illumination of the LED. Reset each detector and/or control unit before attempting to test any 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 of between 65°C and 80°C.

(This requirement can be met by some domestic hair dryers).
Proceed as follows:

1. Switch on the warm airflow and check that temperature is correct and stable.
2. From a distance of several inches, direct the airflow at the guard protecting the thermistor. The detector should alarm within 30 seconds.
3. Upon alarm immediately remove the heat source and check that the red LED of the detector is illuminated. Reset the detector from the control panel.
4. If detector fails to go into alarm mode 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 600 meters/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 EN 54-7:2000 and EN 54-5:2000 standards.

CAUTION: DO NOT ATTEMPT TO DISASSEMBLY OF THE FACTORY SEALED SMOKE DETECTOR. THIS ASSEMBLY IS SEALED FOR YOUR PROTECTION AND IS NOT INTENDED TO BE OPENED FOR SERVICING BY USERS. OPENING THE DETECTOR HEAD WILL VOID THE WARRANTY.

REFERENCE TO THE TECHNICAL BULLETIN ISSUE NO. EATB20010215 REV.B

SPECIFICATION

Model	2/4 wire	Ther mal	Voltage DC	Standby Current (Max.)	Alarm Current (Max.)	Surge Current (Max.)	Start-Up Time (Max.)	Permissible Current (Max.)	Frequency	Alarm Sound level	Alarm contact	Base model
EN-54-7:2000 listed												
EA318-2	2		12~35V	35μ A	70mA	40μ A	60 Seconds	80mA	3-5 Seconds		—	P/N852001
EA318-2-L	2		12~35V	35μ A	70mA	40μ A	60 Seconds	80mA	3-5 Seconds		—	P/N854001
EA318-4-12	4		10.2~13.8V	35μ A	35mA		60 Seconds	80mA	3-5 Seconds		Form A	P/N854001
EA318-4-24	4		20.4~27.6V	35μ A	35mA		60 Seconds	80mA	3-5 Seconds		Form A	P/N854001
EN-54-7:2000/ EN-54-5:2000 listed												
EA318-2H	2	57°C	12~35V	35μ A	70mA	40μ A	60 Seconds	80mA	3-5 Seconds		—	P/N852001
EA318-2H-L	2	57°C	12~35V	35μ A	70mA	40μ A	60 Seconds	80mA	3-5 Seconds		—	P/N854001
EA318-4H-12	4	57°C	10.2~13.8V	35μ A	35mA		60 Seconds	80mA	3-5 Seconds		Form A	P/N854001
EA318-4H-24	4	57°C	20.4~27.6V	35μ A	35mA		60 Seconds	80mA	3-5 Seconds		Form A	P/N854001
CE listed												
EA318-4-AR-12	4		10.2~13.8V	35μ A	35mA		60 Seconds	80mA	3-5 Seconds		Form A /Auto Reset	P/N854001
EA318-4-AR-24	4		20.4~27.6V	35μ A	35mA		60 Seconds	80mA	3-5 Seconds		Form A /Auto Reset	P/N854001
EA318-4H-AR-12	4	57°C	10.2~13.8V	35μ A	35mA		60 Seconds	80mA	3-5 Seconds		Form A /Auto Reset	P/N854001
EA318-4H-AR-24	4	57°C	20.4~27.6V	35μ A	35mA		60 Seconds	80mA	3-5 Seconds		Form A /Auto Reset	P/N854001
EA318-4B-24	4		20.4~27.6V	35μ A	45mA		60 Seconds	80mA	3-5 Seconds	85 dB at 3 m	Form A	P/N854001
EA318-4B-12	4		10.2~13.8V	35μ A	45mA		60 Seconds	80mA	3-5 Seconds	85 dB at 3 m	Form A	P/N854001
EA318-4HB-12	4	57°C	10.2~13.8V	35μ A	45mA		60 Seconds	80mA	3-5 Seconds	85 dB at 3 m	Form A	P/N854001
EA318-4HB-24	4	57°C	20.4~27.6V	35μ A	45mA		60 Seconds	80mA	3-5 Seconds	85 dB at 3 m	Form A	P/N854001
EA318-4HB-AR-12	4	57°C	10.2~13.8V	35μ A	45mA		60 Seconds	80mA	3-5 Seconds	85 dB at 3 m	Form A /Auto Reset	P/N854001
EA318-4HB-AR-24	4	57°C	20.4~27.6V	35μ A	45mA		60 Seconds	80mA	3-5 Seconds	85 dB at 3 m	Form A /Auto Reset	P/N854001
EA318-4B-AR-12	4		10.2~13.8V	35μ A	45mA		60 Seconds	80mA	3-5 Seconds	85 dB at 3 m	Form A /Auto Reset	P/N854001
EA318-4B-AR-24	4		20.4~27.6V	35μ A	45mA		60 Seconds	80mA	3-5 Seconds	85 dB at 3 m	Form A /Auto Reset	P/N854001

Remarks: H-heat/ **AR**-auto reset function/ **L**-remote LED indicator output/ **B**-self buzzer

LIMITED WARRANTY STATEMENT

Elkotek as represents 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 Elkotek as 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 Elkotek quotation. Acceptance of order and/or original invoice which will become part of your sales agreement. Please contact Elkotek directly for a return merchandise authorization (RMA) number before returning goods to the factory in Strommen, Norway. Shipment must be prepaid and Elkotek will repair or replace your returned detector.

Elkotek SIKKERHET

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