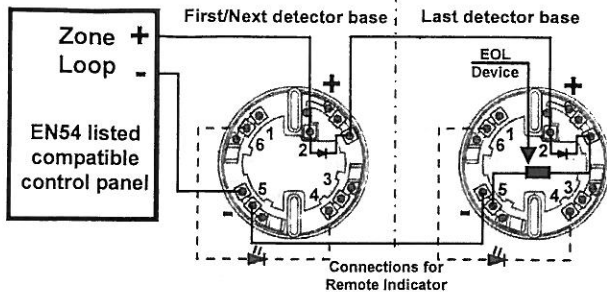




# Installation, Testing & Maintenance Instructions

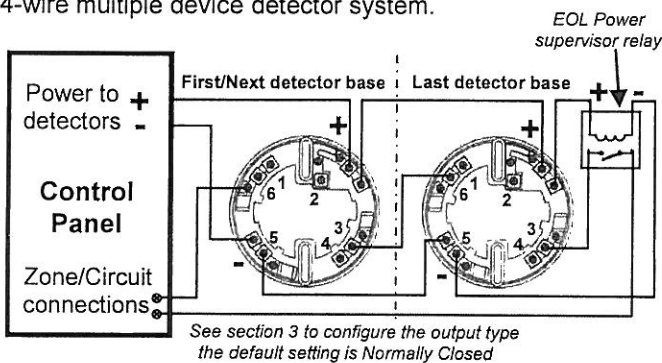
### 1. TYPICAL WIRING DIAGRAM

Figure 1 below shows a typical wiring diagram for a 2-wire multiple device detector system.



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

Figure 2 below shows the typical wiring diagram for a 4-wire multiple device detector system.



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

## IMPORTANT WARNING

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

### 2. INSTALLING THE BASE

- To ensure the correct installation of the detector head to the base, all the wires should be correctly installed:
  - Position all the wires flat against terminals.
  - Fasten the wires away from connector terminals.
- If you used 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.
- The end-of-line device shown in figure 1 should be compatible with the control panel.
- Open area smoke detectors are intended for mounting on a ceiling or a wall in accordance with the fire standard in your country.

- 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.

### 3. ADJUSTING THE RELAY FOR NC/NO

(4 wire version only)

The normal condition for the relay is "normally closed" (NC).

To adjust the normal condition of the relay to "normally open" (NO),

- Remove the 2 screws beneath the label on the back of the detector head.
- Insert a screwdriver into the rectangular hole located on the side between the front cover and base and rotate to remove the front cover.
- 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 NO position.
- Carefully replace the front cover.

Relay contact rating:  
1A@30VDC  
0.5A@125VAC,

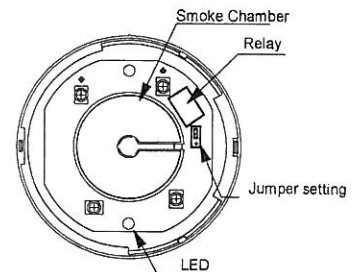


Figure 3. Schematic of detector structure When front cover is open.

### 4. INSTALLING THE HEAD

- Align the alignment mark on the detector head to the short alignment mark on the base as shown in Figure 4.
- Place the detector head onto the base and twist clockwise to secure it.
- Do not install the detector head until the area is thoroughly cleaned of construction debris, dusts, etc. (The maximum number of detectors installed on the same zone/circuit is 30, this may be lower depending on the local regulation)

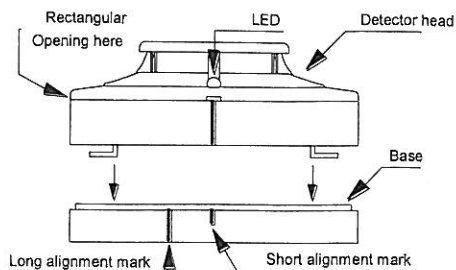


Figure 4. Placing the detector head onto base

## 5. TESTING

1. All the alarm signal devices, releasing devices and extinguisher systems should be disabled during the test period and must be re-enabled immediately at the conclusion of testing.
2. After energising the detector head for approximately one minute, check to see the indicator green LED flashing once every 3~5 seconds (this may be difficult in strong light as the flash is only dim). 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.

### SMOKE SENSOR TESTING

Allow smoke from a test smoke aerosol to enter the detector-sensing chamber for at least 2-3 seconds. When sufficient smoke has entered the chamber, the detector will signal an alarm, this being visible by the continuous illumination of the LED. Reset each detector and/or control unit before attempting to test any additional detectors on the same zone. If the alarm fails in during this step, it indicates a defective unit, which requires service/replacement.

### 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 or by using a dedicated heat detector tester.

Proceed as follows:

- a. Switch on the warm airflow and check that temperature is correct and stable.

- b. From a distance of several inches, direct the airflow at the guard protecting the thermistor. The detector should alarm within 30 seconds
  - c. 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.
  - d. 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.
3. If using a dedicated heat detector tester following the manufacturer's instructions.
  4. 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

## 6. MAINTENANCE

The recommended minimum requirement for detector maintenance consists of an annual cleaning of dust from the detector head by using a vacuum cleaner.

**CAUTION: DO NOT ATTEMPT TO DISASSEMBLE 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 CHAMBER WILL VOID THE WARRANTY.**

## SPECIFICATION

| Model         | 2/4 wire | Thermal | Voltage DC | Standby Current (Max.) | Alarm Current (Max.) | Surge Current (Max.) | Star-Up Time (Max.) | Permissible Current (Max.) | LED Flash Frequency | Remote Led Option | Alarm contact | Standard base model number | Deep base model number |
|---------------|----------|---------|------------|------------------------|----------------------|----------------------|---------------------|----------------------------|---------------------|-------------------|---------------|----------------------------|------------------------|
| CQR-338-2     | 2        |         | 28/12V     | 90µA                   | 70mA                 | 120µA                | 60 Seconds          | 80mA                       | 3-5 Seconds         | -                 | -             | 772912                     | 882912                 |
| CQR-338-2L    | 2        |         | 28/12V     | 90µA                   | 70mA                 | 120µA                | 60 Seconds          | 80mA                       | 3-5 Seconds         | Yes               | -             | 774912                     | 882912                 |
| CQR-338-4-12  | 4        |         | 12V        | 320µA                  | 35mA                 | 120µA                | 60 Seconds          | 80mA                       | 3-5 Seconds         | -                 | Form A        | 774912                     | 882912                 |
| CQR-338-4-24  | 4        |         | 24V        | 320µA                  | 35mA                 | 120µA                | 60 Seconds          | 80mA                       | 3-5 Seconds         | -                 | Form A        | 774912                     | 882912                 |
| CQR-338-2H    | 2        | 57°C    | 28/12V     | 100µA                  | 70mA                 | 130µA                | 60 Seconds          | 80mA                       | 3-5 Seconds         | -                 | -             | 772912                     | 882912                 |
| CQR-338-2HL   | 2        | 57°C    | 28/12V     | 100µA                  | 70mA                 | 130µA                | 60 Seconds          | 80mA                       | 3-5 Seconds         | Yes               | -             | 774912                     | 882912                 |
| CQR-338-4H-12 | 4        | 57°C    | 12V        | 320µA                  | 35mA                 | 130µA                | 60 Seconds          | 80mA                       | 3-5 Seconds         | -                 | Form A        | 774912                     | 882912                 |
| CQR-338-4H-24 | 4        | 57°C    | 24V        | 320µA                  | 35mA                 | 130µA                | 60 Seconds          | 80mA                       | 3-5 Seconds         | -                 | Form A        | 774912                     | 882912                 |

Remarks: H =heat/ L = Remote LED indicator output

### LIMITED WARRANTY STATEMENT

ALL CQR PRODUCTS CARRY OUR STANDARD WARRANTY, PLEASE SEE CQR TERMS AND CONDITION FOR FULL DETAILS.



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**2 wire conventional base**

The base is designed for use with conventional systems that have manual call points and or 2 or more detectors fitted on the same Zone/Circuit and where correct functioning of the manual call points and detectors is required when 1 or more detectors heads have been removed. Connect the positive of the zone to terminal 2 and the negative to terminal 5. If a remote LED indicator is required connect the positive of the LED to terminal 6 and the negative to terminal 4. The End of Line device should be fitted in the last detector as indicated in figure 1.

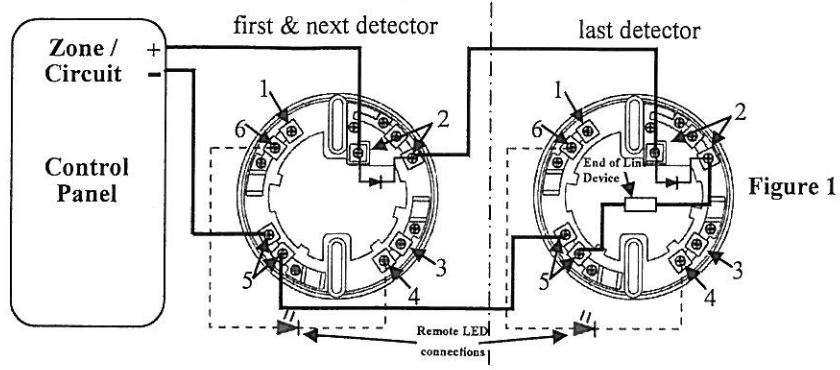


Figure 1

**4 wire conventional base**

**Important Notice: - Remove the diode fitted across terminal 2**

This base is designed for use with 24/12 VDC 4 wire detectors which require 2 wires for power and 2 for the Zone/Circuit. Connect the positive wire to terminal 2 and the negative wire to terminal 5. The zone wires should be connected to terminals 6 and 4 as indicated below, it is advised that a relay is fitted in the last device to monitor the voltage as shown in figure 2, in the event of a failure in the power supply to the panel the relay will change condition and signal the panel.

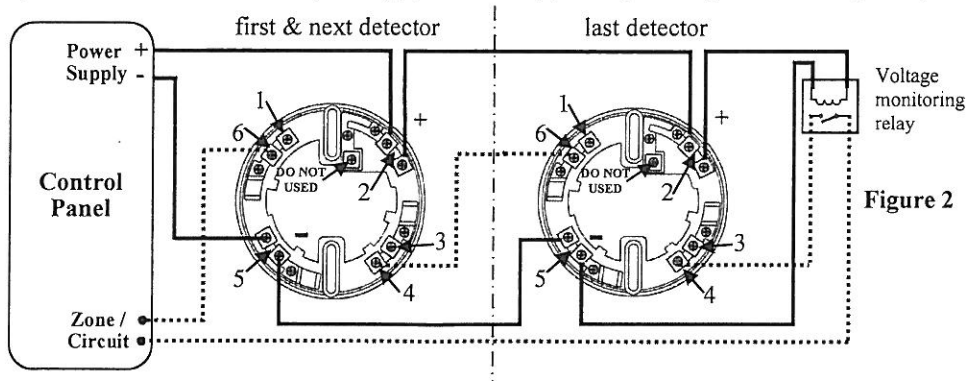


Figure 2

**Addressable base**

**Important Notice: - Remove the diode fitted across terminal 2**

This base is designed for use with CQR addressable detectors. Connect the loop out positive wire to terminal 2 and the negative wire to terminal 5 as shown in figure 3 in the last detector connect the loop In positive wire to terminal 2 and the negative wire to terminal 5. If a remote LED indicator is required connect the positive of the LED to terminal 6 and the negative to terminal 4.

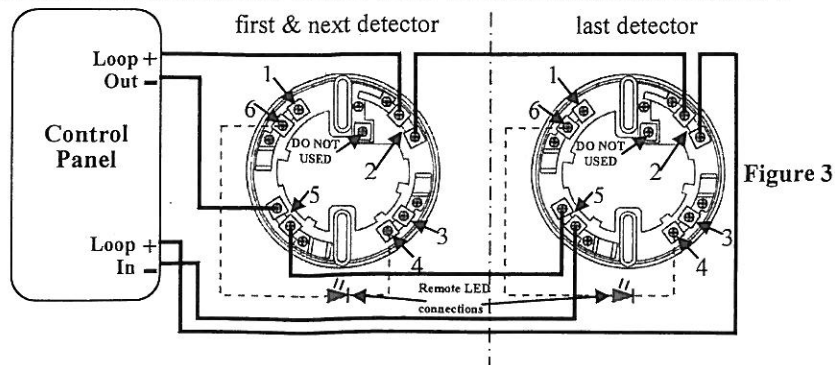


Figure 3