

Cautions



ELECTRICAL HAZARD: Disconnect power from equipment prior to making any internal adjustments. Service should only be performed by qualified personnel.



FRAGILE: Inspect the equipment prior to installation. Do not install the equipment if damage is apparent. Do not attempt to disassemble this equipment. If damaged, return to the supplier.



ELECTROSTATIC HAZARD: This is sensitive electronic equipment. Apply safe anti-static practices when handling this equipment.



CIRCUIT LIMITATIONS: The maximum number of detectors connected to a single detection zone is limited by the control and indicating equipment, and may be limited by local regulations.

Introduction

FI/SMOKE/12V conventional photoelectric smoke detectors are state-of-the-art detectors suitable for connection to conventional fire detection control and indicating equipment, or to addressable fire detection control and indicating equipment that can accept conventional type detectors¹.

These instructions provide trained installation personnel with details to install and commission FI/SMOKE/12V smoke detectors for optimum performance.

Preparation

Before commencing installation, ensure all equipment (base and detector) and tools to mount and connect the equipment are available, such as drills, mounting screws, cables and ladders.

FI/SMOKE/12V smoke detectors can be installed with the following bases and accessories.

Description	Part number	Datasheet
Low profile 100 mm diameter base 4 wire	974915	
Zone monitor	NB773	31-0056

Installation

Base

The base can be mounted directly onto an electrical junction box such as an octagonal (75 mm, 90 mm or 100 mm), a round (75 mm), or a square (100 mm) box without using any type of mechanical adapter.

1. Feed the conductors through the middle of the base for termination to the base contacts.
2. Mount the base on the junction box or directly onto a flat surface.
3. Mount the base to the surface using fixing screws that are suitable to securely fasten the base to the surface.

¹ May be used in conjunction with the NB773 zone monitor module.

Wiring

The terminals of the base will accept 0.4 mm² to 2.5 mm² conductors.

1. Strip the conductor insulation to expose 5 mm of the conductor.
2. Connect the conductors to the base terminals.

See Fig. 1 for detectors using 4-wire bases

WARNING: Take care to ensure the insulation does not get clamped by the terminal contact.

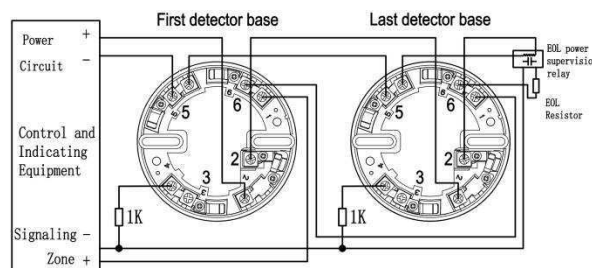


Fig. 1: 4-wire base wiring connections

Note 1: 974915 base required if a relay output is required.

WARNING: Do not short-circuit terminals 2 and 5.

The EOL resistor and current-limiting resistance depends on panel, we recommend EOL resistor using 4.7K. The current-limiting resistance using 1K.

3. After all the bases are installed and wired, fit the end-of-line resistor.

Note: The value of the end-of-line resistor depends on the control and indicating equipment to which the detectors are installed.

4. Check the wiring for continuity, short circuits and earth faults.

Output Relay (where fitted)

The output relay is factory-adjusted with normally-open contacts that close on alarm. The relay can be configured for normally-closed operation as follows.

1. Insert a screwdriver into the rectangular hole located on the underside of the detector head and rotate to remove the front cover to expose the PCBA.
2. Remove the jumper header located adjacent to the relay, and reinsert it in the NC position (see Fig. 2).
3. Carefully replace the front cover.

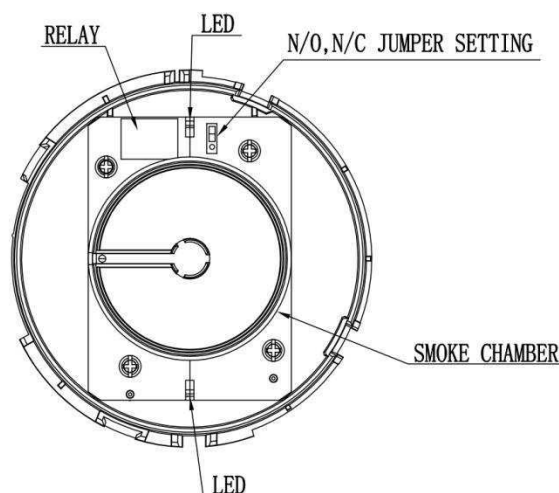


Fig. 2: Adjusting the output relay



Detector

WARNING: Do not install the detector head until the area is thoroughly cleaned of construction debris, dust, etc.

1. Align the components as shown in Fig. 3.
2. Mate the detector head onto the base and rotate it clockwise to secure it. The long alignment mark should be aligned with the detector mark.

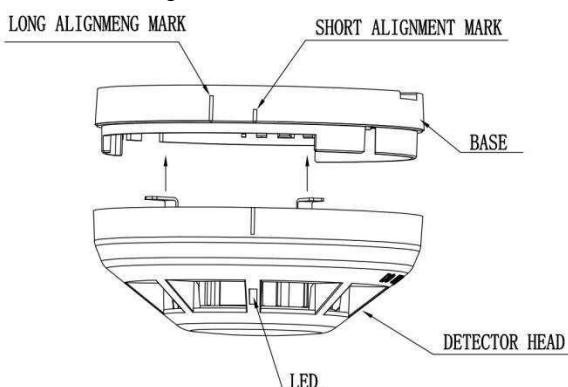


Fig. 3: Fitting the detector to the base

Commissioning

Smoke Detector

1. Ensure all the alarm signal services, releasing devices and extinguisher systems are disabled during the commissioning period.
2. Connect power to the detector for approximately 1 min.
3. Check that the red alarm LED indicator flashes once every 5 s. If the LED fails to flash, it indicates the detector is not operating. Check the wiring for the correct voltage and earth leakage. Replace the detector if necessary.
4. Allow smoke from a cotton wick or a test smoke aerosol to enter the detector-sensing chamber for at least 10 s. When sufficient smoke has entered the chamber, the detector will signal an alarm, by continuous illumination of the LED.
5. Upon alarm, immediately remove the smoke source.
6. Reset the detector from the control and indicating equipment.

Remote Indicator (where fitted)

Where a remote indicator is installed, check that the indicator illuminates at the same time as the detector LED.

Output Relay (where fitted)

1. Activate the detector using the smoke source, as described above.
2. Monitor the output relay for activation.
3. Reset the detector from the control and indicating equipment.
4. Monitor the output relay for reset to its quiescent setting.

Final Conditions

Ensure all the alarm signal services, releasing devices and extinguisher systems disabled for the commissioning are returned to their previous condition.

References

Document	Description
31-0231	FI/SMOKE/12V smoke detector datasheet

Limited Warranty

CQR Security Ltd 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 from the date of manufacture. Please contact CQR Security Ltd directly for a return merchandise authorization (RMA) number before returning goods under warranty. Shipment must be prepaid and CQR Security Ltd will repair or replace the product if the failure was caused by a manufacturing defect.

Model List

Model N o.	CPR No.
FI/SMOKE/12V	2831-CPR-FXXXX