

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 ant-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

The HNC-310 non-addressable heat detectors are suitable for connection to 2-wire and 4-wire non-addressable fire detection control and indicating equipment, or to addressable fire detection control and indicating equipment that can accept non-addressable type detectors¹.

These instructions provide trained installation personnel with details to install and commission HNC-310 heat 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.

HNC-310 heat detectors can be installed with the following bases and accessories.

Description	Part number	Datasheet
5-terminal 102 mm low profile base	CN3023	31-0035
5-terminal 102 mm low profile base ^a	CN3021	31-0035
9-terminal 102 mm low profile base	CN3043	31-0037
9-terminal 102 mm low profile base ^a	CN3041	31-0037
Detector monitor module	620-001	31-0027
Remote indicator ^b	681-001	31-0034

^a UL-approved

^b Requires 9-terminal base.

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 fix the base to the surface.

Wiring

Base terminals accept (0.4 ~ 2.5) mm² conductors.

1. Strip the conductor insulation to expose 5 mm of the conductor.
2. Connect the conductors to the base terminals.
 - a. See Fig. 1 for detectors using 2-wire bases.
 - b. See Fig. 2 for detectors using 4-wire bases.

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

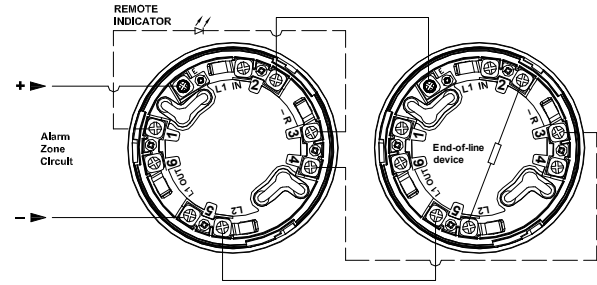


Fig. 1: Base wiring connections

Note 1: 9-terminal base required if a remote indicator is installed.

Note 2: If a remote indicator is not installed, the polarity of the zone circuit wiring may be reversed.

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

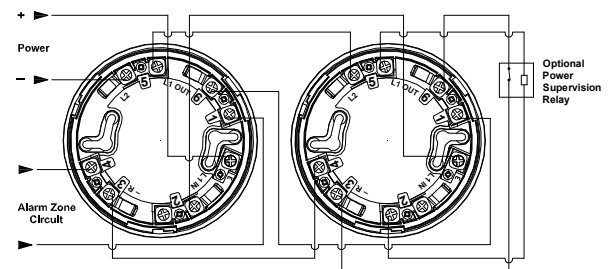


Fig. 2: 4-wire base wiring connections

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.

Detector

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

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

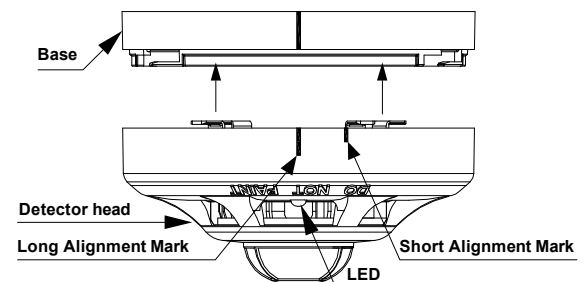


Fig. 3: Fitting the detector to the base

Commissioning

Heat 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 and check that the red alarm LED indicators flash once every 3 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.

¹ May be used with the 620-001 detector monitor module.

3. Subject the detector to a flow of warm air at a temperature of between 65 °C and 80 °C as follows (this requirement can be met by some domestic hair dryers).
 - a. Start the warm airflow and check that temperature is correct and stable.
 - b. From a distance of approximately 5 cm, direct the airflow at the guard protecting the thermistor for up to 30 s. The detector will signal an alarm by continuous illumination of the LED.
 - c. Upon alarm, immediately remove the heat source.
4. Reset the detector from the control and indicating equipment.
5. Check that the detector LEDs are off and the control and indicating equipment returns to the quiescent condition.

Remote Indicator (where fitted)

Check that the indicator illuminates at the same time as the detector LEDs.

Output Relay (where fitted)

1. Follow Heat Detector procedure step 3.
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.

Auto-Reset (where fitted)

1. Follow Heat Detector procedure step 3.
2. Monitor that the detector automatically resets.

The auto-reset will typically reset the detector within 30 s of the removal of the heat source.

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
31-0041	HNC-310 non-addressable heat detector datasheet

View the complete range of products at www.numens.com

