

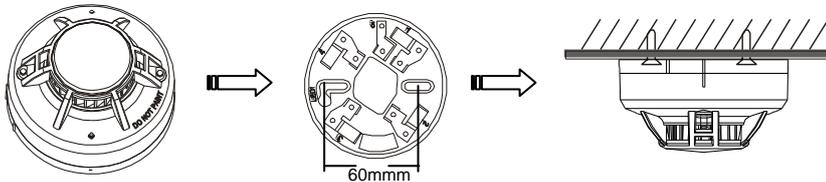
## INSTALLATION AND MAINTENANCE INSTRUCTIONS

# Conventional Photoelectric Smoke & Heat Detector

### SPECIFICATIONS

Operating Voltage Range:	9 to 28VDC Volts Non-polarized
Standby Current:	≤60μA @ 24 VDC
Maximum Alarm Current (LED on: )	≤30mA @ 24 VDC
Operating Humidity Range:	10% to 93% Relative Humidity, Non-condensing
Operating Temperature Range:	14°F to 120°F (-10°C to 49°C)
Smoke Sensitivity:	0.15~0.30dB/m
Fixed Temperature Rating:	135°F (57°C)
Rate of Rise Detection:	Responds to greater than 15°F/min
Height:	2.2" (55 mm) installed in Base
Diameter:	4.0" (103 mm)
Weight:	5.5 oz. (155 g)

### INSTALLATION



### BEFORE INSTALLING

**NOTICE:** This manual should be left with the owner/user of this equipment.

**IMPORTANT:** The detector must be tested and maintained regularly following NFPA 72 requirements. The detector should be cleaned at least once a year.

### GENERAL DESCRIPTION

Models TF103 is photoelectric detector uses a state-of-the-art optical sensing chamber. This detector is designed to provide open area protection and to be used with most conventional fire alarm control panel.

Two LEDs on each detector provide local 360° visible alarm indication. They flash every 3~5 seconds indicating that power is applied and the detector is working properly. The LEDs latch on in alarm. LEDs will be off when a trouble condition exists indicating that the detector sensitivity is outside the listed limit. The alarm can be reset only by a momentary power interruption.

### INSTALLATION

**NOTE:** All wiring must conform to applicable local codes, ordinances, and regulations.

**NOTE:** Verify that all detector bases are installed, that the initiating-device circuits have been tested, and that the wiring is correct.

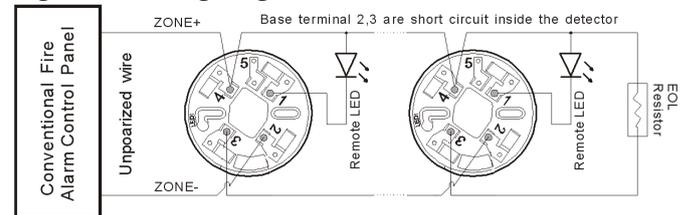
**Remove power from initiating-device circuits before installing detectors.**

1. Wire the sensor base per the wiring diagram, Figure 1.
2. Install the sensor into the sensor base. Push the sensor into the base while turning it clockwise to secure it in place.
3. After all sensors have been installed, apply power to the control unit.
4. Test the sensor(s) as described in the TESTING section

of this manual.

5. Notify the proper authorities that the system is in operation.

**Figure 1. Wiring diagram:**



**Warning:** Forbid connect 24VDC directly without current-limiting resistance. Otherwise, the detector would be burnt out.



### CAUTION

**Dust covers are an effective way to limit the entry of dust into smoke detector sensing chambers. However, they may not completely prevent airborne dust particles from entering the detector. Therefore, We recommends the removal of detectors before beginning construction or other dust producing activity.**

**Be sure to remove the dust covers from any sensors that were left in place during construction as part of returning the system to service.**

### TAMPER-RESISTANCE

Models DG311 include a tamper-resistant capability that prevents their removal from the bracket without the use of a tool.

## TESTING

Before testing, notify the proper authorities that the smoke detector system is undergoing maintenance and will temporarily be out of service. Disable the zone or system undergoing maintenance to prevent unwanted alarms. Detectors must be tested after installation and as part of periodic maintenance.

**NOTE:** Before testing the detector, check to ensure the LEDs blink. If they do not, the detector has lost power (check the wiring), it is defective (return it for repair), or the detector sensitivity is outside the listed limits.

The sensor can be tested in the following ways:

### A. Smoke Entry test: Aerosol Generator (Gemini 501)

The GEMINI model 501 aerosol generator can be used for smoke entry testing. Set the generator to represent 4%/ft to 5%/ft obscuration as described in the GEMINI 501 manual. Using the bowl shaped applicator, apply aerosol until the panel alarms.

### B. Direct Heat Method (Hair dryer of 1000 – 1500 watts)

1. From the side of the detector, direct the heat toward the sensor. Hold the heat source about 6 inches (15cm) away to prevent damage to the cover during testing.

A sensor that fails any of these tests should be cleaned as described under CLEANING, and retested. If the sensor fails after cleaning, it must be replaced.

When testing is complete, restore the system to normal operation and notify the proper authorities that the system is back in operation.

## CLEANING

Before removing the detector, notify the proper authorities that the smoke detector system is undergoing maintenance and will be temporarily out of service. Disable the zone or system undergoing maintenance to prevent unwanted alarms.

1. Remove the sensor to be cleaned from the system.
2. Remove the sensor cover by pressing firmly on each of the four removal tabs that hold the cover in place.
3. Vacuum the screen carefully without removing it. If further cleaning is required continue with Step 4, otherwise skip to Step 7.
4. Remove the chamber cover/screen assembly by pulling it straight out.
5. Use a vacuum cleaner or compressed air to remove dust and debris from the sensing chamber.
6. Reinstall the chamber cover/screen assembly by sliding the edge over the sensing chamber. Turn until it is firmly in place.
7. Replace the cover using the LEDs to align the cover and then gently pushing it until it locks into place.
8. Reinstall the detector.
9. Test the detector as described in TESTING.
10. Reconnect disabled circuits.
11. Notify the proper authorities that the system is back on line.

## Please refer to insert for the Limitations of Fire Alarm Systems

### THREE-YEAR LIMITED WARRANTY

Convoy Security warrants its enclosed smoke detector to be free from defects in materials and workmanship under normal use and service for a period of three years from date of manufacture. Convoy Security makes no other express warranty for this smoke detector. No agent, representative, dealer, or employee of the Company has the authority to increase or alter the obligations or limitations of this Warranty. The Company's obligation of this Warranty shall be limited to the repair or replacement of any part of the smoke detector which is found to be defective in materials or workmanship under normal use and service during the three year period commencing with the date of manufacture. After phoning Convoy Security's technical support number for a Return Authorization number, send defective units postage prepaid to Convoy Security local representative office. Please include a note describing the malfunction and suspected cause of failure. The Company shall not be obligated to repair or replace units which are found to be defective because of damage, unreasonable use, modifications, or alterations occurring after the date of manufacture. In no case shall the Company be liable for any consequential or incidental damages for breach of this or any other Warranty, expressed or implied whatsoever, even if the loss or damage is caused by the Company's negligence or fault. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

### FCC STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause Harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.