

### Photoelectric Smoke Detector

For 120 VAC and 9 VDC Battery Back-Up Single Station Tandem and Specialty Applications

#### Applications

The 9120/9123 Series of photoelectric smoke detectors is designed for residential applications, including homes, apartments, hospitals, hotels and offices, in compliance with UL 217, applicable UBC/UFC Standards and NFPA 74 / NFPA 72, Chapter 2. Available in many different models, the 9120/9123 Series is engineered to virtually eliminate nuisance alarms and deliver outstanding performance wherever reliable fire protection is required.

The 9120/9123 Series is provided with a 9 VDC alkaline battery for back-up in the event building power is lost. The battery impedance is verified and the detector provides a low or missing battery warning.

The Gentex 9120/9123 Series provides an exclusive patented three position test feature that simulates a 0.85% and 3.5% actual smoke condition in full compliance with NFPA 74/NFPA 72 Chapter 2 and UL Standards. The Series can also be interconnected to the Gentex 7000 Series.

Options include self-restoring 135°F integral or isolated thermals, and Form A/Form C dry contacts for remote annunciation. Tandem interconnection of up to 12 units is available on several models; tandem interconnection of up to 6 units is available on "F" models, which activate the dry contacts from the tandem wire.

**The 9123 Series provides the temporal 3 evacuation tone as a standard feature. When testing the 9123 Series it may take up to 16 seconds longer to go in or out of alarm.**



#### Approvals



- BFP (City of Chicago)
  - BS+A/MEA #285-91-E
  - CSFM #7257-569:117
  - MSFM Listing #1929
  - NFPA 74 Requirements / NFPA 72, Ch. 2
  - UL 217
  - ULC
- 2.4.5.5 integral test means to check sensitivity.

#### Standard Features

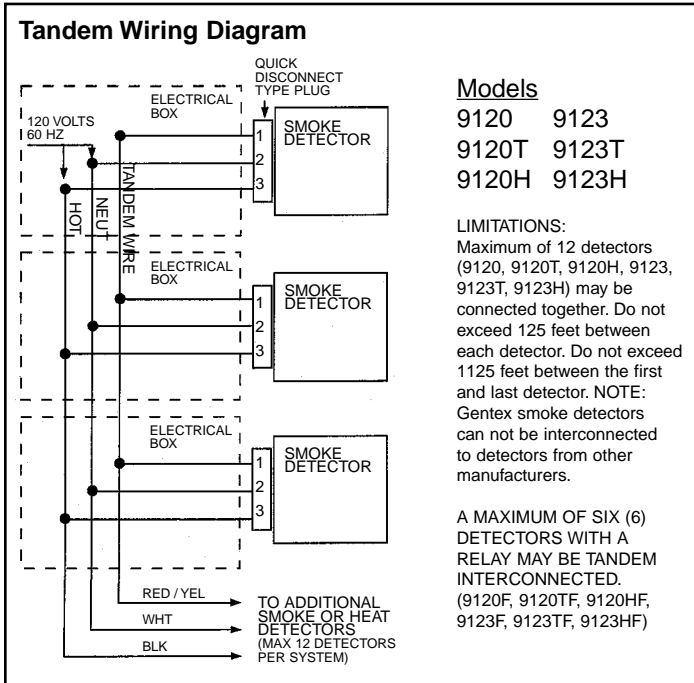
- 90dBA Solid-State Piezo Horn
- 1 Year Warranty From Date of Purchase
- Nominal 2.5% Sensitivity
- 5-to-1 Signal-to-Noise Ratio
- Pulsing LED Sensing Chamber
- Fully Insect Screened
- Functional Test Switch — Patented Three Position Test — Compliance to 4.5.5 (NFPA 74) or 2.4.5.5 NFPA 72, Ch. 2
- Solid-State LED Condition Indicator
- Quick-Disconnect Wiring Harness

- Can Interconnect to 7100 Series and the HD135 Heat Detector
- Mounting Hardware Adapts to Standard Junction Boxes
- Dust Cover to Prevent Contamination During Installation
- On-Site Maintenance Washing Program
- Low or Missing Battery Indicator
- 9 VDC Alkaline Battery
- Temporal 3 Evacuation Sounding Device (9123 Series)
- UL Listed for 30 Foot Spacing (Refer to NFPA 72 for Proper Smoke Detector Placement.)

#### Available Models

MODEL NUMBER	VOLTAGE	OPTIONS				
		Integral 135°F Thermal	Isolated 135°F Thermal	Tandem up to 12 Units	Tandem up to 6 Units	Form A/ Form C Contacts
9120/9123	120 VAC/9 VDC			•		
9120T/9123T	120 VAC/9 VDC	•		•		
9120H/9123H	120 VAC/9 VDC		•	•		
9120F/9123F	120 VAC/9 VDC				•	•
9120TF/9123TF	120 VAC/9 VDC	•			•	•
9120HF/9123HF	120 VAC/9 VDC		•		•	•

## Wiring Diagrams



## Electrical Specifications

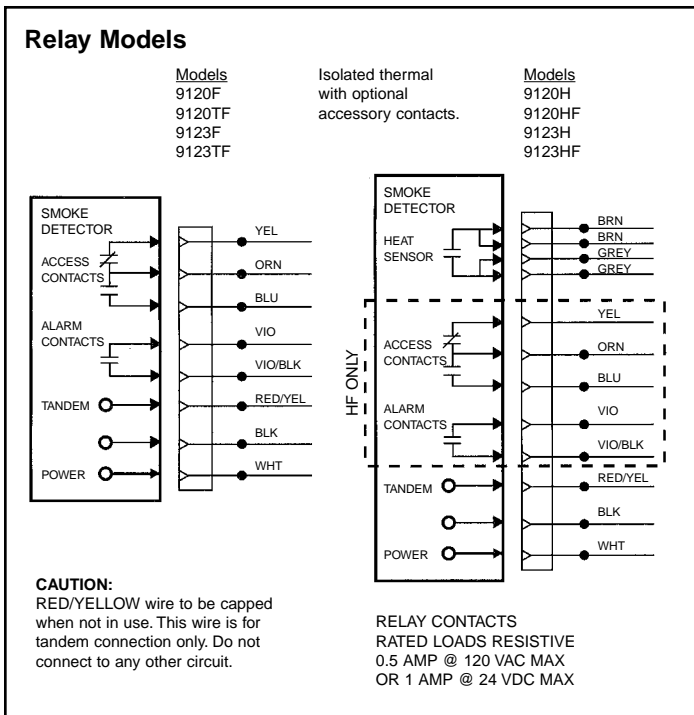
Operating Voltage (9120, 9123) .....120 VAC, 60Hz  
 Operating Current ..... .045 amps  
 Operating Current (Relay Options) ..... .070 amps  
 Operating Ambient Temp Range ..... 40°F to 100°F  
 Alarm Horn Rating ..... 90dBA at 10 ft.  
 Nominal Sensitivity ..... 2.5% Obscuration  
 "F" Auxiliary Relay ..... 1 Form A & 1 Form C (0.5 amp)  
 "T" Integral Thermal (Self-Restoring) ..... 135°F at 50 ft.  
 "H" Isolated N.O. Thermal (Self-Restoring) ..... 135°F at 50 ft.  
 Size ..... Diameter: 6.5 in. OA (5.75 in. at Ceiling)  
 Depth: 2.625 in.

Secondary Power Source ..... Alkaline 9 VDC Battery

## Architect & Engineering Specifications

The Photoelectric Smoke Detector shall be a Gentex Model \_\_\_\_\_ or approved equal which shall provide at least the following features and functions.

- Nominal sensitivity shall be 2.5%.
- The detector shall utilize an infrared LED sensing circuit which pulses in 4 to 5 second intervals when subjected to smoke. After 2 consecutive pulses in smoke, the detector will alarm.
- The detector shall have a 9 VDC alkaline battery as a back-up in the event building power is lost.
- The 9 VDC battery impedance shall be verified by the circuit of the smoke detector.
- The detector shall provide an indicator when the battery is low in power or high impedance or is missing.
- The detector shall provide minimum 5-to-1 signal-to-noise ratio in the optics frame to assure stability of operation in environments of high RF and transient conditions.
- The sensing chamber shall be fully screened to prevent entrance of small insects, thus reducing the probability of false alarms.
- A solid state piezo alarm rated at 90dBA at 10ft.
- A visual LED monitor (condition indicator) will slow pulse in normal operation and rapid pulse in alarm.
- An easily accessible test knob shall be provided. The test knob in the TEST position will simulate an actual smoke condition of approximately 3.5% causing the detector to alarm within 20-36 seconds. It will also have the capability of testing to 0.85% as a required minimum. A magnetic switch closure or other switch closure, or smoke generating equipment which does not scatter the light beam or test sensitivity is not sufficient, as indicated in National Code.
- The detector shall have tandem interconnect capability of up to 12 units or 6 units with relay.
- Can be interconnected with AC detectors, Gentex 7100 Series and the HD135 heat detector.
- The manufacturer shall provide other compatible detector models with the following optional features: a) 135°F isolated thermal with normally opened contact for remote connection to local alarm or annunciator; b) 135°F integral thermal; c) auxiliary Form A/Form C relay contacts for initiating remote functions and annunciator; d) relay option that is capable of activation by tandem interconnect wire. Thermal sensor shall be self-restoring.
- Unit must be UL 217 listed for both wall and ceiling mount.
- Unit shall also meet all requirements of the State of California Fire Marshal.



24 units per carton  
 34 pounds per carton

