

**NEW  
SERIES!!**

**GENTEX  
CORPORATION**

## Combination Photoelectric Smoke and Carbon Monoxide Alarm

### 120VAC/9VDC Single/Multiple Station Smoke and CO Alarm

**GN-503  
SERIES**

#### Applications

The GN-503 (120VAC/9VDC) Series of combination photoelectric smoke and electrochemical sensor carbon monoxide alarms are for use as an evacuation device in all dwelling units, including but not limited to homes, apartments, hospitals, hotels, motels and other commercial occupancies. The GN-503 Series is listed in compliance with UL 217, UL 2034, for installation per NFPA 720 and NFPA 72.

Available in two models, the GN-503 Series is engineered to virtually eliminate nuisance alarms and deliver outstanding performance wherever reliable smoke and CO protection is required.

The GN-503 Series is provided with a 9VDC alkaline battery for electrical back-up in the event building power is lost. The battery impedance is verified and the alarm provides a low or missing battery warning. The battery drawer provides easy replacement without removing the unit from the wall or ceiling.

The Gentex GN-503 Series are provided with a self test and functionality test feature. The self test notifies if the smoke/CO alarm is functioning properly or needs attention. The functionality tests that the smoke/CO alarm is operating properly. The self and functionality tests are in compliance with NFPA 72 and UL Standards.

Features of the combination alarm series include DUALINK® differentiating tones indicating a smoke alarm (temporal 3) or a CO alarm (temporal 4), tandem capabilities with all Gentex tandem interconnect capable alarms. Options include a Form A/Form C dry contacts for remote annunciation and connection to a protected premises alarm system to provide a supervisory/trouble signal. The GN-503 provides Temporal 3 evacuation tone for smoke alarm and all units provide Temporal 4 tone for CO alarm annunciation. The Temporal 3 evacuation tone for smoke alarm will take precedence of the Temporal 4 tone for CO alarm.



#### Product Listings

**SIGNALING**



- UL 217 and UL 2034 Listed
- CSFM

#### Product Compliance

- NFPA 72 and NFPA 720
- City & State Ordinances/Laws/Regulations
- Quality Management System is certified to: ISO 9001:2008



#### Standard Product Features

- GN-503 available in 120VAC with 9VDC battery back-up
- Horn frequency 3100 Hz (nominal)
- Meets sensitivity requirements of UL 2034
- Optional Auxiliary Form A/Form C relay contacts (F model)
- Relay contacts operate on battery back-up
- Push button self test feature
- Push button functional test feature
- Quick-disconnect wiring harness
- Non-latching (self restoring) alarm
- Fully insect protected
- Tandem interconnect with current Gentex alarm models
- DUALINK® - differentiating tones indicating a smoke alarm (temporal 3) or a CO alarm (temporal 4)
- Red LED pulses every 30 seconds, green LED for AC power on

- Mounting hardware adapts to standard junction boxes, including but not limited to 4x4x2-1/8 octogan.
- Dust cover to prevent contamination during installation
- Low or missing battery indicator
- 1 year warranty from date of purchase
- 5 year limited warranty on CO sensor

#### Additional Smoke Alarm Features

- Photoelectric smoke alarm
- Temporal 3 evacuation sounding pattern for smoke annunciation
- Nominal 2.5% sensitivity (smoke)
- Solid State Red LED to indicate Smoke presence

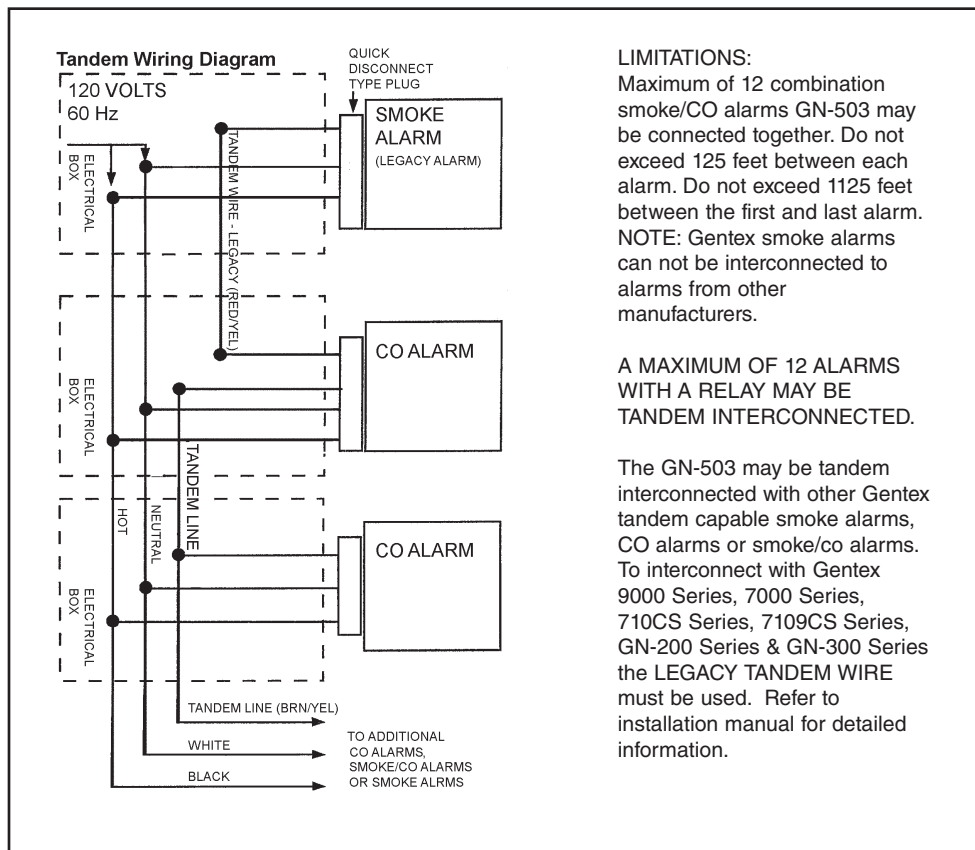
#### Additional CO Alarm Features

- Electrochemical sensor
- Temporal 4 sounding pattern for CO annunciation
- End of life signal indicates CO sensor has reached depletion state and time to replace

## GN-503 Series Combination Smoke/CO Alarm

Model Number	Part Number	Voltage	9VDC Battery Back-Up	Form A/ Form C Relay
GN-503	918-0005-002	120VAC	●	
GN-503F	918-0007-002	120VAC	●	●

## GN-503 Series Wiring Diagrams

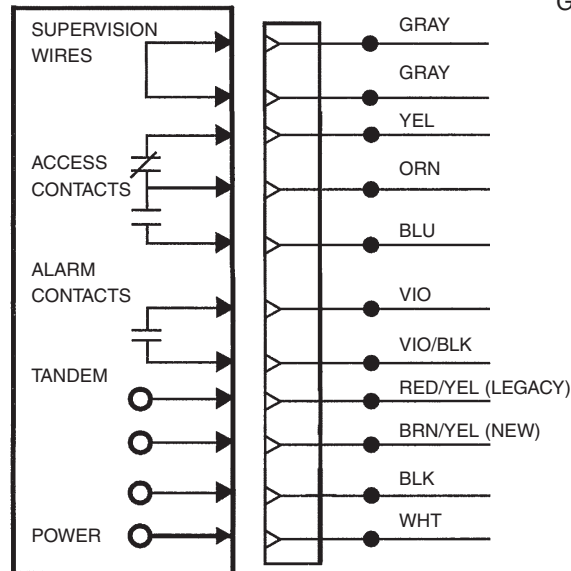


### Notes:

- If CO portion of device goes into alarm, CO alarms, combination smoke/CO alarms and smoke alarms **NOT** using legacy tandem wire sound CO event warning.
- If smoke alarm portion of device goes into alarm, all smoke alarms, CO alarms or combination smoke/CO alarms tandem wired will sound smoke alarm warning.
- When both smoke and CO conditions are present, smoke condition will have priority and alarm will sound smoke annunciation.

### Relay Models

Models  
GN-503F



**CAUTION:**

RED/YELLOW & BROWN/YELLOW wire to be capped when not in use. This wire is for tandem connection only. Do not connect to any other circuit.

### Electrical Specifications

Operating Voltage .....	120VAC, 60Hz
Operating Current .....	.045 amps
Operating Current (Relay Options) .....	.070 amps
Operating Ambient Temp Range .....	40°F to 100°F
Alarm Horn Rating .....	85dBA at 10 feet
Auxiliary Relay .....	1 Form A & 1 Form C (0.6 amp)
Size .....	Diameter: 6.25 in. OA (5.75 in. at Ceiling) Depth: 1.8 in.
Secondary Power Source .....	Alkaline 9VDC battery Duracell MN 1604
CO Sensing Cell .....	Electrochemical Cell

# GN-503 SERIES

## Architect & Engineering Specifications

The combination photoelectric smoke and carbon monoxide alarm shall be a Gentex Model GN-503/GN-503F or approved equal which shall provide at least the following features and functions:

1. Nominal smoke sensitivity shall be 2.5%.
2. The smoke alarm portion of device 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 alarm will activate.
3. The CO alarm shall utilize an electrochemical sensing element with a minimum 5-year life.
4. The carbon monoxide alarm portion of device is adjusted not to detect CO levels below 30PPM and will not alarm when exposed to constant levels of 30PPM for 30 days. Per UL 2034 requirements, the device will alarm at the following levels: 70 PPM CO between 1 to 4 hours, but not less than 1 hour. 150 PPM CO between 10 to 50 minutes. 400 PPM 4 to 15 minutes.
5. The GN-503 Series device shall have a Duracell MN 1604 9VDC alkaline battery as a back-up in the event building power is lost.
6. The 9VDC battery impedance shall be verified by the circuit of the smoke/CO alarm.
7. The alarm shall provide an indicator when the battery is low in power, high impedance or is missing.
8. The CO alarm will provide an audible indicator of 3 quick chirps every 30 seconds at end of life of CO sensor.
9. The sensing chamber shall be fully protected to prevent entrance of small insects, thus reducing the probability of false alarms.
10. An solid state red color LED will indicate presence of CO at the unit.
11. A solid state piezo alarm rated at 85dBA at 10ft.
12. A visual LED monitor (condition indicator) will slow pulse in normal operation and rapid pulse in alarm (red color)
13. An easily accessible test button shall be provided. Push down on button for 5 seconds causing smoke/CO alarm to activate. If device does not go into alarm, the device is not working properly.
14. The device shall have tandem interconnect capability of up to 12 smoke/CO alarms.
15. The alarm shall have the capability to tandem interconnect with all Gentex tandem capable smoke alarms, CO alarms or combination smoke/CO alarms, including 7000/70003 Series, 9000/9003 Series, 710CS/713CS Series, 7109CS/7139CS Series, GN-200/GN-300 Series, S1209 Series and CO1209 Series.
16. The manufacturer shall provide models with the optional feature of auxiliary Form A/Form C relay contacts for initiating remote functions and annunciation and the relay option that is capable of activation by tandem interconnect wire.
17. The combination smoke/CO alarm shall be non-latching (self-restoring).
18. Unit must be UL 217 and UL 2034 listed for both wall and ceiling mounting.
19. Unit shall be listed by Underwriters Laboratories and California State Fire Marshal (CSFM).

All equipment shall be completely factory assembled, wired and tested, and the contractor shall be prepared to submit a certified letter testifying to this condition. Alarms which do not meet all of the requirements of this specification will not be considered.

For complete product specifications, refer to product installation manual.

24 units per carton  
24 pounds per carton

**GENTEX**  
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Gentex Corporation reserves the right to make changes to the product data sheet at their discretion.

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