

# GN-503 Series

## Combination Smoke & Carbon Monoxide Alarm

120 VAC with 9V Battery Back-Up Single/Multiple Station Combination Smoke & CO Alarm

24 units per carton, 24 pounds per carton

### Applications

The GN-503 Series of combination photoelectric smoke and electrochemical sensor carbon monoxide alarms are for use as evacuation devices in all dwelling units, including but not limited to homes, apartments, hospitals, hotels, motels and other commercial occupancies. Available in three 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 9V 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 GN-503 Series is designed with a self test feature that quickly notifies if the alarm is functioning properly or needs attention by simply pressing the test button. The functionality tests that the smoke/CO alarm is operating properly.

Features of the smoke alarm series include DUALINK® tandem capabilities with Gentex tandem interconnect capable alarms products. The GN-503F features one (1) set of Form A/Form C contacts that activate for smoke and/or CO events. The GN-503FF features two (2) sets of Form A/Form C contacts that activate independently for smoke and CO events.

The GN-503 Series is listed in compliance with ANSI/UL 217 and ANSI/UL 2034 and are warranted for one year from date of purchase.

### Standard Features

- 120VAC with 9V battery back-up
- Photoelectric smoke sensing technology
- Electrochemical CO sensing technology
- Horn frequency 3100 Hz (nominal)
- Temporal 3 evacuation sounding pattern for smoke annunciation
- Temporal 4 sounding pattern for CO annunciation
- Nominal 2.5% sensitivity (smoke)
- Push button self test feature
- Push button functional test feature
- F Model: One (1) set of Form A/Form C contacts that activate for smoke and/or CO events
- FF Model: Two (2) sets Form A/Form C contacts that activate independently for smoke and CO events.
- Relay contacts operate on battery back-up
- Quick-disconnect wiring harness
- DUALINK® - tandem with all Gentex tandem capable alarms
- Non-latching (self restoring) alarm
- LED for AC power on
- Red LED pulses every 30 seconds
- Solid state red LED to indicate smoke presence
- Smoke sensing chamber is fully insect screened
- Mounting hardware adapts to standard junction boxes
- Dust cover to prevent contamination during installation
- Low or missing battery indicator
- End of life signal indicates CO sensor has reached depletion state
- One year warranty from date of purchase



### Product Listings

SIGNALING



- ANSI/UL 217 and ANSI/UL 2034 Listed
- CSFM: 7263-0569: 0500

### Product Compliance

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

## GN-503 Series

Model	Part Number	Voltage (VAC)	One Set Form A/C Contacts	Two Sets Form A/C Contacts
GN-503		120 VAC		
GN-503F		120 VAC	.	
GN-503FF		120 VAC		.

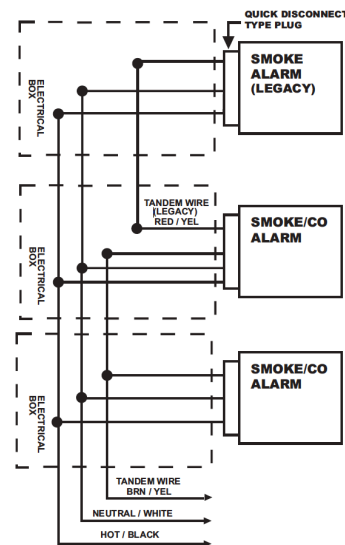
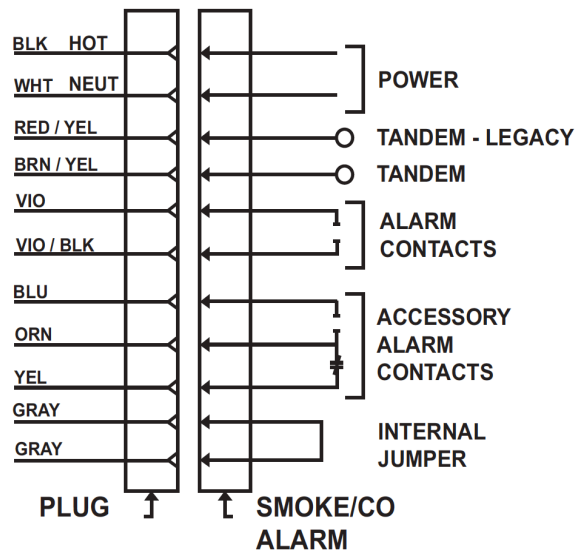
## Notes

- Series available in round configuration only
- Utilizing DUALINK®, if GN-503/GN-503F/GN-503FF is tandem interconnected with CO alarms or combination smoke/CO alarms and CO devices go into alarm, CO alarms and smoke alarm will sound CO warning.
- Utilizing DUALINK®, if GN-503/GN-503F/GN-503FF alarm annunciates, all smoke alarms, CO alarms or combination smoke/CO alarms tandem interconnected will sound smoke alarm warning.
- When both smoke and CO conditions are present, smoke condition will have priority and alarm will sound smoke annunciation.
- Units produce a temporal 4 audible alarm

## Electrical Specifications

Operating Voltage .....	120VAC, 60Hz
Operating Current .....	0.045 amps
Operating Current (Relay Options).....	0.070 amps
Operating Ambient Temp Range.....	40°F to 100°F
Alarm Horn Rating.....	meets or exceeds 85dBA at 10'
CO Sensing Cell.....	Electrochemical Cell
Smoke Sensor .....	Photoelectric
GN-503F Auxiliary Relay .....	1 Form A and 1 Form C (0.5 amps)
GN-503FF Auxiliary Relay.....	2 Form A and 2 Form C (0.3 amps)
Size .....	Diameter: 6.25" OA (5.75" at base) Depth: 1.80"
Secondary Power Source .....	Alkaline 9V battery Duracell® MN 1604

## GN-503 / GN-503F Wiring Diagrams



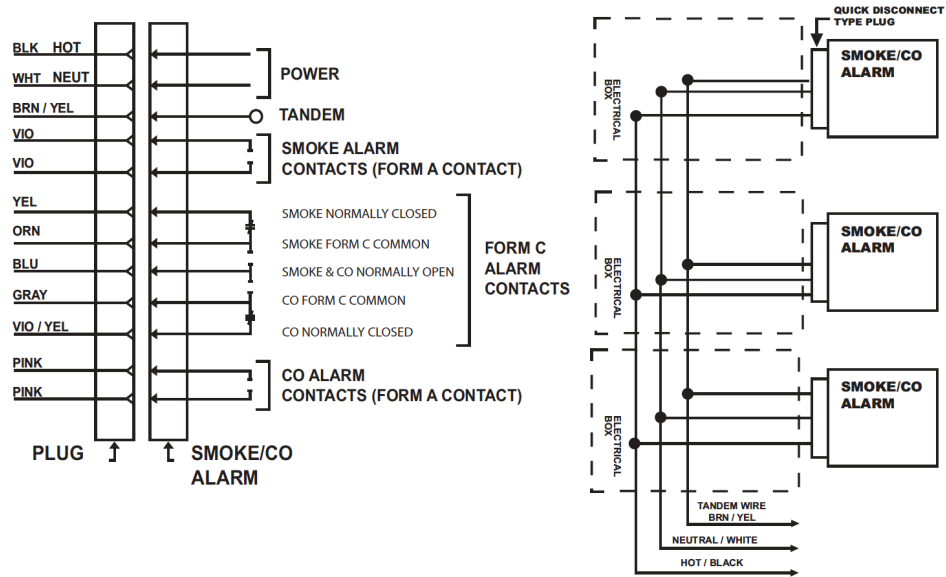
## Limitations

- The GN-503F and GN-503FF product wiring harness is not interchangeable. The GN-503F and GN-503FF must use proper wiring harness. Product will not function if incorrect harness is used.
- Do not exceed 125 ft. between each alarm
- Do not exceed 1125 ft. between the first and last alarm
- Maximum of 18 compatible smoke, heat, CO and/or combination smoke/CO alarms may be interconnected. No more than 12 of the 18 can be smoke alarms.
- Note: Gentex alarms can not be interconnect to alarms from other manufacturers.

## Caution

- RED/YELLOW and BROWN/YELLOW wire to be capped when not in use
- This wire is for tandem connection only
- All units connected in tandem MUST get their power from the same circuit, that is, all smoke alarms in tandem must be controlled by the same fuse or circuit breaker.
- If a GN-503 Series or CO1209 Series unit is annunciating for a CO event, legacy products that are tandem interconnected will not activate and will remain silent.

# GN-503FF Wiring Diagrams



## Limitations

- Note: Using the GN-503FF allows the ability to a) interface with a FACP panel; b) interface with NAC circuits
- The GN-503F and GN-503FF product wiring harness is not interchangeable. The GN-503F and GN-503FF must use proper wiring harness. Product will not function if incorrect harness is used.
- Do not exceed 125 ft. between each alarm
- Do not exceed 1125 ft. between the first and last alarm
- Maximum of 18 compatible smoke, heat, CO and/or combination smoke/CO alarms may be interconnected. No more than 12 of the 18 can be smoke alarms.
- Note: Gentex alarms can not be interconnect to alarms from other manufacturers.

## Caution

- BROWN/YELLOW wire to be capped when not in use
- Use BROWN/YELLOW wire to tandem interconnect GN-503FF alarms to additional GN-503 Series, S1209 Series and CO1209 Series.
- This wire is for tandem connection only
- Notice: The GN-503FF is only capable of tandem interconnect with GN-503 Series, CO1209 Series and S1209 Series.
- All units connected in tandem MUST get their power from the same circuit, that is, all smoke alarms in tandem must be controlled by the same fuse or circuit breaker.
- If a GN-503 Series or CO1209 Series unit is annunciating for a CO event, legacy products that are tandem interconnected will not activate and will remain silent.

# GN-503 Series

## Combination Smoke & Carbon Monoxide Alarm

### Architect & Engineering Specifications

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

- Nominal smoke sensitivity shall be 2.5%.
- 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 shall activate.
- The CO alarm shall utilize an electrochemical sensing element with a minimum 5-year life.
- The carbon monoxide alarm portion of device is adjusted not to detect CO levels below 30 PPM and will not alarm when exposed to constant levels of 30 PPM for 30 days. Per ANSI/UL 2034 requirements, the device will alarm at the following levels: 70 PPM CO between 1 to 4 hours. 150 PPM CO between 10 to 50 minutes. 400 PPM between 4 to 15 minutes.
- The GN-503 Series device shall have a Duracell® MN 1604 9V alkaline battery as a back-up in the event building power is lost.
- The 9V battery impedance shall be verified by the circuit of the smoke/CO alarm.
- The alarm shall provide an indicator when the battery is low in power, high impedance or is missing.
- The CO alarm will provide an audible indicator of 3 quick chirps every 30 seconds at end of life of CO sensor.
- The sensing chamber shall be fully protected to prevent entrance of small insects, thus reducing the probability of false alarms.
- The alarm shall include a solid state red color LED that will indicate presence of CO at the unit.
- The alarm shall include a solid state piezo alarm rated at 85dBA at 10ft.
- A visual LED monitor (condition indicator) shall slow pulse in normal operation and rapid pulse in alarm (red color)
- 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.
- The device shall have tandem interconnect capability of up to 12 smoke/CO alarms.
- The GN-503 and GN-503F alarm shall have the capability to tandem interconnect with all Gentex tandem capable smoke alarms, CO alarms or combination smoke/CO alarms, including 9123 Series, 7139CS Series, S1209 Series and CO1209 Series.
- The GN-503FF alarm shall have the capability to tandem interconnect with the following Gentex alarms, CO alarms or combination smoke/CO alarms: GN-503 Series, S1209 Series and CO1209 Series.
- The manufacturer shall provide models with the optional feature of auxiliary Form A/Form C relay contacts for initiating remote functions and annunciation and a relay option that is capable of activation by tandem interconnect wire.
- The combination smoke/CO alarm shall be non-latching (self-restoring).
- Unit must be ANSI/UL 217 and ANSI/UL 2034 listed for both wall and ceiling mount.
- Unit shall be listed by Underwriters Laboratories.

All equipment shall be completely factory assembled and tested, and the contractor shall be prepared to submit a certified letter 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.