

12/24VDC Carbon Monoxide Detector with SafeTest™ 250-CO



Overview

The SafeAir™ 250-CO carbon monoxide (CO) detector is an accurate and reliable means of alerting building occupants of potentially dangerous levels of CO in the protected area. The internal electro-chemical sensor communicates with a sophisticated on-board microprocessor that accurately tracks CO levels over time.

This commercial-grade detection technology results in quick response, reliable sensing, fast reset time, and superior false alarm immunity. Its small size allows the 250-CO to blend inconspicuously with any decor, and its smooth contoured design is compatible with both residential and commercial environments.

Unaffected by normal indoor temperature variations, the 250-CO actually self-adjusts for environmental changes and operates reliably under a wide variety of conditions. It also monitors its own performance and automatically compensates for sensitivity drift throughout the course of its service life.

The 250-CO features the SafeTest™ functional test feature, which facilitates testing with real CO gas. SafeTest meets the functional test requirement in NFPA 720, 2009/2012 editions.

Like all CO detectors, the 250-CO has a limited service life. When it approaches this point, the 250-CO's six-year end-of-life timer automatically triggers a warning, locally, at the control panel, and optionally, at a central monitoring station, indicating that the device must be serviced.

An integrated temporal 4 sounder provides local signaling capability for the 250-CO, and it easily interfaces with any listed intrusion or fire alarm system by means of its 150mA output relay. Its low current draw results in little additional demand on the system power supply.

The 250-CO fully complies with the latest UL 2075 requirements which allows for installation in a wide range of both residential and commercial settings.

Standard Features

- SafeTest™ enables a full functional test with spray of real CO gas
- Electro-chemical sensing technology
- Transmits sensor end-of-life to the control panel and central station if the system is monitored
- Fully listed to the latest UL 2075 CO standard for residential or commercial occupancies
- Built-in trouble/power supervision relay
- Six-year sensor
- Self-diagnostics keep the device operating optimally throughout its service life
- 12 or 24VDC operation and 150mA relay contact configurable for normally open or normally closed operation
- Large SEMS terminals ease wiring installation 14 to 22 AWG
- One-touch TEST/HUSH button simplifies local operation
- Integrated 85 dBa temporal 4-sounder for local notification
- On-board LED provides local alarm and trouble indication
- Inconspicuous footprint and attractively contoured design
- Adapter plate makes replacing ESL 240-COe CO detector simple

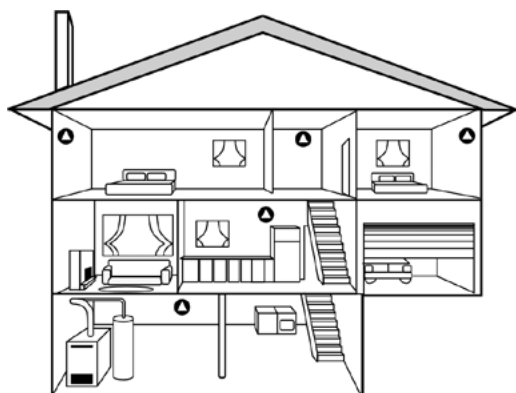
Application

The SafeAir 250-CO Carbon Monoxide Detector is intended for ordinary indoor-dwelling unit applications in both residential and commercial occupancies, including single/multiple family residential occupancies, hotel rooms, dorm rooms, and other areas approved by the authority having jurisdiction (AHJ). The 250-CO detector can connect to either UL 985 (Household Fire Warning) or UL 864 (Commercial Fire) control panels. It is not intended for use in industrial applications such as gasoline refineries or parking garages, which require different listings. The 250-CO detector has an optional adapter mounting plate for the ESL 240COe CO detector. To purchase the plate order P/N 250-COPLT-5PKG.

Selecting a suitable location is critical to the operation of CO detectors. Install the 250-CO in accordance with *NFPA 720 Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment*. Place wall-mounted detectors at least 5 ft. (1.5 m) up from the floor. For ceiling mounted applications, place the detector at least 1 ft. (0.3 m) from any wall.

Recommended CO detector locations:

- ✓ Within 10 ft. (3 m) of all sleeping areas, including areas such as hotel rooms and dorm rooms.
- ✓ In a suitable environment: areas with a temperature range of 32 to 104°F (0 to 40°C) and with a relative humidity range of 0 to 90% noncondensing.
- ✓ In residential dwellings, locate detectors in every bedroom, within 10 ft. (3 m) of sleeping areas, and on each level. At a minimum, place one detector outside the sleeping areas.



● Recommended locations for CO detectors

Always check with your local building codes, legislation, and Authority Having Jurisdiction for specific CO location requirements in your area

Recommended CO detector locations in commercial occupancies:

- ✓ On every habitable level of the building based on an engineering evaluation considering potential sources and migration of carbon monoxide
- ✓ In any area required by local building codes, legislation, or Authorities Having Jurisdiction
- ✓ On a firm, permanent surface

Do not install the CO detector:

- ✗ Within 10 ft. (3 m) of a fuel-burning appliance
- ✗ Near air conditioners, heating registers, and any other ventilation source that may interfere with CO gas entering the detector
- ✗ Where furniture or draperies may obstruct the airflow
- ✗ In a recessed area

Operation

SafeTest functional test: This test facilitates the use of CO test spray to verify the correct operation of the detector. Functional testing is mandatory per NFPA 720 as of January 2012. The SafeTest mode is activated by pressing and holding the test/hush button for 5-10 seconds. While in SafeTest mode, directing UL classified CO testing spray at the sensor port will result in the activation of the alarm relay, and the sounder and red LED to activate in a temporal-four pattern. Pressing and holding the test/hush will exit SafeTest mode. Note: See 250-CO installation instructions for information on approved CO test spray.

Distinct 85 dB temporal four-sounder alarm: The 85 dB temporal-four sounder provides a distinctive alarm notification that is easy to differentiate from smoke alarm notification devices. The alarm beeps four times, rests five seconds and then repeats the pattern.

Test/hush button: Use the test/hush button to test the alarm and silence an activated alarm. Pushing the test/hush button silences the integral sounder for five minutes. The red alarm light stays on and if CO is still present after five minutes, the detector once again sounds in the temporal-four pattern. The hush feature does not operate at CO levels above 350 ppm (parts per million).

End of sensor life indicator: The detector uses both a flashing green LED and intermittent sounder chirps to indicate that the detector needs replacing. To silence the detector, push the test/hush button. The detector also begins signaling a trouble when the CO sensor is approaching end-of-life. When connected to a Listed control panel, the trouble relay can report a trouble condition locally at the panel and optionally at the central station, if the system is monitored.

Common trouble relay: The trouble relay opens to indicate a trouble condition upon lost power, CO sensor cell trouble, or cell end-of-life.

Installation

The 250-CO Carbon Monoxide Detector is a four-wire device designed to use a Class 2 output from a control panel or auxiliary power supply Listed to UL 985 or 864 standards.

All wiring must conform to the NFPA 70 National Electric Code, UL 2075, NFPA 720, and applicable codes. Use 14 to 22 AWG wire.

WARNINGS: Connect the CO detector only to a zone dedicated exclusively for CO detection and that is monitored 24 hours a day. Do not connect to an initiating circuit with fire or security devices. Failure to properly install, test, and maintain a CO detector may cause it to fail, potentially resulting in loss of life.

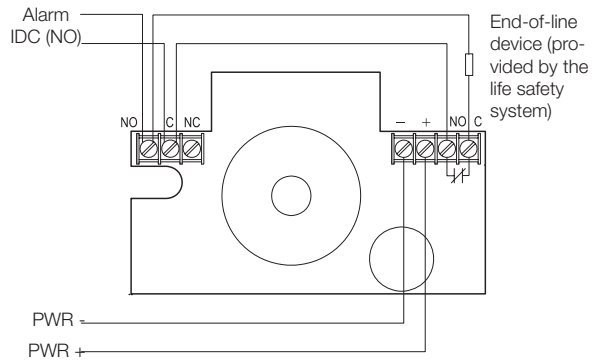
The 250-CO/240-COe adapter plate

Use the 250-COPLT-5PKG adaptor plate when replacing a 240-COe with a 250-CO to cover the footprint of the 240-COe. For example, use the plate to cover any paint discoloration left behind from the 240-COe.

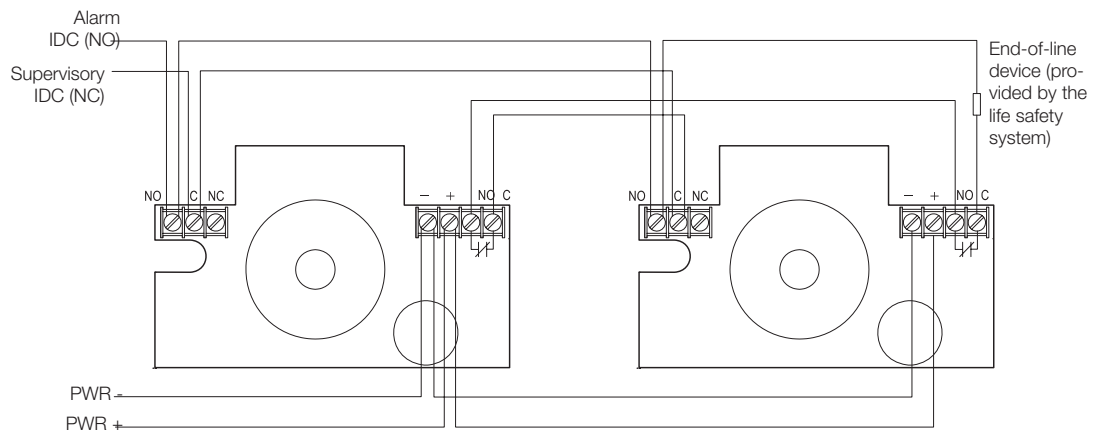


Wiring

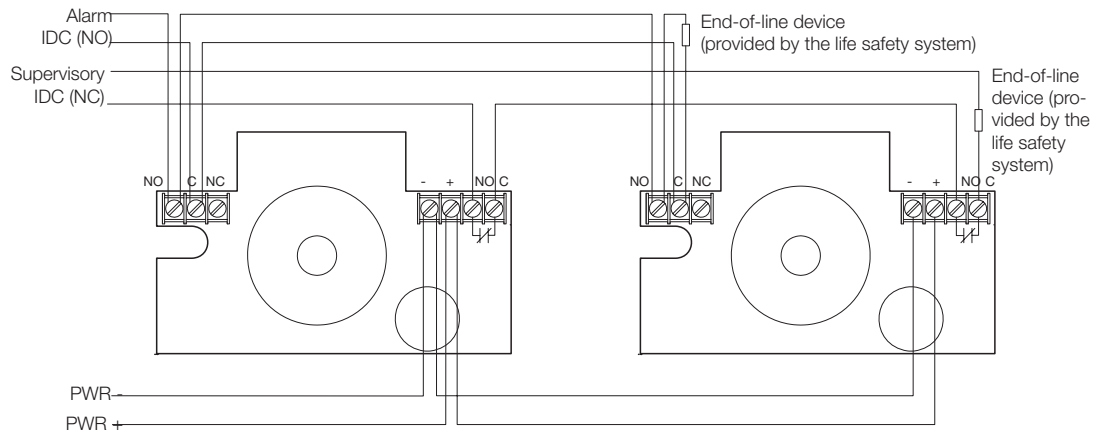
Configuration: Single device, single zone



Configuration: Multiple devices, single zone



Configuration: Multiple devices, separate alarm, trouble zone



Specifications

Input voltage	12 or 24 VDC supplied by control panel or resettable auxiliary power supply
Current consumption	
Normal	20 mA
Alarm	40 mA (75 mA in test)
Alarm relay	150mA at 33 VDC
Type	Form C
UL rating	Zone
Common trouble relay	150mA at 33 VDC
Type	Normally opened held closed with power applied
UL rating	Common
CO alarm level	70 PPM = 60-240 min. 150 PPM = 10-50 min. 400 PPM = 4-15 min.
Sounder	85 dB with temporal 4 pattern
Compatible control panel	Listed to UL 985 or 864 standard
Compatible electrical box	North American 2½ in. (64 mm) deep 1-gang
Wire size	14 to 22 AWG (0.25 to 2.0 mm ²)
Dimensions (W x L x D)	
Detector	3.1 x 4.6 x 1.3 in. (7.8 x 11.7 x 3.2 cm)
Adapter plate	4.5 x 6.5 x 0.2 in. (11.4 x 16.5 x 0.5 cm)
Weight	
Detector	4.7 oz. (133 g)
Adapter plate	1.6 oz (46 g)
Color	White
Operating environment	
Temperature	32 to 104°F (0 to 40°C)
Relative humidity	0 to 90%, noncondensing
UL rating	Listed to ANSI/UL 2075 Standard

North America

T 885-286-8889

Asia

T 852-2907-8108

F 852-2142-5063

Australia

T 61-3-9239-1200

F 61-3-9239-1299

Europe

T 32-2-725-11-20

F 32-2-721-40-47

Latin America

T 561-998-6100

F 561-994-6572

Ordering Information

Model	Description
250-CO	SafeAir Carbon monoxide detector, alarm & trouble relays, sounder, end-of life signal, 12/24VDC
250-COPLT-5PKG	Adaptor plate for use when replacing the 240-COe CO detector with a 250-CO
CO Gas Test Spray	Functional CO gas test spray Solo C-6 available from SDI (www.sdifire.com) through security distribution.

Note: To learn more about Carbon Monoxide and wireless CO alarms, visit our CO website at www.interlogix.com/co



interlogix.com

Specifications subject to change without notice.

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