



Dealer - Frequently Asked Questions

i⁴ Series Combination CO/Smoke Detector



What is the i⁴ Series combination CO/smoke detector?

The System Sensor i⁴ Series includes both a 12/24 volt, system-connected, combination electrochemical carbon monoxide (CO)/photoelectric smoke detector and a module that interfaces with a panel. Below are the model numbers:

Part No.	Description
COSMO-2W	2-wire, 12/24 volt, system-connected, combination CO/smoke detector with RealTest [®] technology
COSMO-4W	4-wire, 12/24 volt, system-connected, combination CO/smoke detector with RealTest technology
COSMOD2W	2-wire interface module (required with COSMO-2W models)
COSMOD4W	4-wire interface module (required with COSMO-4W models)

How much money will I make/save using the i⁴ Series versus two separate devices?

The i⁴ Series can save you money in both labor and materials – how much depends on how many detectors you install and your current cost of materials. You can determine your profit increase or cost savings by entering your information in our [Value Calculator](#).

In addition, some homeowners have objected in the past to purchasing CO detection and monitoring due to the increased cost of the system and the aesthetics of having multiple devices on the wall or ceiling. The i⁴ Series overcomes these objections because it only requires only one device on the wall or ceiling for both fire and CO protection and reduces the overall installed cost over a separate device system.

Is the module necessary?

Yes, the module is the interface between the detector and the panel. It allows a 2-wire or 4-wire device to communicate distinct smoke, maintenance and CO signals to the panel while reducing wiring requirements as compared to separate smoke and CO devices.

How many detectors can the module handle?

The module can handle up to 12 detectors on a loop in any combination of i⁴ series and compatible i³ series smoke detectors with sounders.

Can heat detectors be added to the loop and do they count against the 12?

Heat detectors can only be used on the 4-wire i⁴ system and do not count against the 12 detectors per module.

How many zones does the system use?

A 2-wire module uses two to three zones; a smoke zone, a CO zone, and an optional maintenance zone. A 4-wire module uses two zones.

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What else does the module do?

The module allows interconnectivity of all devices on the loop, remote maintenance signaling, and EZ Walk loop testing capabilities (2-wire devices only). The RSS-MOD is not needed for sounder interconnection.

What is the module compatible with?

The module works with all i⁴ Series and compatible i³ Series smoke detector models (2WTA-B, 4WTA-B), allowing full interconnectivity and backwards compatibility for retrofit applications.

With which panels is the system compatible?

Panel compatibility is not an issue because the module is a 4-wire device. The module can use a 2-wire smoke zone on a panel the same way a 4-wire detector can use that zone. Each module can support 12 detectors and looks like a single 4-wire device to the panel; the module is not powered by the 2-wire smoke zone.

How many wires does the detector use?

The COSMO-2W is a 2-wire device with 2 wires in and 2 wires out. The COSMO-4W is a 4-wire device with 4 wires in and 4 wires out.

How many wires does the module have?

The module uses 6 to 10 wires to connect to the panel: two wires for power, two wires for the smoke zone, two wires for the CO zone, and an optional two wires for the maintenance zone on 2-wire devices only. The trigger inputs are optional and are useful for interconnection across multiple modules.

How do I wire the detector or the module?

Refer to the appropriate i⁴ Series [installation manual](#) or the [wiring cheat sheet](#).

Where does the module get its power?

The module is like a 4-wire smoke detector; it gets its power from the panel's Smoke power or Auxiliary power output.

Does the power need to be resettable?

Yes, the power to the module needs to be resettable to reset the detectors. During a reset, the detector will preserve its CO alarm state over a smoke alarm reset.

Will the 3.9k end-of-line resistor be supplied?

Yes, it is included with the module.

What is the CO trigger and what does it do?

The CO trigger is optional; it is useful for interconnection of multiple modules. All panels can be programmed with auxiliary relays that activate upon an alarm condition. These provide a positive voltage output that can be connected to the module's CO trigger. The CO trigger input allows a single module to have CO silence/hush capability and allows multiple module installations to have all sounders activated in Temporal 4 in the event of a CO alarm.

When using multiple modules will the sounders synch across modules?

The sounders will not be synchronized across modules. If a bell output from the panel is available, it can be used to sound the modules smoke trigger in unison.

Why are the trigger inputs one wire and not two?

They are voltage referenced to the Aux In minus of the module.

Can modules be daisy-chained together to save zones on the panel?

No, each module must use its own fire and CO zones.

Fire alarm-only panels (UL864 panels) do not allow CO trigger, so how would you sync a CO alarm?

CO trigger cannot be used with UL864 panels. Connection is not necessary to cause the detectors to sound. The use of the trigger is to have multiple modules sound and to allow the keypad to be used to silence/hush a CO alarm.

If I have an installation with multiple zones, how many modules are needed and can I still activate all device sounders?

If multiple zones are required, then a module will be needed for each zone. Maintenance zones can be combined at the panel and the panel can be wired to the trigger inputs on the module to activate the sounders of all devices on the loop.

What is the proper placement for the detector?

The detector can be mounted on the ceiling or on a wall. On the ceiling, the detector should be at least 12 inches from any wall. On the wall, the detector should be 4 inches down from the ceiling. Do not install outdoors or in any environment that does not comply with the detector's environmental specifications. See the i⁴ Series installation manual or consult the applicable NFPA guidelines for further instructions.

Can the detector be mounted on the ceiling?

Yes, it can be mounted on the ceiling at least 12 inches away from the wall (please refer to the i⁴ Series installation manual and NFPA 720: 2009 Section 9.4.1.2 for more information).

How is the detector mounted?

The detector can be ceiling- or wall-mounted to a wide variety of electrical boxes (3.5" and 4" Octagonal; Single-gang; 2 x 4", 3.5" and 4" round ceiling) or directly mounted to the ceiling or wall using drywall fasteners.

Is the RSS-MOD needed to interconnect sounders?

No, the i⁴ module will activate the sounders of all detectors on the loop.

Where should the module be installed?

The module can be mounted up to 20 feet away from the panel, to a 4¹/₁₆-inch back box or in its' own metal enclosure. For UL864 applications, the wiring should be enclosed within conduit or equivalently protected against mechanical injury.

How is the module mounted?

The module can be mounted to a 4¹/₁₆" square back box or inside an enclosure. If mounted inside an enclosure, the module does not need its plastic cover.

What is the current draw of the detectors and modules?

For the 2-Wire system, the standby current is 45mA (12 volts in) fully loaded; 27mA (24 volts in) fully loaded. For the 4-Wire system, the standby current is 36mA (12 volts in) plus 200uA per each i⁴ detector connected.

What is the life of the CO cell?

The life of the CO cell is 6 years. It has a built in clock timer which determines when 6 years has passed.

Is the CO cell field replaceable?

Yes, the replacement part number is CO-REPL, and the part will be available starting in 2017.

What type of canned CO should I use for the functional CO test?

SDI Solo C6 canned CO is cross-listed for use with the detector. It is available at most local security distributors.

What agency listings does the detector have?

It is UL 268, UL 2075 and CSFM listed.

Where can I get more training?

There is a training module available at our i⁴ landing page, systemsensor.com/i4. There are also archived webinars available for viewing at systemsensor.com/webinars.

What is the price?

For pricing information, please contact your local security distributor.

Where can I purchase the i⁴ Series?

i⁴ can be purchased at your local security distributor.

Where can I get more information?

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