

DESCRIPTION

The CPD-7051 dual chamber ionization smoke detector senses both visible and invisible products of combustion and is designed for 2-wire and 4-wire system operation. The 360° smoke entry characteristic permits maximum smoke response from any direction.

To assure that the detector is functioning, an LED pulses approximately every 4 seconds to allow for visual supervision of the detector. Under alarm condition, the LED lights constantly at full brilliance. An optional base is available to provide a remote LED function.

A unique gated output circuit design provides improved stability and transient suppression. Special signal processing techniques verify the presence of smoke before the detector will alarm.

Installation of the detector is easy and quick because of non-polarized connections. The detector head is fixed to the base by a twist-lock action.

Both functional and sensitivity testing of the device may be accomplished by means of a test magnet. This simulates the effect of smoke (approximately 1.3 % per foot obscuration) entering the chamber.

In addition, the actual sensitivity of the detector may be measured in direct readout of percent per foot obscuration with a sensitivity tester and standard voltmeter without the necessity of removing the detector.

An insect screen protecting the chamber is used to avoid potential nuisance alarms.

CPD-7051 ionization detectors may be inter-changed with PSD-7155 or PSD-7156 photoelectric detectors. Optional bases are available for remote test, indication, 4-wire operation and/or control functions. See Table 1. In addition, an MA-001 adapter is available to enable the CPD-7051 to mount in existing CPD series bases.

**FEATURES**

- **High Air Flow Dual Chamber**
- **Flashing LED for Visual Supervision**
- **Remote and Local Functional Test Capability**
- **In-place Sensitivity Measurement in Percent per Foot Obscuration**
- **Two and Four-wire Low Current Design**
- **Non-polarized**
- **Surface Mount Technology**
- **High Altitude Operation**
- **Interchangeable Bases**

APPROVALS

UL (Std 268)	S 1913
Factory Mutual	0W3A2.AY
C.S.F.M.	7271-1076:115
New York City MEA	346-92-E

TECHNICAL SPECIFICATIONS

Nominal sensitivity	1.3 %/ft.
Standby voltage	10.2 to 36.8 VDC (24 VDC nominal)
Standby current	45 uA. (typical) 100 uA. peak @ 24 VDC
Operating temperature	32° to 100° F (0° to 49° C)
Humidity	0-93% relative humidity (non-condensing)
Air velocity	1,000 feet per minute, gusts to 2,000 fpm per UL268
Altitude	Up to 7,500 feet
Area of coverage	30 ft. centers (900 sq. ft. max.) (smooth ceilings)
Radioactive source	0.7 microcuries Americium 241 (sealed)

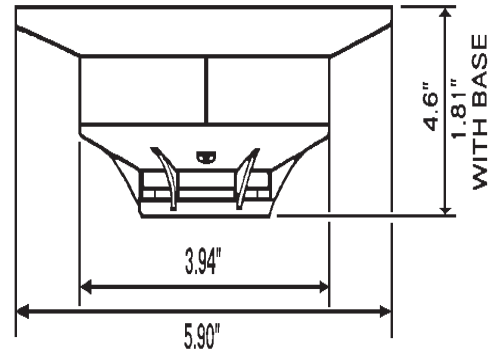
INSTALLATION

Installation is simple because of the non-polarized connection. The detector mounts to the base by a twist-to-lock action. A removable locking tab secures the head to the base to provide a degree of vandal resistance. Units mount directly on a 3-inch round box, 3, 3.5 or 4-inch octagonal box, and 4-inch square box. No adapters required.

NOTE: The number of two-wire smoke detectors which can be accommodated per zone varies with the different control panels. **Consult the control panel instruction manual to determine the capacity.**

Refer to N.F.P.A. 72, Chapter 5-3 "Smoke Sensing Fire Detectors" for spacing, location of detectors and other guidelines.

DIMENSIONAL DATA



MAINTENANCE

Cleaning programs should be adapted to the individual environment in conformance with NFPA Standard 72. We recommend, at the least, an annual cleaning of dust from the detector head by using the suction from a vacuum cleaner. **Refer to the installation instructions for the complete procedure.**

WARNING: To prevent detector contamination during construction, smoke detectors must be protected from dust and contamination until the area is clean and dust free. See NFPA 72

CAUTION: Do not attempt disassembly of the factory sealed smoke detector. This assembly is sealed for your protection and is not to be opened for servicing. Opening of the detector will void the warranty.

**TABLE I
DETECTOR BASE OPTIONS**

Model	Compatibility Identifier	Description
2-Wire	FE51A	Connects to 2-wire detection circuit via screw terminals.
2WRLT	FE52A	As above except has output for remote test and LED indicator.
2WRB	FE55A	Connects to 2-wire detection circuit via wire-leads. Has remote test feature, LED indicator and SPDT auxiliary relay rated 1 amp. @ 30 VDC. Minimum alarm current: .019 amp. (maximum of 1 per zone)
4WRB	N/A	Connects to 4-wire detection circuit via wire-leads. Equipped with SPDT auxiliary relay rated 2 amp. @ 30 VDC. Minimum alarm current .015 amp.

**TABLE II
ORDERING INFORMATION**

Model	Compatibility Identifier	Description
CPD-7051	I51FE1	Ionization smoke detector.
MA-001		Adapter to allow mounting to existing CPD series bases.
2WRM		Relay component of 2WRB.
4WRM		Relay component of 4WRB
2040-24		End of line supervisory relay, 24 VDC.
RAI-2		Remote alarm indicator.
RCM-500		Remote alarm indicator /key test switch.