AVENGER

AS2012-00

Multi Criteria Sensor

Standard Features

- Low Profile - Only 2.00" high, including base

- Simple and reliable device addressing

- Automatic compensation for sensor contamination

- Built-in fire test feature

- Uses the noise-immune Digital Communication Protocol (DCP), which utilizes interrupts for fast response to fires

- Two built-in power/alarm LEDs

- Programmable non-polling LEDs

- Non-directional smoke chamber

- Vandal resistant security locking feature

- Removable smoke labyrinth for cleaning or replacement

Note:

Bases are not included with detectors, please order separately.

Application

- The AS2012 Multi-Criteria Sensor is particularly suited for detecting smoke produced by a wide range of combustibles found in various applications. Temperature monitoring is achieved by a thermistor placed for optimum sensitivity. Hochiki's unique design allows fast response to flaming fires as well as smoldering fires while minimizing false alarms.

Operation

The AS2012 chamber consists of a light-emitting diode (LED) and photodiode arrangement. The chamber is designed such that light emitted by the LED cannot normally reach the photodiode. In the event of fire, particles of smoke enter the chamber and scatter the light. As the smoke level increases, the scattering effect increases, causing more light to hit the photodiode. The chamber contains a unique design which allows smoke to enter the chamber while preventing external light from affecting the photodiode. The photodiode input level is sampled to sense smoke density. When the smoke density exceeds a preset threshold the sensor transmits an interrupt to the fire control panel indicating a fire condition. The fire alarm control panel can adjust the sensor threshold to compensate for contamination.

The AS2012 Heat portion incorporates a highly linear thermistor circuit, with two thermistors mounted externally. The specially designed cover protects the thermistors while allowing maximum air flow. The thermistor circuit produces a voltage proportional to temperature which is scaled, and transmitted as a digitally encoded value to the control panel. When the ambient temperature exceeds a preprogrammed threshold (fixed temperature), the sensor transmits an interrupt to the control panel indicating a fire alarm. The fire alarm control panel can adjust the sensor threshold for different standard's requirements.

Up to 127 devices are permitted on each SLC loop. A sensor address can be set by a hand-held programming unit. The sensor mounts to an electronics-free base and incorporates a locking mechanism for secure installation. The base provides mounting slots, terminals for field wiring and a third contact for a remote indicator/LED. The sensor incorporates dual LEDs for easy viewing of sensor status.

Engineering Specification

The contractor shall furnish and install AS2012 (Multi-Criteria Sensor) as indicated on the plans. The Multi-Criteria Sensor head and twist lock base shall be UL listed and compatible with the UL listed fire alarm control panel.

The Sensor and Base shall be UL listed as compatible with the fire alarm control panel (FACP).

The base shall permit direct interchange with the Avenger Systems, AS2002, AS2005 & AS2011 photoelectric smoke sensor, AS2001 ionization type smoke sensor, AS2003 & AS2010 heat sensor, and the AS2008 & AS2012 Multi-Criteria sensor.
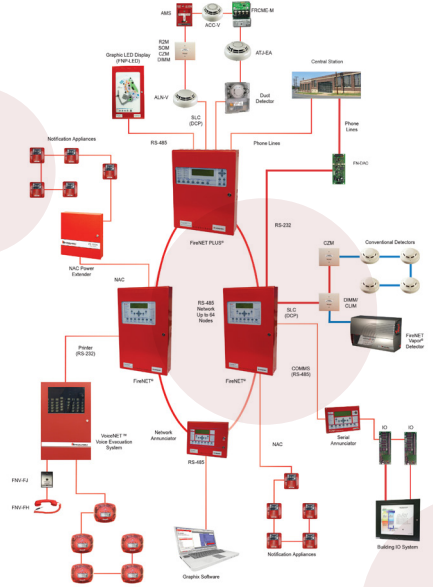
The sensitivity of the sensor shall be capable of being measured by the control panel.

The vandal-resistant, security locking feature shall be used in those areas as indicated on the drawing. The locking feature shall be optional and can be implemented when required.

Bases

The AS7001 and the AS7002 mounting bases are electronics free and are a simple rugged design with screw terminals for wiring connections. A common mounting base allows sensor interchange and maintains loop continuity when sensors are removed. A simple anti-tamper head locking system is provided which is enabled by removing a small plastic tab on the back of the sensor. Once locked, the head can be removed using a small diameter screw driver.

Ordering Codes

Part number	Description
AS2012-00	Multi Criteria Sensor
AS7001-00	4" Mounting Base
AS7002-00	6" Mounting Base
AS7008-00	6" Sounder Base

This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice.

For more information, contact Avenger. Phone: 800.270.3066