



Air Sampling Smoke Detector

ReadySET



Description

The ReadySET air aspirating (sampling) smoke detector is a central detection unit that actively draws air from a protected area through its sampling pipe and monitors the stream for the presence of smoke and other products of combustion. It can accommodate up to 10 sampling holes along a maximum pipe length of 164 ft (50 m).

This versatile device brings all the benefits of aspirated air sampling to life safety applications – without the custom design requirements normally associated with this type of detection. Pre-engineered to meet a wide range prescribed application scenarios, ReadySET is an ideal solution for mission critical settings like assembly areas and laboratories, as well as large spaces like atria, and applications where concealed detection is desired.

Thanks to advanced features that make it virtually impervious to dust and dirt, ReadySET is ideal for use in hostile environments that would disable other kinds of smoke detectors. Forward scattering optical detection adds early warning capability without the risk of nuisance alarms normally associated with high sensitivity smoke detection, while exclusive environmental compensation technology adds a high degree of reliability to an already rock-solid detection solution.

ReadySET is sophisticated enough to handle even the most demanding jobs, yet simple enough to install without the burden of time-consuming engineering work. Predefined application scenarios clearly diagram how to lay out the pipe and where to drill the air intake holes. Field-configurable for a range of settings, it connects to any fire alarm control panel through dry contact relays.

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Standard Features

For the installer...

- Simple installation without the need for a PC
- Simple relay to other fire detection and control equipment
- Quick mounting to the wall by way of just three screws
- Ideal where normal point detection might not be suitable.
- No special tools required to install and configure the detector

For maintenance personnel...

- Easy maintenance thanks to ground-level accessible filter and components (no ladders or sky-lift required)
- This unit can be located outside the area of detection, where hazards or security issues might make accessibility difficult.
- Simple diagnostics thanks to LEDs that remain visible even when the unit door is closed
- Optional serial interface for detailed PC-based diagnostics.
- Environmental Compensation reduces nuisance alarms and service calls

For the building owner...

- Low cost of ownership thanks to simple and quick maintenance procedures
- Esthetically pleasing design
- Expandable/networkable to grow with the fire detection needs
- Reliable technology based on field-proven detection technology
- Adjustable sensitivity is ideal where smoke might occur on regular and planned basis

Application

ReadySET is ideal for small, localized and discrete applications where air aspirating smoke detection is desired. It fits nicely where spot detection and beam detection are problematic. These applications include areas of high airflow or large protected spaces prone to air stratification, hazardous electrically-sensitive locations such as flour mills and coal processing facilities, as well as prisons or heritage buildings where concealed detection is desired.

Because aspirated air sampling actively draws air into the detector instead of relying on convection currents, it tends to provide a quicker reaction to incipient (developing) indicators of combustion. This makes it particularly well-suited to areas where the air is highly filtered for contaminants. But elsewhere it can make them prone to nuisance alarms caused by even the smallest amount of dust or non-fire related smoke.

ReadySET avoids this problem thanks to advanced technology that extends its range of application far beyond that normally associated with aspirated smoke detection:

- **Environmental compensation** – a first among such devices – opens the door to projects that prove impractical for competing detectors. Self-calibration and sliding alarm thresholds liberate ReadySET from areas where air handling is strictly controlled, making them ideal for public commercial areas – as well as dust and contaminant-laden industrial settings. All this while remaining highly sensitive to incipient indicators of fire yet reliable enough to all but eliminate nuisance alarms.
- **Waste Gate Technology** is a powerful ReadySET advantage that dramatically extends the life of its particulate filters. This exclusive aspiration technique diverts most of the particulate matter that would normally load the detector filters, giving ReadySET longer life and more capacity per maintenance cycle than any such detector on the market today.
- **Laser Dust Discrimination** is a sophisticated algorithm that identifies and eliminates spikes in the obscuration reading caused by particulate matter in the airstream. This makes it possible for ReadySET detectors to reach higher levels of sensitivity without sacrificing reliability – a perennial trade-off among competing products.

Example Applications

- Prison cells
- Wind generators
- Ceiling voids
- Critical equipment
- Motor rooms
- Plant rooms
- Equipment cabinets
- Heritage property protection
- Anti-smoking enforcement
- Trains

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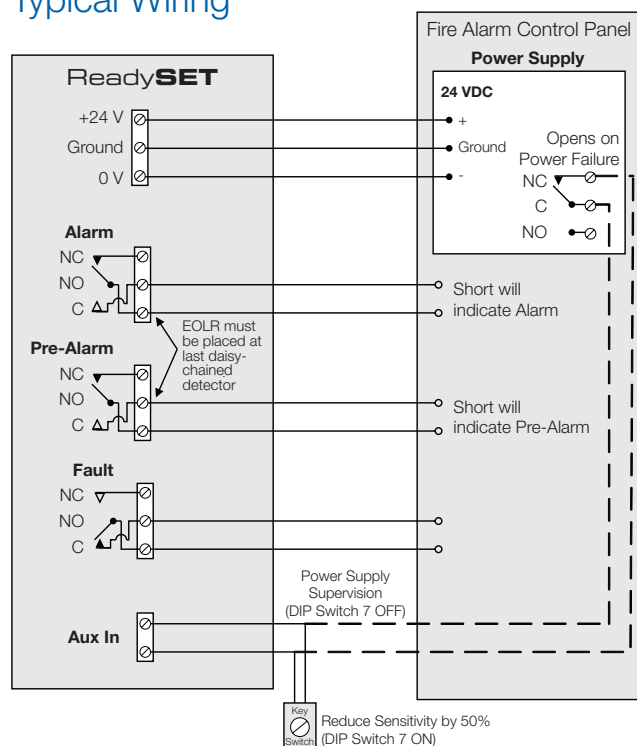
Indicators

ReadySET has seven on-board LED indicators for at-a-glance status reporting...



- ALARM** Illuminates to indicate that the smoke level has passed the detector's alarm threshold, and the normally open Fire relay contacts have closed.
- PRE-ALARM** Illuminates to indicate that the smoke level has passed the detector's Pre-Alarm threshold, and the normally open Pre-Alarm relay contacts have closed.
- FAULT** Illuminates to indicate a fault condition and that the normally closed FAULT relay contacts have opened.
- FLOW** Illuminates to indicate an airflow fault (blocked or broken pipe, fan problem, or environmental factors).
- FILTER** Illuminates to indicate that the detector's air filter needs to be changed.
- HEAD** Illuminates to indicate a problem with the detector laser chamber.
- OK** Illuminates to show normal operation when there are no faults.

Typical Wiring

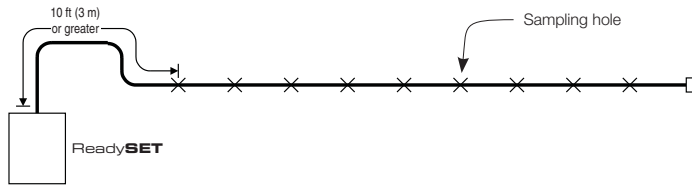


Typical Pre-Engineered Pipe Layout

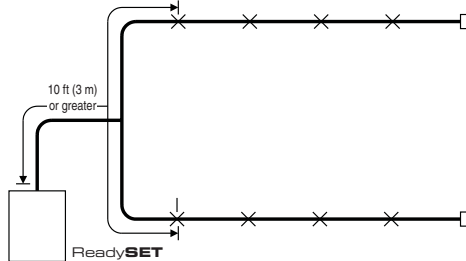
To simplify the installation of the pipe network for the detector, there are pre-engineered pipe designs. The following criteria ensure that the airflow and transport times are within the design of the detector. The design parameters listed below must be adhered to for all pre-engineered pipe designs. Pre-engineered piping networks do not exceed the transport time requirement of 120 seconds. During the system test, transport times are often less than 55 seconds.

- The maximum of three elbows and one pipe branch can be used in any pipe network design.
- When using a pipe branch, it must be located within 20 feet of pipe from the detector.
- All capillary tubes will have a maximum length of 3-feet and use a 9/64 inch sampling hole size.
- The first sampling hole must be 10 ft or more from the detector.
- The use of sampling capillary tubes and sampling holes can be mixed in any combination on the pipe network.
- On branch designs, the same number of sampling holes must be used on each branch.

Single Pipe Sampling Network

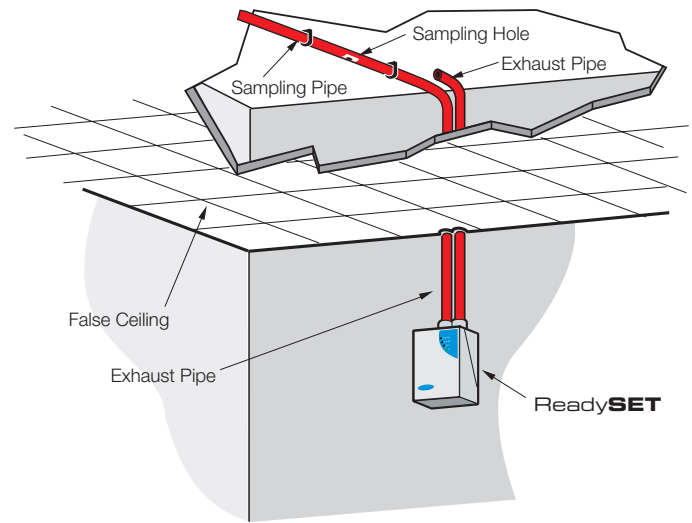


Two-branched Pipe Sampling Network

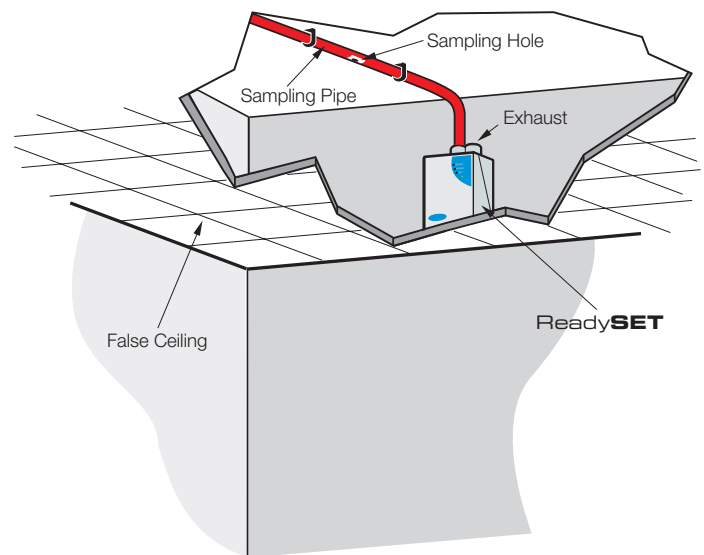


Typical Installation

Installation of Pipework Above Ceiling with Exposed Detector (Piped Exhaust)



Installation with Detector Mounted in Ceiling Void (No Exhaust Piping)



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Detection & alarm since 1872

Specifications

Supply Voltage	22.25V - 26.4V
Current consumption	350 mA
Size	7.5" W x 9.0" H x 4.3" D (190 mm W x 230 mm H x 110 mm D)
Weight	2.65 lbs. (1.2 kg)
Operating temperature range	32 ° to 100 °F (0 ° to 38 °C), UL 268 compliant
Operating humidity range	0 - 90% Non Condensing
Coverage area	2,500 sq. ft. (232 sq. m)
Sensitivity range (Obs/ft)	0.12% to 7.62% obs/ft. (0.4% to 25% obs/m)
Maximum sensitivity resolution	0.12% obs/ft. (0.4% obs/m)
Detection principle	Laser light scattering mass detection
Particle sensitivity range	0.0003 µm to 10 µm
Relay contact rating	1 A @ 24 Vdc resistive load
Sampling pipe inlets	1
Sampling pipe internal diameter	3/4" (20 mm)
Alarm Fault Relays	Alarm, Pre-Alarm, and Fault
Chamber service intervals	Greater than eight years (depending on environment)
Dust separator (filter) replacement intervals	Greater than five years (depending on environment)
Laser lifetime (MTTF)	Greater than 1,000 years
Programming	Internal DIP Switches
Enclosure	NEMA-1

Ordering Information

Catalog Number	Description	Ship Wt., lb (kg)
9-30719-KFB	ReadySET Air sampling smoke detector, 10 sampling holes max.	2.65 lbs. (1.2 kg)
9-30721-KFB	ReadySET Air sampling smoke detector with communication card, 10 sampling holes max.	
33-30755A	ReadySET replacement air filter.	

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