

Description:

The Ampac Duct Sampling Unit is designed to monitor levels of smoke in air ducts operating in air speeds of 0.5 to 20 meters per second.

Duct Smoke Detector Installation Kit consists of;

- Enclosure terminating PCB, cover, divider and seal.
- Sampling and exhaust pipes, red bung, mounting template, screws and test probe.

Specifications

Operating Voltage: 9-33VDC

Nominal Sensitivity: 8%

Differential Pressure: 0.6Pa @ 1m/sec Duct Velocity

Positioning the Duct Smoke Detector

To minimise the impact of air turbulence and stratification on performance a duct smoke detector should be located as far as possible downstream from any obstruction (ie, deflector plates, elbows, dampers, etc). In all situations confirmation of airflow velocity and pressure differential between pipes are within specifications is required.

Operational Considerations

If installing the detector in the return side of the air duct, locate it where it will not be diluted with outside air.

If possible, install duct smoke detectors upstream of air humidifiers and downstream of dehumidifiers.

To minimise false alarms avoid mounting the detector in areas of extremes of temperatures, of high humidity or those containing gases or high amounts of dust.

Installation:

Observe anti-static precautions at all times

1. Locate the mounting template and follow the instructions on the template.
2. Remove cover, determine how the cabling will be bought into the enclosure and remove the appropriate knockout/s.
3. If the sampling pipe is longer than 560mm it must be supported on both sides of the duct. If necessary cut the pipe so it protrudes slightly through a hole cut at right angles to the pipe in the opposite wall of the duct. The pipe must then be closed off with the small red bung provided. The exhaust tube does not need to extend across the duct and is therefore supplied at a fixed length.
4. Insert the 2 pipes into the enclosure by pushing the pipe up against the spring loaded clips and turning it away from the clip whilst ensuring to align the sampling holes to the airflow and locate the tab on the pipe in one of the indents.
5. Remove the template from the duct and mount the enclosure to it using the 2 screws supplied.

6. Terminate the cabling, push down on the tamper switch and test. If the tamper switch is not depressed a fault should be indicated by the FACP. Replace the cover.

Sampling tubes

The duct smoke detector is designed to operate in ducts with a width of between 300mm and 3 metres. An inlet tube of 360mm, suitable for duct widths up to 560mm, is supplied as standard. This tube needs to be attached only to the duct detector housing.

Longer inlet tubes for wider ducts may be ordered separately:

150 to 750mm Order Number 214-0060

750 to 1500mm Order Number 214-0061

1500 to 3000mm Order Number 214-0062

Tubes in duct widths above 560mm should be long enough to reach from one side of the duct to the other and it may be necessary to use a tube that is too long and cut it to slightly more than the duct width. Since the tube needs to be supported on both sides a hole should be cut in the opposite wall of the air duct to allow the tube to protrude slightly and sealed off.

Note: *The tube must be closed with the small red bung provided.*

The exhaust tube does not need to extend across the duct and is therefore supplied at a fixed length

Fault Finding

Before investigating individual units for faults, it is important to check the system wiring is fault free.

Problem	Possible Cause
Fault on control panel	Incorrect wiring
	Detector not fitted
	Duct detector housing cover incorrectly fitted
Constant alarm	Smoke present in duct
	Contaminated detector
Detector does not alarm under test	Sampling tubes fitted incorrectly
	Detector baffle not fitted
	Duct detector housing cover incorrectly seated
	Sampling tube (air in) or detector housing incorrectly sealed

Compatible Fire Alarm Control Panel & Detector

FACP: FireFinder

Detector: Orbis Photo-electric - Item Number 201-0512

Base: Orbis Timesaver LX – Item Number 201-0541

Note: Unit is approved to: AS1603-13

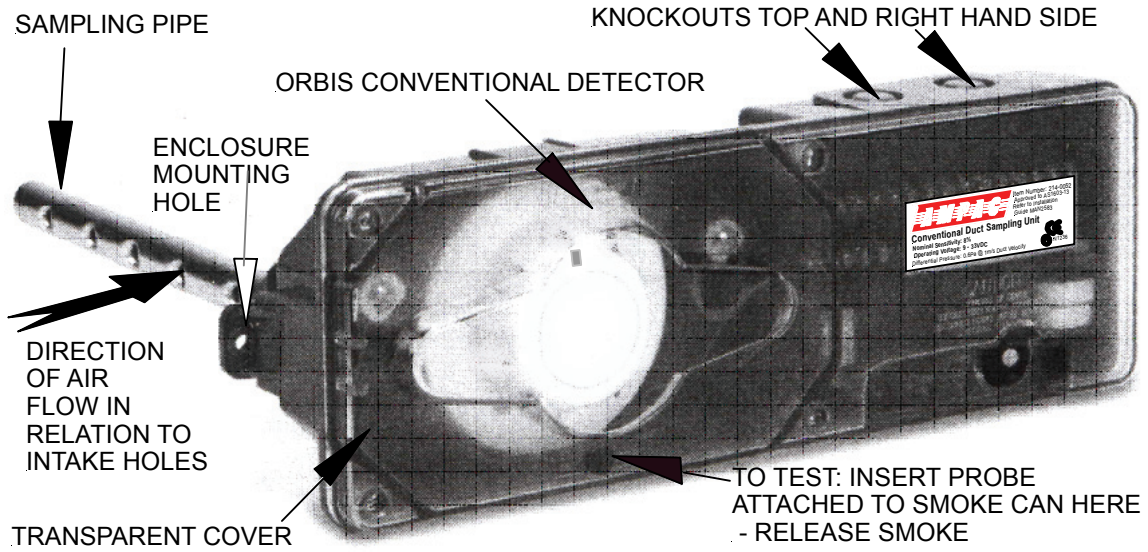


Figure 1: Duct Sampling Unit

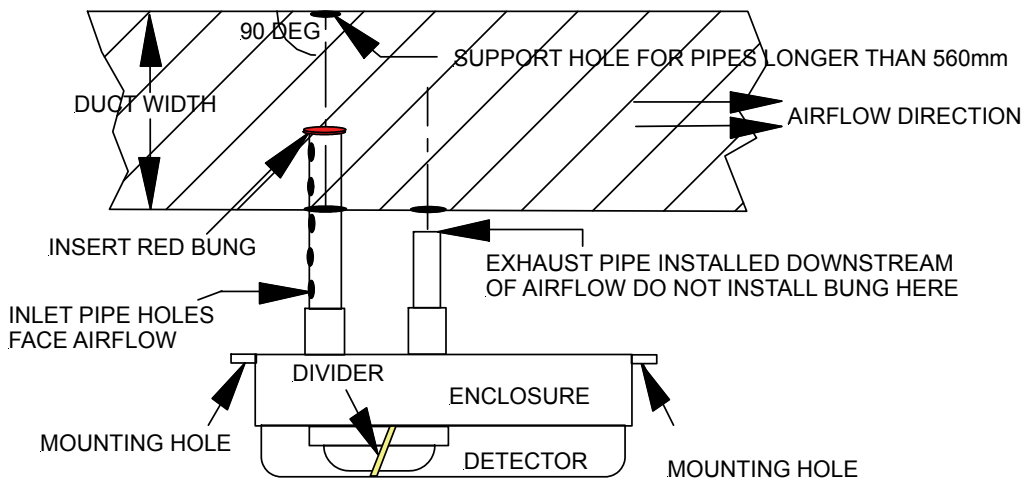


Figure 2: Detector Duct Installation

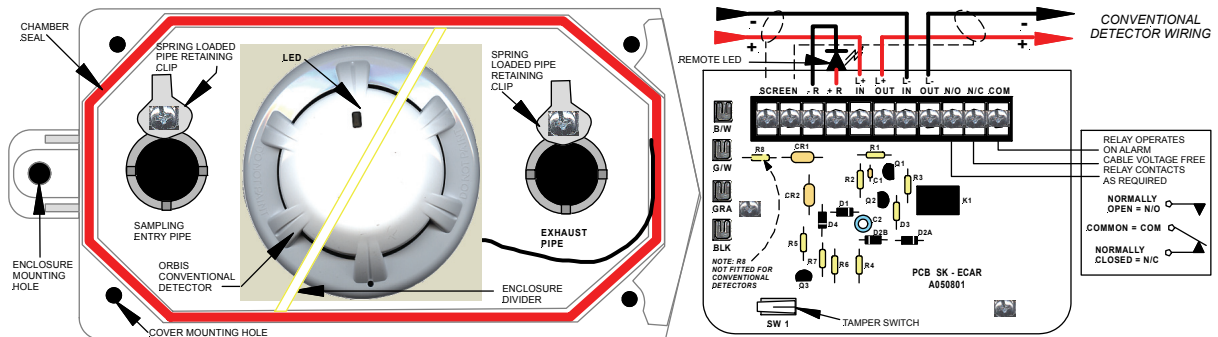


Figure 3: Cutaway View of the Enclosure, Terminal Block & Detector Wiring