

## INTELLIGENT HIGH SENSITIVITY SMOKE SENSOR



### FEATURES:

- Extremely high sensitivity 'laser' based smoke sensor
- Superior early warning performance
- Effective response to both fast flaming and slow smouldering fires
- Compatible with existing Series 200 Plus protocol
- Automatic drift compensation
- Three levels of fault warning for contamination
- Stable communication with high noise immunity
- Nine sensitivity levels (0.07 - 6.56%/m)
- Twin LED indicators providing 360° visibility
- Rotary decade address switches
- Tamper resistant
- Built in test switch



### DESCRIPTION:

The Pinnacle high sensitivity 'laser' based intelligent smoke sensor is a unique offering from System Sensor that provides extremely high sensitivity to fire conditions, by detecting the earliest particles of combustion. This is achieved by combining a patented optical chamber with the latest in laser diode and precision optics technology, which enhances the sensitivity of the device. The chamber is also linked to sophisticated processing circuitry that incorporates smoothing filters to help eliminate transient environmental noise conditions, which can be the cause of unwanted alarms. The result is a very sensitive but stable sensor that can achieve sensitivities of 0.07% to 6.56% per metre obscuration and provides up to 100 times more sensitivity than a standard photoelectric smoke sensor. With its quick response and pinpoint accuracy, this unique sensor is ideally suited to environmental applications where there is substantial cost for downtime or a significant investment in installed equipment has been made (e.g. Electronics Manufacturer Clean Rooms, Telecommunication Rooms, Computer Rooms etc).

Historically, photoelectric smoke sensors have shown a quick response to slow smouldering fires, whilst ionisation smoke sensors have had a better response to fast flaming fires. However, the Pinnacle sensor provides good response to both types of fires by improving its signal-to-noise ratio. The laser diode improves the sensor's signal and increases the ability to detect small particles (usually associated with fast flaming fires), which are not as easily detected by a standard photoelectric smoke sensor. Meanwhile, the sensor's smoothing and filtering algorithms reduce noise and the possibility of false alarms.

The sensor's performance is improved even further by the inclusion of special drift compensation algorithms, which compensate for the build up of contamination in the sensing chamber. There are three stages of drift compensation, 'low level alert', 'high level alert' and 'maintenance urgent'. The 'low and high level alert' signals are used to identify that the Pinnacle sensor has accumulated significant amounts of airborne particles and requires maintenance, whilst the 'maintenance urgent' signal indicates that the sensor has reached the end of its compensation range.

The Pinnacle sensor has two integral LEDs, which provide local visual indication of the sensor's status. These LEDs provide a dual function. In the event of an alarm, they are switched ON continuously and can also be programmed to either blink when polled by the panel or remain off during normal conditions. In addition to its integral LEDs, the Pinnacle sensor can be connected to a Remote LED Indicator (standard feature).

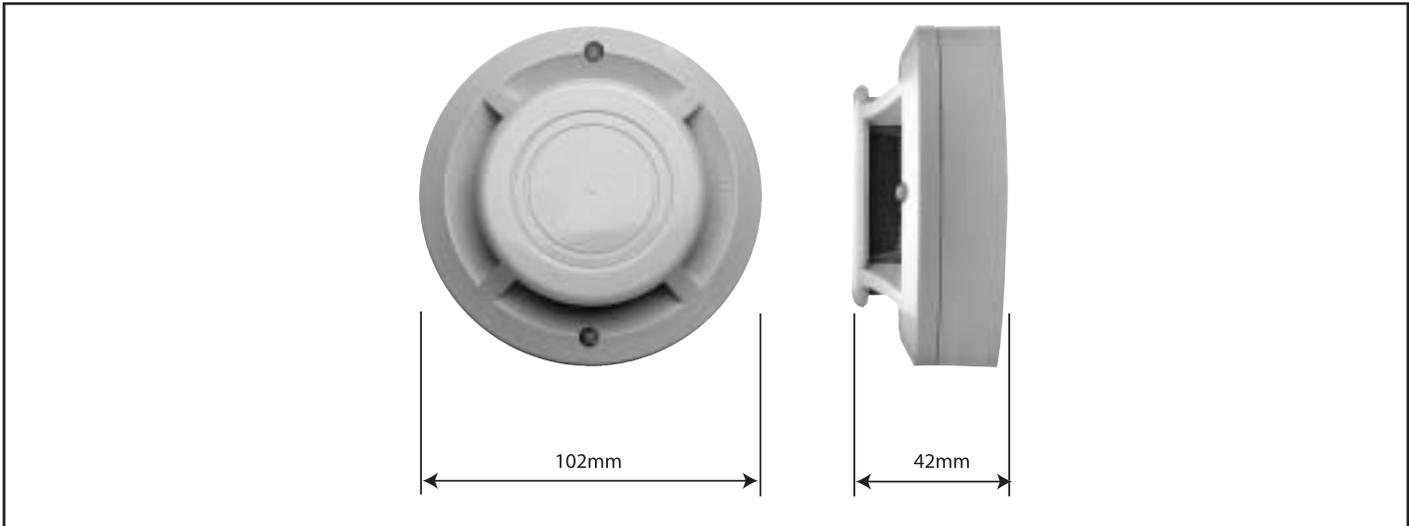
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The individual loop address of each Pinnacle sensor can easily be set and read, using the rotary decade address switches located on the rear of the sensor. The use of the decimal address codes significantly reduces the potential for incorrect address selection.

The Pinnacle sensor is compatible with our existing range of Series 200 *plus* sensor bases. Each base includes a tamper resistant option which, when activated, prevents the removal of the sensor from its base without the use of a tool. Full circuit functionality can be easily confirmed on site by use of the sensor test switch. Operation of this magnetic switch will generate a response to the fire alarm control panel, making the system testing both convenient and simple.

All System Sensor products are covered by our extended 3 year warranty.

## SPECIFICATION

### Electrical

Operating Voltage	15 to 32VDC
Maximum Average Standby Current	230µA at 24VDC (no communications)
Maximum Alarm Current (LED on)	330µA (one flash every 99 Communications)

### Environmental

Operating Temperature Range	-10 to +55°C
Humidity	10% to 93% Relative Humidity (non-condensing)

### Mechanical

Height	42mm
Diameter	102mm
Weight	142g
Max Wire Gauge for Terminals	2.5mm <sup>2</sup>
Colour	Pantone Warm Grey 1C
Material	Bayblend FR110
Product Range	
Compatible Bases	B501, B501DG, B524IEFT-1, B524RTE
Other Devices in Series 200 <i>plus</i> Range	Please refer to other Series 200 <i>plus</i> datasheets