

# Addressable View Laser High Sensitivity Smoke Detector Specification

## Compliance with standards

The View Laser detector shall be third party approved to EN54 part 7, ANSI/UL 268, CAN/ULC –S529, FM3230-3250

## Functionality

The View Laser detector shall use the Laser Diode and patented smoke sensing chamber, designed to amplify signals from smoke and shall, on command from the C.I.E, send data to the panel representing the analogue or digital level of smoke density.

The View Laser detector shall incorporate a micro processor that analyses the signals from the Laser smoke chamber and using algorithms that include a time element to provide an increased immunity to false alarm whilst maintaining the earliest warning of real fire condition.

View Laser smoke detectors shall be intelligent and addressable devices and shall connect with two wires to one of the C.I.E. Signalling Line Circuit loops.

The detector shall operate on a digital protocol loop to give reduced power consumption, upto 159 detectors and 159 modules may be connected to a single loop.

Location of devices on the loop circuit shall with the aid of a Loop Mapping Tool be able to identify it's location and address on the loop, allowing for a schematic layout drawing to be produced and printed for use in the O&M manual.

The Detectors shall be ceiling-mount and shall include a twist-lock base.

## Co-operative Multi-Sensing

The View Laser detector shall be capable of co-operative multi-sensing using AWACS<sup>™</sup> (Advanced Warning Addressable Combustion Sensing) software with improved performance a result.

There shall be no limit to the number of devices that can be grouped together on the same loop.

Implementation of co-operative multi-sensing feature shall decrease response time for an alarm to be detected by combining signals from adjacent detectors then statistically combining to reach a common signal.

The use of co-operation multi-sensing shall allow an alarm condition to be indicated before the signal from any one detector is itself is above the alarm threshold.

The View Laser detector shall use co-operative multi-sensing to reject certain false alarm phenomena, this function shall work on the basis that if a detector sees a relatively sudden and large change in scattered light, it raises the suspicion of a false signal. Such a large 'step' function is not normally given by true smoke, and could be caused by a lint or hair particle, or even by an insect.

The View Laser detector must be capable of rather than immediately accepting this signal as a fire, the Laser detector first checks a physically adjacent Laser detector, and observe this second Laser detector for several seconds (if a third Laser detector is also adjacent, AWACS<sup>™</sup> will observe the third detector). If no significant analogue signal, even a very low signal, is received from the adjacent Laser detector, AWACS<sup>™</sup> will report a fault condition for the first detector.

The View Laser detector shall be capable of, if the situation changes, because of any oscillation in the first Laser detector, or any small reading in the second or third Laser detector, AWACS<sup>™</sup> will still report an alarm.

## Test functions

The View Laser detectors shall provide a means of test whereby they will simulate an alarm condition and report that condition to the C.I.E.

Such a test may be initiated at the Laser detector itself (by activating a magnetic switch) or initiated remotely on command from the control panel.

### **Address setting**

The View Laser detectors shall provide address setting on the Detector head using decimal switches.

Addressable Detectors that use binary address setting methods, such as a dip switch, code cards or soft addressing are not acceptable.

The View Laser detectors shall also feature an internal identifying code that the C.I.E. shall use to identify the type of Detector.

### **Visual indication**

The View Laser detectors shall provide dual LED's. Both LED's shall flash red under normal conditions, indicating that the Detector is operational and in regular communication with the C.I.E. Both LED's may be placed into steady red illumination by the C.I.E, indicating that an alarm condition has been detected.

If required, the flashing mode operation of the Detector LED's shall be controlled through the system field program.

An output connection shall also be provided in the base to connect an external remote alarm LED.

### **Sensitivity settings**

The View Laser detector sensitivity shall be set through the C.I.E, and shall be adjustable in the field through the field programming of the system.

Sensitivity may be automatically adjusted by the panel on a time-of-day basis; this will force the detector to a minimum sensitivity setting for the time period, then return to normal sensitivity operation.

The View Laser detector will be capable of 9 sensitivity settings for both Pre-alarm and Alarm, sensitivity settings from 0.02 %/ft upto 2 %/ft obscuration shall be achievable.

These sensitivity levels shall not contravene EN54 part 7.

### **Drift compensation**

The View Laser detector shall automatically compensate for dust accumulation and other slow environmental changes that may affect their performance. The use of this function shall not contravene EN54 part 7.

### **Additional requirements**

Optional relay base and isolator base variants shall be available.

Up to 159, intelligent Detectors may connect to one SLC loop.

The C.I.E software, not the detector, shall make the alarm decision.

The sensitivity of each detector shall be set in the C.I.E.

The system operator shall be able to view the current analogue or digital value of each detector at the C.I.E.