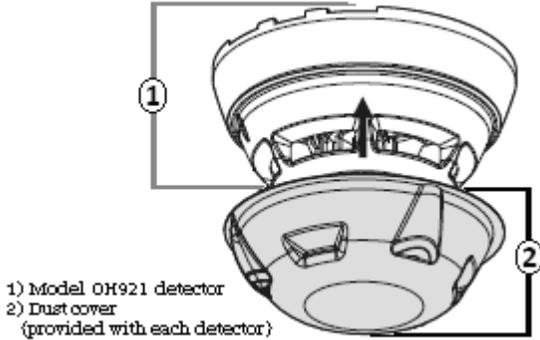## Product Overview — (continued)

Each detector consists of a dust-resistant photoelectric chamber; a solid state, non-mechanical thermal sensor, and microprocessor-based electronics with a low-profile plastic housing.   Every Model OH921 fire detector is shipped with a protective dust cover:

1) Model OH921 detector
2) Dust cover
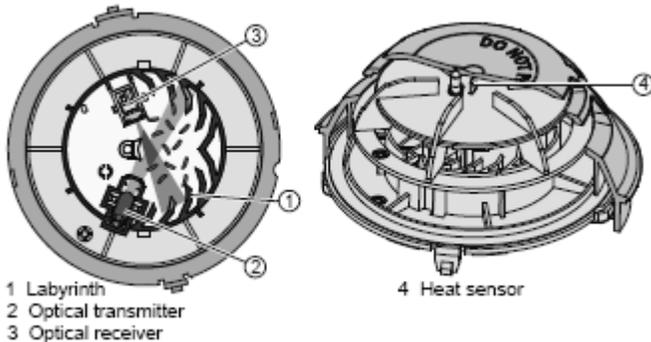(provided with each detector)

Operation

Model OH921 utilizes an infrared light emitting diode (IRLED), and infrared light-sensing photodiode. Under normal conditions, light transmitted by the LED is directed away from the photodiode and scattered through the smoke chamber in a controlled pattern.

The smoke chamber is designed to manage light dissipation and extraneous reflections from dust particles or other non-smoke, airborne contaminants in such a way as to maintain stable, consistent detector operation. When smoke enters the detector chamber, light emitted from the IRLED is scattered by the smoke particles, and is received by the photodiode.

Model OH921 also utilizes a modern, accurate and shock-resistant thermistor to sense temperature changes.

The signal processing with detection algorithms allows the detector to first gather smoke and thermal data, and then analyze this information in the detector's 'neural network.' By comparing data received with the common characteristics of fires or fire signatures, Model OH921 can compare these signals to those of deceptive phenomena that cause other detectors to false alarm.

1 Labyrinth
2 Optical transmitter
3 Optical receiver
4 Heat sensor

Each Model OH921 detector provides three (3) pre-programmed parameter sets that can be selected by the FACP.

Profile Overview

Model OH921 provides two (2) different alarm sources that can be selected individually (ON or OFF) by the control panel.

Alarm Source 1 (Neural Network) – Combines smoke – heat with the following selectable profiles:
• Sensitive
• Standard
• Robust

Sensitive: This parameter set is practically suitable for areas where few misleading sources of false alarm are present, and is appropriate where priority is given to detecting open fires as soon as possible (e.g. – typically a clean application with controlled environmental conditions.)

Robust: This parameter set offers improved resistance to false alarms in areas where misleading sources, such as cigarette smoke or exhaust fumes, may cause a nuisance alarm.

Standard: This parameter set is practically apt for normal office, hotel lobby type applications and is the default setting.

Alarm source 2 (Thermistor) – Heat only, provides the following:
• Static / fixed at 135°F (57°C), default setting
• Rate-of-Rise Detection: 15°F / min. (8.3°C / min)

If the detector is not programmed, Model FDOT421 will default to a 'standard' profile setting, which allows operation for a normal office-type environment.

Model OH921 contains a tri-color LED indicator, capable of flashing any one (1) of three (3) distinct colors: Green, Yellow, or Red. During each flash interval, the microprocessor-based detector monitors the following:
• Smoke in its sensing chamber
  • Smoke sensitivity is within the range indicated on the nameplate label
• Internal sensors and electronics

Based on the results of the monitoring, the LED indicator flashes the following:

Flash Color	Condition	Flash Interval (in seconds)
Green*:	Normal supervisory operation. Smoke sensitivity is within rated limits.	10
Yellow:	Detector is in trouble and needs replacement.	4
Red:	Alarm condition.	1
No Flash:	Detector is not powered.	— —

* LED can be turned OFF.
  Please follow the corresponding description of the panel used.