FSC-851 IntelliQuad

Advanced Multi-Criteria Detector with four unique sensing elements

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

General

This latest addition to Notifier's Advance Detection line combines four complementary technologies into one device to convey accurate fire sensing information for locations where absolute certainty is required.

It is designed for use with Notifier's ONYX series fire alarm control panels.

Features

- Notifier Flashscan protocol to support up to 159 detectors
- Unique ability to detect all four major elements of a fire
- Highest nuisance alarm immunity
- Advanced algorithms interpret and respond to the multiple inputs
- Six levels of sensitivity
- CO sensing for fastest response to slow developing, smoldering fires
- Fully integrated infrared sensing to support the fire alarm decision
- Automatic drift compensation of smoke sensor and CO cell
- Superior EMI protection
- Twin LED indicators providing 360° visibility
- LEDs can be panel controlled to blink, latch on, latch off
- Built in test switch

Technology

This plug-in fire detector combines four separate sensing elements in one unit:

1. Electrochemical cell technology monitors carbon monoxide (CO) produced by smoldering fires
2. Infrared (IR) sensing measures ambient light levels and flame signatures,
3. Photo-electric smoke detection, and



4. Thermal detection for temperature monitoring.

The integration of continual monitoring for all four major elements of a fire has enabled Notifier to create a detector that responds more quickly to an actual fire with the highest immunity to nuisances. This advanced multi-criteria detector operates at a high immunity level, changing to become very sensitive to identify those that should be ignored, reducing false alarms.

Its on-board intelligence runs advanced algorithms that dynamically adjust detection parameters to respond to the inputs from the sensors, enabling instant response as ambient conditions change.

The program changes sensor thresholds, sensor gain, time, delays, combinations, sampling rates, and averaging rates. If any sensor fails, the detector automatically adjusts the sensitivity of the remaining sensors and recognizes a fault condition.

The CO cell has an expected lifetime of approximately six years and is not a field replaceable component. An internal timer signals the control panel to indicate the approach of the CO cell's end of life. Upon expiration, you should contact the system supplier to arrange for replacement of the unit. The algorithms automatically adjust to properly weight the inputs from the photo-electric, heat, and IR sensors.

NOTE: The CO cell is specifically deployed as a component of smoke detection in this device. This device is not listed for applications in which standalone CO detection is required for life safety.

The IR light sensor recognizes specific situations such as welding and makes adjustments rapidly to further reduce the potential for nuisance alarms. The thermal detection function uses thermistor technology with a software-corrected linear temperature response to offer exceptional nuisance alarm immunity and excellent fire detection.

Specifications

GENERAL SPECIFICATIONS

Color: Ivory
Operating Humidity Range: 10 to 93% relative humidity (non-condensing)
Application Temperature Range: 0°C to 38°C

ELECTRICAL SPECIFICATIONS

Operating Voltage Range: 15 to 32VDC
Maximum Standby Current: 200µA at 24VDC (no communications)
Maximum Alarm Current (LED on): 7mA at 24VDC

SENSITIVITY SETTINGS & SUGGESTED APPLICATION

Level 1: 3.28%/m of smoke or greater than 45 ppm of CO. No delays from processed photo output. Ultra clean environments - Laboratories.
Level 2: 6.56%/m of smoke. No delays from processed photo output. Clean environments - Offices.
Level 3: Default 9.84%/m of smoke. No delays from processed photo output. Moderately clean environments - Hotel/Dorm rooms.
Level 4: 9.84%/m of smoke. Maximum of 10 minutes delay from processed photo output. Moderate environments - Hotel near shower, boiler rooms.
Level 5: 13.12%/m of smoke. Maximum of 10 minutes delay from processed photo output. Harsh environments - Equipment rooms, kitchens, paint shops.
Level 6: Heat only alarm. If the heat level on either thermistor exceeds 60°C or rate of rise limits. Harsh environments.

NOTE: The delay counter starts when the smoke level exceeds approximately 2.46%/meter.

The panel threshold should be chosen according to the specific environment:



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