

Description

The Harding Series 21 analog addressable multisensor detector (DET2105) operates seamlessly with Harding network fire controls. The DET2105 is managed and controlled by the Harding analog loop module (ALM3-IP).

The DET2105 is distinguished from the other Series 21 devices by dual LED's on the external cover. The DET2105 has two clear LED's that light steady when in an alarm condition and flash briefly when polled by the ALM3-IP.

Operation

The DET2105 multisensor detector contains a photoelectric smoke detector and thermistor temperature sensor whose outputs are combined give the final analog value to the ALM3-IP.

The DET2105 multisensor construction is similar to the photoelectric detector (DET2104) but uses a different lid and optical moldings to accommodate the thermistor temperature sensor.

The signals from the photoelectric smoke sensing element and the temperature sensor are independent, and represent the smoke level and the air temperature in the vicinity of the detector. The detectors microcontroller processes the two signals. The temperature signal processing extracts only rate of rise information for combination with the optical signal. The DET2105 is not a fixed temperature heat detector.

The processing algorithms in the DET2105 multisensor incorporate drift compensation. Unlike other Series 21 devices whose alarm thresholds are adjusted by the ALM3-IP, the DET2105 sensing window remains at factory set thresholds throughout its lifetime. When the sensing window can no longer be compensated, the DET2105 will put a 'dirty detector' signal on the Harding fire control network to alert maintenance personnel to replace or clean the affected detector before a false alarm condition can be generated.

Due to the combination of signals from the smoke sensing chamber and thermistor, the sensitivity of the DET2105 is considered the optimum for most general applications since it offers good response to both smoldering and flaming fires.



Features

- Sleek, non-fading white polycarbonate enclosure
- Zero insertion force base
- Multisensor reduces need for use of ionization detectors
- Maintains own drift-compensation values on smoke sensor portion to keep sensing window open and nuisance alarms eliminated
- Alarm flag sends signal to system even when device is not being interrogated
- True multi-criterion detector evaluates combined signals from ROR heat sensing element and smoke sensing element
- Dual LED's for 360 degree visibility
- Wide variety of addressable input/output devices
- Relay and synchronized temporal sounder bases
- Line isolators and isolator bases also available
- RoHS Compliant

Listing

UL File: S36048

Engineer Specification

The contractor shall furnish and install, where indicated on the plans, addressable multisensor smoke detectors with one of the several addressable mounting base options available. The detector base will contain the patented XPERT programming card which will permit the free interchange of sensor heads without requiring additional programming of the detector head or attached base. The intelligent detector shall be capable of drift compensation adjustments, and contain dual integral LED's which will flash intermittently when polled and shall latch when the unit goes into Alarm. The multisensor detector head shall combine the signal from the heat sensing thermistor in a rate-of-rise fashion with the analog value readings from the photoelectric smoke sensing chamber for optimum protection from smoldering and flaming fires. The combination of the detector head and twist lock mounting base shall be UL listed and UL listed as compatible with Harding network fire controls. The detector base shall be installed without regard to wire polarity. The multisensor detector shall be the Harding part number DET2105.

Technical Data

Operating Voltage: 17-28VDC

Standby Current: 470uA avg. / 750uA peak

Alarm LED Current: 3.47mA

Remote Alarm Output: 4mA max

Temperature range: 32°F to 140°F(0°C to 60°C)

Relative Humidity (non-condensing):0%-95%

Clean-air Analog Value: 25 +4/-0

Alarm Level Analog Value: 55

Wire Supply: Two-wire supply, polarity insensitive

Recommended Spacing:

Meets the 30 ft. (9.1m) spacing guidelines in NFPA 72 Chapter 2, however, this spacing is based on ideal conditions and should be used as a layout guide only

Ordering Information

| Part Number | Data Sheet | Description |
|-------------|------------|-----------------------------------|
| DET2105 | | S21 Multisensor Detector |
| BAS2004 | DS-2310 | S20 6" E-Z Fit Base |
| 45681-210UL | DS-2310 | 4" Low Profile Base w/Expert Card |
| 38531-771 | | Additional XPERT programming card |
| 45682-127 | | 126 Pre-Programmed XPERT cards |

Related Data Sheets

Series 22 Detectors: PHOTO (DET2204), DS-DET2204; HEAT (DET2201),DS-DET2201; MULTI (DET2205), DS-DET2205;

Series 21 Detectors: PHOTO (DET2104), DS2104; HEAT (DET2101), DS2101;

Series 21 I/O Devices: Switch Monitors (IOM2101,IOM2104, IOM2105, IOM2108, IOM2109), DS-IOM2810; Input/Output (IOM 2102, IOM2106, IOM2110), DS-IOM2812; Sounder Control (IOM2107), DS-IOM2814, Dual Priority Switch Monitor (IOM2103), DS-IOM2816; Relay Output Module (IOM2111), DS-IOM2818; Addressable Base Options: All Bases, DS-DET2310;

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