

Description

The Harding Series 21 analog addressable heat detector (DET2101) operates seamlessly with Harding network fire controls. The DET2101 is managed and controlled by the Harding addressable loop module (ALM3-IP).

DET2101 heat detectors have a common profile with the photoelectric and ionization smoke detectors but have a low air flow resistance case made of self-extinguishing white polycarbonate. The DET2101 has a red colored LED that lights steady when in an alarm condition and flashes briefly when polled by the ALM3-IP.

Operation

The DET2101 heat detector uses a single thermistor to sense the air temperature at the detector position. The thermistor is connected in a resistor network, which produces a voltage output dependent on temperature.

The design of the resistor network, together with the processing algorithm in the microcontroller, gives an approximate linear temperature characteristic. When a device is energized, the onboard ASIC regulates the flow of power and controls the data processing. The thermistor provides an output over normal operating ranges that is proportional to the external air temperature. This voltage output is processed in the A/D converter and stored by the communication ASIC. The data is transmitted to the ALM3-IP when the DET2101 is interrogated.

The DET2101 thermal heat detector is unique in the industry as it is fully field programmable in 1 degree increments through the Harding network fire control. This allows field modifications to installed field devices that may be installed in normally hot conditions such as attic areas, rooftop dwellings and boiler rooms.

The change in the DET2101 detector fixed temperature settings is implemented at the Harding control system and not at the field device. Multiple detector settings can be changed with ease. Only personnel authorized to program the Harding control system can access the DET2101 programming menu and implement the desired changes on any DET2101 device. No special programming tools or laptop computer are necessary.



Features

- Sleek, non-fading white polycarbonate enclosure
- Zero insertion force base
- Drift compensation to keep sensing window open and nuisance alarms eliminated
- Fixed temp Alarm threshold adjustable in 1° C increments
- Patented programming card eliminates addressing errors during system installation and maintenance
- Alarm flag sends signal to system even when device is not being interrogated
- 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: S36049

Engineer Specification

The contractor shall furnish and install, where indicated on the plans, addressable heat detectors with one of the several addressable mounting base options available. The detector base will contain the patented 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 generating an alarm flag and report its address when the pre-set UL thresholds are exceeded. The detector shall flash its LED intermittently when polled and shall latch when the unit goes into Alarm. The detector shall be capable of changing its fixed alarm threshold in one degree increments at any time by menu selections on the fire control. 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 heat detector shall be the Harding part number DET2101

Technical Data

Operating Voltage: 17-28VDC

Standby Current: 250uA avg. / 500uA peak

Alarm LED Current: 2.25mA

Remote Alarm Output: 4mA max

Temperature range: -4°F to 158°F(-20°C to 70°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
DET2101		S21 Heat Detector
BAS2004	DS-2310	S20 6" E-Z Fit Base
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), DS-2104; MULTI (DET2105), DS-2105;

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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9564 Yellowhead Trail NW Tel 780.462.7100
Edmonton, AB T5G 0W4 Fax 780.450.8396
sales@harding-tech.com www.harding-tech.com



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