Description

The Harding Series 22 intelligent addressable heat detector (DET2201) operates seamlessly with Harding network fire controls. The DET2201 is managed and controlled by the analog loop module (ALM3-IP).

DET2201 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 DET2201 has two red colored LED's that light steady when in an alarm condition and flash briefly when polled by the ALM3-IP. The dual LED's provide for 360 degree visibility.

Operation

The DET2201 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. This signal is further processed, depending on the response mode selected, and converted to an analog output for transmission to the ALM3-IP.

Upon crossing the alarm threshold, the detector will make the determination that an alarm condition exists and send a signal to the ALM3-IP that interrupts the normal polling process to signal the alarm condition. The ALM3-IP puts the changed state on the IP network and all outputs associated with the specific detector are activated.

Like all Series 22 devices, the DET2201 has five pre-programmed user settings that may be accessed and changed from the Harding network fire control. Further, the pre-programmed settings are utilized in establishing the automatic temperature response values in place with Day/Night sensitivity programming.

With DET2201 heat detectors, the five user modes correspond to different combinations of fixed temperature settings with or without rate-of- rise (ROR) features.

Settings are classified as static (S) if it incorporates fixed temperature settings only. With this setting, the detector will not respond below its minimum static response temperature even when exposed to high rates of rise of air temperature. This type of setting is therefore suitable for areas such as kitchens or boiler rooms where large, rapid temperature changes are considered normal.

Features

- Series 22 detectors distribute intelligence across the installed system
- Sleek, non-fading white polycarbonate enclosure
- Zero insertion force base
- 5 user selectable modes combine static response with rate-of-rise features
- Powerful transient rejection algorithms
- Conventional device mode
- 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
- RoHS Compliant

Listing

UL File: S36049

Engineer Specification

The contractor shall furnish and install, where indicated on the plans, intelligent 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 heat detector shall be self-reporting and contain dual integral LED's which will flash intermittently when polled and shall latch when the unit goes into Alarm. The detector head shall have 5 programmable settings that can be accessed automatically or by manual setting from the fire control which will allow the detector several response modes of the individual heat detector to be modified as required. 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 DET2201.

Technical Data

Operating Voltage: 17-28VDC
Standby Current: 350uA avg. / 750uA peak
Alarm LED Current: 3.35mA
Remote Alarm Output: 5mA max
Temperature range: -4ºF to x (-20ºC-x)
Relative Humidity (non-condensing):0%-95%
Clean-air Analog Value: 23 +4/-0
Alarm Level Analog Value: 55
Wire Supply: Two-wire supply, polarity insensitive
x – see response settings

Five Pre-Programmed Response Settings

Mode		
Mode 1	(135ºF) 25/50C	(ROR)
Mode 2	(150ºF) 25/50C	(ROR)
Mode 3	(150ºF) 25/50C	(Static)
Mode 4	(200ºF) 55/80C	(ROR)
Mode 5	(200ºF) 55/80C	(Static)

Ordering Information

Part Number	Description
DET2201	S22 Heat Detector

Related Modules

Part Number	Data Sheet	Description
BAS2004	DS-DET2310	S20 6" E-Z Fit Base (CSFM/MEA model 45681-250)
BAS2001	DS-DET2310	4" Low Profile Base w/Expert Card
BAS2005	DS-DET2300	Line Isolating Base Series 21/22 Detectors
38531-771		Additional XPERT programming card
45682-127		126 Pre-Programmed XPERT cards

Related Data Sheets

Series 22 Detectors: PHOTO (DET2204), DS-DET2204; **ION (DET2202)**, DS-DET2202; **HEAT (DET2201)**,DS-DET2201; **MULTI (DET2205),** DS-DET2205;

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;

Represented by: