

IP Fire Series™ Discovery Thermal Detector

- **DISC-T**

Description

The AsBuilt intelligent analog addressable thermal detector (DISC-T) operates seamlessly with the AsBuilt IP Fire Series™ network fire control. The DISC-T communicates to and is managed and controlled by the IPF Series™ analog loop module (ALM).

DISC-T 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 DISC-T has two red colored LED's that light steady when in an alarm condition and flash briefly when polled by the ALM. The dual LED's provide for 360 degree visibility.

Operation

The DISC-T 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 dependant 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 ALM.

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

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

With DISC-T 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

- **Discovery 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 XPert 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**
- **Green/RoHS Compliant**

Listings

UL File: S5022
CSFM: 7270-1394:119
MEA: 294-95-E-4

Product	Data Sheet Number	Rev/Revision Date	
IPF Series™ Detectors DISC-T	2108	1.4/ 10/1/2009	

Engineer Specification

The contractor shall furnish and install, where indicated on the plans, intelligent thermal heat 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 thermal 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 the AsBuilt IP Fire Series network fire controls. The detector base shall be installed without regard to wire polarity. The thermal heat detector shall be the AsBuilt model DISC-T.

Technical Data

Operating Voltage: 17-28VDC
Standby Current: 500uA avg. / 750uA peak
Alarm LED Current: 3.4mA
Remote Alarm Output: 5mA max
Temperature range: -4°F to x (-20°C-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 1 (135°F) 25/50C (ROR)
- Mode 2 (150°F) 25/50C (ROR)
- Mode 3 (150°F) 25/50C (Static)
- Mode 4 (200°F) 55/80C (ROR)
- Mode 5 (200°F) 55/80C (Static)

Ordering Information

Part Number	Data Sheet	Description
DISC-T	2108	Intelligent Analog Addressable Thermal Detector (model 58000-450)
DXP-6	2310	6" Low Profile Base w/Expert Card (model 45681-250)
DXP-4	2310	4" Low Profile Base w/Expert Card (model 45681-210)
DXP-RLY	2310	6" Low Profile 4-wire Relay Base (model MB-RLYT-AA)
DXP-SND/T	2310	6" Low Profile 4-wire Sounder Base (model MB-SDRT-AA)
DXP65	2310	Sync Module for Temporal Sounder Bases (model MB-SDRT-SM/G/R)
DXI	2300	Line Isolator (55000-750)
DXP-LIB	2300	Isolating Base for DXI only (45681-211)
DXP-IB	2300	Line Isolating Base for Use with XP/DISC Detectors (45681-321)
DXP-XPC		Additional XPERT programming card
DXP-XPC#A		Order "A" for Addresses 1-42, "B" for 43-84, "C" for 85-126, # for Loop #
DXP-126		126 Pre-Programmed XPERT cards
DXP-REM		Remote LED (24V)

Related Data Sheets

Discovery Detectors: DISC-P, 2106; DISC-I, 2107; DISC-M, 2109
XP Detectors: XP-P, 2101; XP-I, 2102; XP-T, 2103; XP-M, 2104
Addressable Devices: DXP-PIM/MPIM, DXP-PID/MPID, 2810; DXP-IOM, 2812; DXP-SDR, 2814, DXP-2PID, 2816; DXP-OCR, 2818
Addressable Base Options: All Bases, 2310

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