Model 8812 Intelligent Thermal Detector

- Microprocessor based design
- Fixed and rate of rise operation
- Innovative technology provides high speed, fault tolerant system/detector communications
- Multi-Color detector status LED
- Optional fully programmable relay base and audible base
- Two-Wire operation
- Compatible with model 8820 Field Programmer/Tester
- UL Listed, FM & NYMEA pending

Description

The Faraday **8812** intelligent thermal detector provides an advanced method of detection, address programming and supervision, combined with sophisticated control panel communication. The 8812 detector uses a state-of-the-art thermistor providing 135°F fixed temperature and 15° per minute rate-of-rise alarm points. The user also has the option of disabling the rate-of-rise feature leaving just a fixed temperature sensor.

The 8812 intelligent thermal detector is compatible with Faraday's 8820 field programmer/tester. The 8820 is a compact, portable, menu-driven accessory which makes programming and testing detectors faster, easier and more reliable than other methods. The 8820 eliminates the need for cumbersome, unreliable mechanical programming methods and reduces installation and service costs by electronically programming addresses and functionally testing the 8812's performance before the detector is installed.

The 8812 is a plug-in, two-wire thermal detector, compatible with Faraday family of MPC-Plus control panels. Each 8812 has microcomputer chip technology and highly stable solid state electronic circuitry. The 8812 utilizes a modern, accurate, shock-resistant thermistor to sense temperature changes. This electronic sensing method virtually eliminates thermal lag associated with mechanical temperature sensing devices and provides almost instantaneous temperature information to the control panel. The 8812, in its default mode, is a 135°F fixed temperature detector. It can be programmed from the control panel as a fixed temperature and 15° per minute, rate-of-rise, at the users option.

The 8812 detector's microprocessor uses an integral EEPROM to store the detector's address. Communications within the detector itself and between the 8812 and the control panel, or with the 8820 field programmer/tester, are supervised and safeguarded against
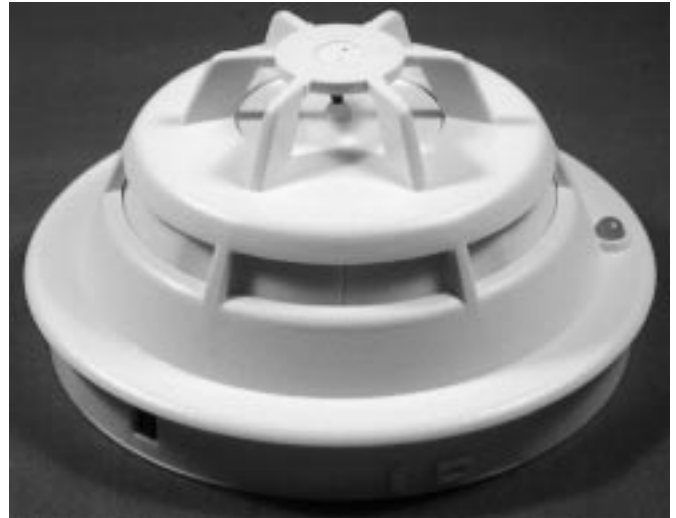
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disruption by reliable, microprocessor based error checking routines. Additionally, the microprocessor supervises all EEPROM memory locations and provides a high degree of EEPROM failure fault tolerance.

The 8812 is listed as a self-testing device. The 8812's visible light emitting diode (LED) flashes green every 4 seconds to indicate it is communicating with the control panel and that it has passed its internal self-test. Should the detector sense a fault or failure within its systems, the LED will flash amber and the detector will transmit that information to the control panel. A quick visual inspection is sufficient to indicate the condition of the detector at any time. If more detailed information is required, a printed report can be provided from the MPC-Plus panel indicating the status and settings assigned to each individual detector.

When the 8812 moves to the alarm mode, it will flash amber and transmit that information to the control panel. When the MPC-Plus confirms the detectors condition, the panel will instruct the 8812 to flash red and to continue flashing until the system is reset at the control panel. At that same time, any user defined system alarm functions programmed into the system are activated. Each 8812 detector can operate one remote alarm indicator, one auxiliary relay, or one audible base; but only one accessory per detector.

An 8820 Programmer/Tester is used to program and verify the detector's address. The user selects the Program Mode to enter the desired address. The 8820 Programmer/Tester then automatically sets and verifies the address as well as tests the detector. The 8820 has rechargeable batteries, so a detector's address can be

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programmed by the user from the most convenient location. The user can also separately test the detector for functionality. When the user selects the Test Mode, a series of tests are automatically conducted and the user is informed whether the detector has passed or failed.

The 8812 detector is compatible on the same MPC-Plus initiating circuit with other Faraday addressable ionization, photoelectric, or thermal detectors, addressable manual stations, addressable interfaces, or addressable conventional zone modules.

Each 8812 thermal detector is capable of operating one remote alarm indicator or auxiliary relay or audible base.

The 8812 detectors use a surface mounting base, Model 8853, which mounts on a 4-inch octagonal, square or single gang electrical box. Relay base Model 8816 mounts to a 4-inch square deep or 4-inch octagonal electrical box. Audible base Model 8815 also mounts to a 4-inch square deep electrical box.

The 8853, and the 8816 and 8815 use screw-clamp terminals for all electrical connections and self-wiping contacts for reliability. The bases also contain a provision for an optional concealed locking mechanism to prevent unauthorized removal of the detector head, Model 8846.

Engineer and Architect Specifications

The addressable thermal detector shall incorporate a custom microprocessor based integrated circuit which shall provide communication with its compatible control panel. All of the detector's communication circuits shall be contained within the detector head. No communication electronics or address identification mechanisms shall be contained within the detector's base.

The detector shall be a Faraday 8812 thermal detector which shall be compatible with the Faraday MPC-Plus family of control panels. The thermal detector shall consist of 135°F rated sensor with rate-of-rise compatibility.

The detector's address shall be programmed with the use of a portable programming accessory. The programming accessory shall be a Faraday 8820 Programmer/Tester. The portable programmer shall be menu driven. Once the desired address is entered the programmer shall set and verify the address. The programming accessory shall also be capable of testing the detector's functionality. The detector's address shall be set by electronic means only. No mechanical means such as programming pins, dipswitches or rotary dials shall be required to set the detector's address. The detector shall be capable of bidirectional communication with the control panel.

The detectors shall be compatible on the same MPC-Plus initiating circuit with other Faraday addressable detectors, addressable manual stations, and addressable conventional zone modules.

The detector shall be capable of operating one remote alarm indicator or auxiliary relay or audible base. The relay or remote alarm indicator is normally activated by the associated detector, however, the MPC system shall be capable of being programmed to operate the relay or remote alarm indicator independently of the associated detector. All detectors and/or relays connected to the initiating circuit can be in alarm or activated simultaneously.

The addressable thermal detectors shall insert into the standard Model 8853 base or the 8816 relay base or the 8815 audible base. The base assembly in which the detector is installed shall be of the twist-lock design with screw-clamp terminals. The base shall use self-wiping contacts and shall accept other compatible plug-in detectors. A locking mechanism shall be installed in those areas where tamper resistant installation is required.

Specifications

Current Requirements:
   Normal 750 μa
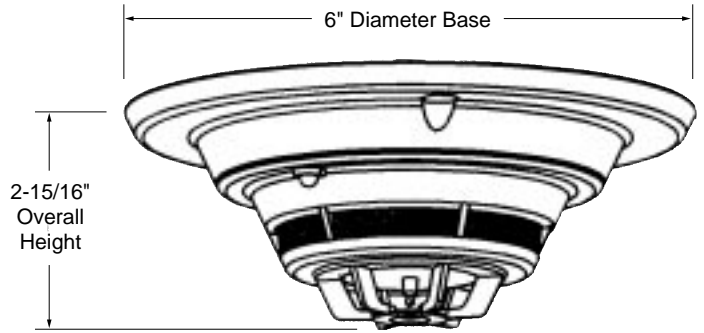   Alarm 750 μa
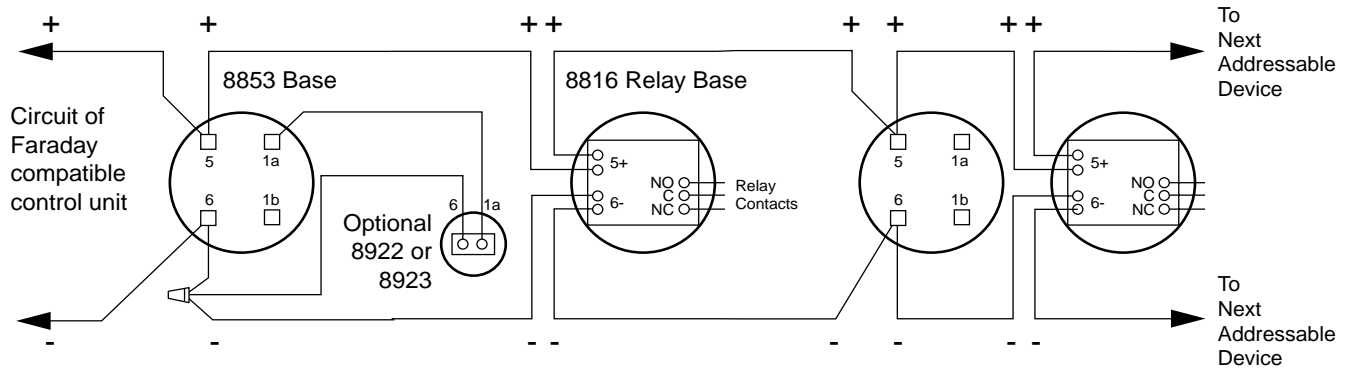**Operative Temperatures:**
   +32°F (0°C) to 100°F (38°C)
Humidity:
   0-93% Relative Humidity
   Non-condensating

Dimensions

6" Diameter Base

2-15/16" Overall Height

Typical Wiring

Circuit of Faraday compatible control unit

8853 Base

Optional 8922 or 8923

8816 Relay Base

Relay Contacts

To Next Addressable Device

To Next Addressable Device

Ordering Information

Part No.	Spec Sheet	Description
8812		Addressable thermal detector

Accessories

8853	FAI-81	Mounting base
8816	FAI-107	Addressable relay base
8815	FAI-105	Addressable audible base
8922	FAI-106	Remote alarm indicator, 4" octagon mounting
8923	FAI-106	Remote alarm indicator, single gang mounting
8846		Detector locking kit
8820	FAI-104	Programmer/Tester
8986	FAI-104	Carrying case for 8820

Faraday, LLC
805 South Maumee Street
Tecumseh, Michigan 49286
Phone: (517) 423-2111
Fax: (517) 423-2320
Web: www.faradayllc.com