

# F220 Heat Detectors



## Fire Systems



- Two- or four-wire bases
- Can be used with 12 VDC or 24 VDC systems
- 50 ft (15.2 m) spacing between detectors
- Visible identification of model:
  - F220-135 (no ring)
  - F220-135F (gray ring)
  - F220-190F (black ring)
- Tamper detection
- Dual color LED

The F220 Heat Detectors include:

- **F220-135:** An electronic Rate-of-Rise, fixed temperature heat detector that initiates an alarm when the ambient temperature exceeds +135°F (+57°C) or when the ambient temperature increases by +15°F (+8.3°C) or more in less than 1 minute
- **F220-135F:** An electronic fixed temperature heat detector that initiates an alarm when the ambient temperature reaches +135°F (+57°C).
- **F220-190F:** An electronic fixed temperature heat detector that initiates an alarm when the ambient temperature reaches +190°F (+88°C).

When mounted on the appropriate F220-B6 Series Mounting Base, the F220 Heat Detectors provide general property protection from fire.

**Warning:** Heat detectors are not life safety devices.

### Functions

#### Compatible Bases

Configure the detectors as either two-wire or four-wire depending on the mounting base selected. These detectors are compatible with any of the F220-B6 bases:

- F220-B6 Two-wire Mounting Base
- F220-B6R Standard Four-wire Mounting Base
- F220-B6RS Four-wire Mounting Base with Sounder
- F220-B6C Four-wire Mounting Base with Auxiliary Form C Relay
- F220-B6E Power Supervision Mounting Base
- F220-B6PM Addressable Master Base
- F220-B6PS Addressable Base

#### Dual-color LED

To verify the detector has power and the heat detection circuitry functions, a dual-color LED indicator flashes green every 8 sec when operating normally. It flashes once every 4 sec when a trouble condition exists. The LED latches on red if an alarm occurs, allowing the user to easily verify individual detector alarms. Clear the alarm condition by interrupting power to the detector.

**Tamper Detection**

When detector heads are correctly installed in any of the F220-B6 bases, the control panel initiates a trouble signal if a detector is removed from its base. A mechanical tamper lock comes with each base to inhibit unauthorized head removal.

**Supervision**

The control panel supervises two-wire systems. Supervision of four-wire system power is provided by an end-of-line (EOL) power supervision device such as a D275, or an F220-B6E Power Supervision Mounting Base and an EOL resistor as specified by the control manufacturer.

**Certifications and Approvals**

Listings and Approvals:	UL UQGS: Heat – Automatic Fire Detectors (UL521)
	Detector Heads: CSFM 7270-1615: 08
	F220-B6/B6C/B6E/B6R Detector
	Bases: CSFM 7300-1615: 105
	F220-B6PM/PS Detector
	Bases: CSFM 7300-1615: 215
Factory Mutual Research	
Hong Kong Fire Services Department (HKFSD)	

**Installation/Configuration Notes****Compatible Control Panels**

**Two-wire:** See *Technical Service Note* (P/N: 4998148185).

**Note:** Bosch Security Systems makes no claim written, oral, or implied that the F220 Heat Detectors work with any two-wire control panels except those specified in the Control Panel Compatibility chart in *the Technical Service Note* (P/N: 4998148185).

**Four-wire:** Compatible with all UL Listed four-wire control panels. Refer to the manufacturer's installation instructions for proper EOL resistor selection.

**Mounting the Bases**

**Note:** Consult NFPA 72 for proper detector placement. Depending on local regulations, the bases can be surface mounted directly on four-inch square or octagonal electrical boxes and single-gang switch boxes.

**Note:** The volume of any electrical box used should be adequate to accommodate the number and size of conductors as specified by the National Electrical Code or any local Authorities Having Jurisdiction (AHJ).

**End-of-Line Power Supervision**

Loop supervision requires one D275 or F220-B6E per loop when using F220-B6R/B6C bases and is accomplished by the control panel.

**Wiring the Bases**

Refer to the *F220 Series Installation Instructions* (P/N: 4998138694) or the *F220-B6PS/M Installation Instructions* (P/N: 4998149982) for detailed wiring instructions.

### Technical Specifications

#### Detector/Base Design

Color:	White
Dimensions (diameter x H):	6.75 in. x 2.25 in. (17.1 cm x 6.4 cm)

#### Environmental Considerations

Relative Humidity:	0% to 95% non-condensing
Temperature (normal operating):	+32°F to +100°F (0°C to +38°C)

**Note:** The normal environment where these detectors are installed should be within the specified normal operating temperature limits.

#### Power Requirements

Current (alarm):	20 mA minimum at 8.5 VDC;
(detector head only)	35 mA maximum at 32 VDC
Current (start-up):	0.12 mA maximum at 35 VDC
Maximum RMS Ripple:	25% of DC input
Power-up Time:	22 sec maximum
Voltage (standby):	Two-wire: 8.5 VDC to 32.0 VDC Four-wire: 10.0 VDC to 30.0 VDC

### Ordering Information

F220-135 Electronic Rate-of-Rise/Fixed Temperature (+135°F [+57°C]) Heat Detector	F220-135
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F220-135F Electronic Fixed Temperature (+135°F [+57°C]) Heat Detector	F220-135F
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F220-190F Electronic Fixed Temperature (+190°F [+88°C]) Heat Detector	F220-190F
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#### Hardware Accessories

D275 Power Supervision Module	D275
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DRA-5 Remote Alarm Indicator	DRA-5
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DT-2 Detector Removal Tool	DT-2
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F220-B6 Two-wire Base	F220-B6
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F220-B6R Standard Four-wire Base	F220-B6R
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F220-B6RS Conventional Detector Base with Sounder	F220-B6RS
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F220-B6C Four-wire Base with	F220-B6C
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Auxiliary Form C Relay

F220-B6E Power Supervision Base with	F220-B6E
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End-of-line Power Monitoring Relay

F220-B6PM Addressable Master Base	F220-B6PM
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F220-B6PS Addressable Base	F220-B6PS
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