F220-B6 Conventional detector bases
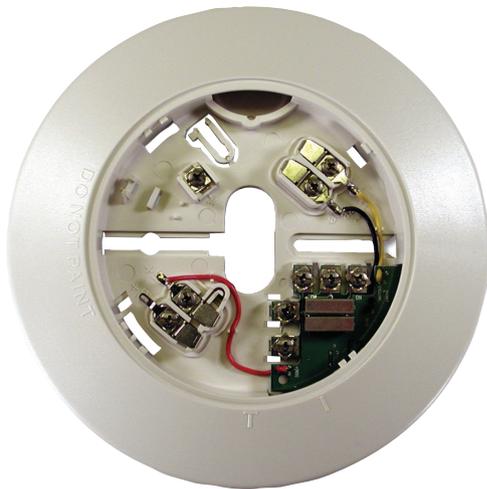
www.boschsecurity.com

BOSCH
Invented for life

▶ Easy installation

▶ Interchangeable detector heads

▶ UL listed when used with a detector from the F220 family

The F220-B6 Detector Bases work with the F220 Photoelectric Smoke and Heat Detectors. The F220-B6 is a 12 V or 24 V base for two-wire loops. The other bases in this family are 12 V or 24 V bases for four-wire loops.

Certifications and approvals

Region	Regulatory compliance/quality marks	
USA	UL	UL 268, Smoke Detectors for Fire Alarm Systems
	UL	UL 521, Heat Detectors for Fire Protective Signaling Systems
	FM	F220-B6 Family
	CSFM	see www.boschsecurity.com (the Bosch website)
	NYC-MEA	(117-05-E)
	MSFM	permit #2200 Sep 2008
Canada	ULC	CAN/ULC-S529, Smoke Detectors for Fire Alarm Systems

Region	Regulatory compliance/quality marks	
	ULC	CAN/ULC-S530, Heat Actuated Fire Detectors for Fire Alarm Systems
Hong Kong	HKFSD	J-002/C/067

Installation/configuration notes

Compatibility Information

Two-wire: Bosch Security Systems, Inc. makes no claim written, oral, or implied that the F220-B6 Detector Bases work with any two-wire control panels except those specified in the *Two-wire Detector/Control Panel Compatibility List Technical Service Note*.

Four-wire: Compatible with all UL Listed four-wire control panels. Refer to the control panel's Installation Instructions for proper end-of-line (EOL) resistor selection.

Detectors: Compatible with the following F220 Series Detector Heads:

- F220-P Photoelectric Smoke Detector
- F220-PTH Photoelectric Smoke Detector with +135°F (+57°C) Heat Sensor
- F220-PTHC[1] Photoelectric Smoke Detector with +135°F (+57°C) Heat Sensor and Carbon Monoxide Sensor Enhancement[1]

- F220-135 Electronic Rate-of-Rise, Fixed Temperature +135°F (+57°C) Heat Detector
- F220-135F Electronic Fixed Temperature +135°F (+57°C) Heat Detector
- F220-190F Electronic Fixed Temperature +190°F (+88°C) Heat Detector

[1] The F220-PTHC detects carbon monoxide (CO) as a component of a fire. It is not a CO detector and cannot activate an alarm in the presence of CO only.

Mounting Considerations

Depending on local regulations, surface mount the bases using anchors, mollies, or wing nuts; or mount the bases directly on four-inch square or octagonal electrical boxes or single-gang switch boxes.

> **i Notice**
> The electrical box must be large enough to accommodate the number and size of conductors specified by the National Electrical Code or any local authorities having jurisdiction (AHJ).

Wiring Considerations

In a two-wire system, the maximum loop length depends on the number of detector bases on the loop, the wire size, and the control panel specifications. Refer to the control panel's installation instructions for specific wiring information.

In a four-wire system, the maximum loop length and number of bases that can be placed on a loop depend on the voltage drop on the power circuit. Use standard voltage drop calculations to ensure that the last detector on the loop has at least 10 V.

Technical specifications

Electrical

Current

Alarm

B6	Limited to 20 mA minimum at 8.5 VDC. 35 mA maximum at 32 VDC
B6R, B6E	13.5 mA at 12 VDC, 16.5 mA at 24 VDC, 19 mA at 30 VDC
B6C	0.5 A at 125 VAC, 1.0 A at 30 VDC for resistive loads
Standby All models	0.09 mA at 12 VDC, 0.10 mA at 24 VDC, 0.12 mA at 32 VDC

Relays

B6R Ratings Type	0.5 A at 100 VDC Form A [normally-open (NO), closes on alarm]

B6C Ratings Type	0.5 A at 125 VAC, 1.0 A at 30 VDC Form C [one set of normally-open, common, normally-closed (NO-C-NC) contacts]
B6E, alarm Ratings Type	0.5A at 125 VDC, 1 A at 30 VDC Form A [normally-open (NO), closes on alarm]
B6E, EOL Ratings	0.5 A at 100 VDC for resistive loads

Environmental

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

Mechanical

Color	Off-white
Dimensions (ØxH)	6.69 in. x 0.82 in. (170 mm x 20.88 mm)
Material	Fire-resistant plastic

Weight

B6 Gross Net	7.76 oz. (0.22 kg) 6.70 oz. (0.19 kg)
B6R Gross Net	8.47 oz. (0.24 kg) 7.41 oz. (0.21 kg)
B6C Gross Net	8.47 oz. (0.24 kg) 7.41 oz. (0.21 kg)
B6E Gross Net	6.35 oz.. (0.18 kg) 5.64 oz.. (0.16 kg)

Trademarks

All hardware/software product names used in this document are likely to be registered trademarks and must be treated accordingly.

Ordering information

F220-B6 Base, 2-wire, 12/24V
Standard base for two-wire (12 VDC or 24 VDC
system) applications. The base works with the F220
smoke detectors and heat detectors.
Order number **F220-B6**

F220-B6R Base with form A relay, 4-wire, 12/24V
Standard base for four-wire (12 VDC or 24 VDC)
detector systems. The base works with the F220
smoke detectors and heat detectors.
Order number **F220-B6R**

F220-B6C Base, 4-wire, form A & C relays, 12/24V
Four-wire base with a normally-open (NO) alarm loop
relay and a set of auxiliary contacts (Form C). The
base works with the F220 smoke detectors and heat
detectors.
Order number **F220-B6C**

F220-B6E Base, end-of-line relay, 4-wire 12/24V
Four-wire base with a normally-open (NO) alarm relay
and an EOL power supervision relay. The base works
with the F220 smoke detectors and heat detectors.
Order number **F220-B6E**

Accessories

DRA-5 Remote indicator plate, 5V
Provides remote annunciation of alarms for a number
of Bosch smoke and heat detectors
Order number **DRA-5**

PAM-4 Relay module, form C, 10A 12/24V
One set of 10.0 A, Form C contacts that can be
energized across a range from 9 VDC to 40 VDC
Order number **PAM-4**