


**BOSCH**

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# MX250 Series Multiplex Photoelectric Smoke Detectors



- ▶ Connects to a two-wire multiplex bus
- ▶ Superior dust immunity
- ▶ Exclusive ChamberCheck® self diagnostics
- ▶ Automatic sensitivity test features
- ▶ Easy disassembly for cleaning
- ▶ Equipped with rotary switches for address setting

The MX250 Series Photoelectric Smoke and Smoke and Heat Detectors are low profile detectors for the DS7400Xi Series Control Panels and the DS9400 Series Fire Alarm Control Panels (FACPs). The patented chamber design provides superior immunity to false alarms caused by dust. The detector is designed for use with commercial and household fire warning systems. An LED indicator flashes to verify that the detector has power and the smoke sampling circuitry is functioning. The detector will automatically reset after an alarm condition has been cleared.

The detectors work in conjunction with a required base. This provides for ease in replacing the detector head.

**Note** DS7400Xi Control Panel requires a DS7430 or DS7436 Multiplex Expansion Module and ROM version 3.09 or higher.

**Note** The DS9400M contains a DS9431 Multiplex Expansion Module. The DS9400i requires a DS9431 Multiplex Expansion Module. For both the DS9400 FACPs, ROM version 2.0 or higher is required.

## Functions

### Test features

LED automatically flashes to indicate a calibration trouble condition. A fast flashing LED (>1 flash/sec) indicates an alarm condition. Sensitivity can be verified by a magnet test.

### ChamberCheck self diagnostics

The ChamberCheck automatic sensitivity test feature provides an indication if the detector is outside the factory calibrated specifications. This feature also reduces false alarms by alerting the end user that the detector is dirty, long before the possibility of producing a false alarm. A unique ChamberCheck signal is provided.

### Patented chamber design

The detection chamber includes computer-designed chamber walls and lenses to optimize internal light scattering and dust hiding capabilities. This provides for industry leading dust immunity without sacrificing detection. The detection chamber can be easily removed should it require cleaning.

**Certifications and Approvals**

Region	Certification
Europe	CE 89/336/EEC, EN55022: 1998, EN50130-4: 1995, EN60950: 2000, EN61000-3-2, EN61000-3-3, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11
Hong Kong	HKFSD

**Installation/Configuration Notes**

**Warning** Do not use shielded wire.

**Use with DS7400Xi Control Panels**

**Determining maximum number of detectors**

**Warning** When using the multiplex bus for smoke detectors on a DS7400Xi, you cannot connect other types of detectors to the same multiplex bus. Use a separate bus for the other detectors.

The wire gauge and the total wire length of the bus determine the maximum number of multiplex (MUX) smoke detectors allowed on the multiplex bus. See the table below, or refer to the following calculations (also refer to the documentation for the panel and the multiplex interface).

**Table: maximum number of detectors per MUX bus**

Wire Size	Wire Length			
	5000 ft (1520 m)	4000 ft (1220 m)	3000 ft (910 m)	2500 ft (760 m)
18 AWG (1.2 mm)	66	82	110	120
16 AWG (1.5 mm)	106	120	120	120

**Calculations:**

maximum number of detectors =

$$[(2.2/\text{total line resistance})/1.02] \times 1000$$

maximum total line resistance =

$$[1000/(1.02 \times \text{number of detectors})] \times 2.2$$

**Use with DS9400 Series FACP's**

**Wiring**

Up to 2250 ft (685 m) of 18 AWG (1.2 mm) or 3500 ft (1065 m) of 16 AWG (1.5 mm) wire can be used.

**Two-wire Loop Configuration**

- When installed on a DS9400 panel prior to Lot # 100, the DS9431 will implement a Style 3.5 signaling line circuit.
- When installed on a DS9400 panel Lot #100 or later, the DS9431 will implement a Style 4 signaling line circuit.

**Technical Specifications**

**Environmental Considerations**

Radio Frequency Interference (RFI) Immunity:	No alarm or setup on critical frequencies in the range from 26 MHz to 950 MHz at field strengths less than 50 V/m.
Relative Humidity:	0% to 93% non-condensing
Temperature (operating):	+32°F to +100°F (0°C to +38°C)

**Mechanical Properties**

Color:	Off-white
Dimensions (diameter x D):	4 in. x 1.5 in. (10.2 cm x 3.8 cm) without base
Material:	High-impact, fire-retardant polymer plastic

**Power Requirements**

Power-up Time:	22 seconds maximum
Voltage (Input):	8 VDC peak minimum from the multiplex bus

**Ordering Information**

<b>MX250 Multiplex Photoelectric Smoke Detector</b> An open-area multiplex photoelectric smoke detector; requires an MXB2W Smoke Detector Base.	<b>MX250</b>
<b>Accessories</b>	
<b>DT-2 Detector Removal Tool</b> Use the DT-2 to remove, replace, or test the detector head	<b>DT-2</b>
<b>SMK-TM Test Magnet</b> Used to test detectors	<b>SMK-TM</b>
<b>TC2000 Test Cable</b>	<b>TC2000</b>

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