



**MODUL-R™
MRI-2251**

*ANALOG PHOTOELECTRIC
SMOKE DETECTOR*

GENERAL DESCRIPTION

The MRI-2251 intelligent addressable photoelectric smoke detector offers performance and serviceability features capable of benefiting the customer, installer, and manufacturer well beyond that which is possible with a conventional type detector. The MRI-2251 is continually monitored to measure any change in its sensitivity due to the environment (dirt, smoke, temperature, humidity, etc.). It can give an advanced indication to the panel of the need for maintenance and be specific as to where the maintenance is needed. If local regulations permit, in an intelligent system, maintenance on individual detectors may be performed as required rather than having to check the sensitivity of ALL detectors to assure overall performance when only a few may be dirty. Dual electronic thermistors and 57°C (135°F) thermal detection to the MRI-2251T.

The MRI-2251 detector represents the state of the art in smoke detector technology. It features fully coated circuit boards, special bug and dirt protection, and superior RF/transient protection. The MRI-2251 will transmit an analog value representative of the sensitivity that can be used by the system to determine when maintenance is required. Signal processing for alarm verification can be built into the system to provide immunity to false alarms.

MRI-2251 detectors are simple to install, service, and maintain. These detectors incorporate built-in type identification so the system can identify the type of detector. The MRI-2251 also has a built-in magnetic reed switch for local testing.

ENGINEER'S SPECIFICATIONS

The detector shall be of the photoelectric type. Its sensor shall have a nominal sensitivity as measured in a ULC smoke box, and a nominal signal-to-noise ratio of 2.0. It shall be possible to perform a functional sensitivity and performance test on the detector without the need of generating smoke. The test method shall test all detector circuits. The detector shall mount to a 10cm (4") octagon box. A visual indication of an alarm shall be provided by two latching light emitting diodes (LED's) on the detector which may be seen at ground level from a 360° viewing angle. LEDs shall flash every time the detector is addressed and illuminate steady during alarm. The visible alarm signal shall be capable of remote LED annunciation. It shall be possible to test the detector from the control panel or by a local magnet test. The test shall simulate the operation of the detector. The detector shall not alarm when exposed to wind gusts up to 20.32 m/s (4,000 fpm). The detector screen and cover assembly shall be easily removable for field cleaning. Wire connections shall be made by clamping plate and screw.

FEATURES

- ULC, UL, CSFM, MSFM, and MEA Listed
- FM, LPCB, VdS, and EN54 (Part 7) Approved
- Sleek, low profile design
- Geometrically optimized photoelectric sensing chamber
- Compatible with MRI-2551 detector
- Unique optical sensing chamber
 - superior signal-to-noise ratio (2.0)
 - stable photoelectric operation
 - factory set at nominal sensitivity
 - built-in signal processing
- Built-in test switch
- Remote test feature (from the panel)
- Low standby current
- Built-in tamper-resistant feature
- Designed for direct surface or electrical box mounting
- Sealed against dirt, bugs, and back pressure
- Insect resistant screening (0.635 mm / 0.025" openings)
- High velocity performance up to 20.32 m/s (4,000 fpm)
- Shielded electronics
- 360° field viewing angle of the visual alarm indicators (2 LED's)
- Removable cover for field cleaning
- Easy plug-in of the head to base
- SEMS screws for wiring of the separate base
- Direct dial DECADE 00-99 address entry
- Stable communications techniques with noise immunity
- Two visible LEDs for alarm indication

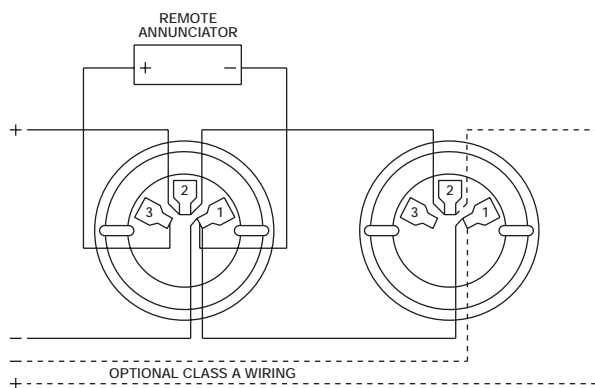
MODUL-R MRI-2251 Analog Photoelectric Smoke Detector

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ANALOG PHOTOELECTRIC SMOKE DETECTOR

TECHNICAL DATA

| | |
|-------------------|---|
| Voltage range | 15-28VDC peak |
| Current range | 6.5 mA for visible LEDs latched on |
| Standby current | 300 µA max. |
| Sensors | photoelectric (light scattering principle) thermal (57°C (135°F) setpoint) |
| Temperature range | MRI-2251: 0° to 49°C (32° to 120°F) MRI-2251T: 0° to 38°C (32° to 100°F) |
| Humidity range | 10% - 93%RH non-condensing |
| Diameter | 10.2cm (4.0") |
| Height | 4.22 cm (1.66") |
| Weight | 104g (3.6 oz.) |



Wiring Diagram

ORDERING INFORMATION

| Model | Description |
|------------|--|
| MRI-2251 | Photoelectric smoke detector |
| MRI-2251T | Photoelectric smoke detector c/w 57°C (135°F) thermal element (not ULC listed) |
| MRI-M500X | Isolator module |
| MRI-B210LP | Flanged mounting base, 15.5 cm (6.1") dia. |
| MRI-B501 | Flangeless mounting base, 10.2 cm (4.0") dia. |
| MRI-B501BH | Sounder base, includes MRI-B501 mounting base |
| MRI-B224RB | Relay mounting base, 15.5 cm (6.1") dia., provides Form C contact for control of auxiliary functions |
| MRI-B224BI | Isolator mounting base, 15.5 cm (6.1") dia., provides isolation of short circuits |
| MRD-RMK400 | Recess mounting kit |
| MRD-M02 | Test magnet |
| MRD-MOD400 | Detector metering adapter module; use with most analog or digital multi-meters |
| MRD-F110 | Retrofit replacement ring for MRI-B501B base |
| MRD-RA400Z | Remote LED annunciator |

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