

# MCS-PTIR and MCS-PTIR-IV

## Multi-Criteria Photo/Thermal/Infrared Detector

### General Description

MCS-PTIR and MCS-PTIR-IV are intelligent, multi-criteria detectors that combine photoelectric, thermal, and infrared (PTIR) sensors in one unit to sense multiple components of a fire. This approach enables enhanced sensitivity to real fire with heightened immunity to nuisance particulates.

Multiple sensors and communication can greatly reduce nuisance alarms compared to single sensing methods. Sophisticated algorithms maximize the advantages of all four sensor types creating our best detection strategy offering heightened immunity to nuisance particulate and enhanced sensitivity to real fire.

- Photoelectric sensor detects airborne particles associated with smoke.
- Thermal sensor detects heat and rate-of-rise (135°F fixed temperature threshold).
- Infrared sensors discern light patterns in the environment as an additional data point for alarm determination.

This ability to reject certain nuisance alarm triggers, such as theater smoke, supports the use of the detector in applications where moderate to heavy nuisance conditions exist that might cause single sensing detectors to trigger a false alarm.

The PTIR detector meets both UL 268 7th edition and UL 521 listing requirements and can indicate distinct smoke and heat alarms. This dual nature supports a local alarm setting for photoelectric detection and a general evacuation setting based on thermal detection. This can minimize work interruptions in multi-level buildings.



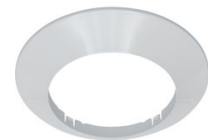
*MCS-PTIR in B200S-WH sounder base*



*RA100Z Remote LED Annunciator*



*CK300-IR-BL  
Color Kit*



*TR300  
Trim Ring*

## FEATURES & BENEFITS

- Multi-criteria detection
- Low standby current
- Dual LEDs for 360° visibility
- Expanded color options
- UL 268 7th Edition and UL 521 Listed
- Analog communications
- Rotary address switches
- New modern profile

# MCS-PTIR and MCS-PTIR-IV Technical Specifications

## PHYSICAL/OPERATING

### Dimensions:

Height: 2.0 inches (51 mm) installed in B300-6 base  
Diameter: 6.2 inches (156 mm) installed in B300-6 base; 4.1 inches (104 mm) installed in B501-WHITE/-IV/-BL base  
Weight: 3.4 oz. (95 g)

**Operating Humidity Range:** 15% to 90% Relative Humidity, Non-condensing

**Operating Temperature Range:** 32°F to 100°F (0°C to 38°C)

**Air Velocity:** 0 to 300 ft./min. (0 to 91.4 m/min.)

## ELECTRICAL SPECIFICATIONS

**Operating Voltage Range:** 15 to 32 VDC

**Operating Current @ 24 VDC:** 200 uA (one communication every 5 seconds with green LED blink on communication)

**Maximum Alarm Current:** 2 mA @ 24 VDC (one communication every 5 seconds with red LED solid on)

**Maximum Current:** 4.5 mA @ 24 VDC (one communication every 5 seconds with amber LED solid on)

**Isolator Load Rating:** 0.0063

## STANDARDS

The devices in this datasheet meet the standards of UL 268 7th Edition.

## AGENCY LISTINGS AND APPROVALS

The listings and approvals below apply to the MCS-PTIR and MCS-PTIR-IV. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult the factory for the latest listing status.

UL: S1195  
FM Approved  
CSFM: 7272-1703:0508

## ORDERING INFORMATION

MCS-PTIR: Multi-criteria photoelectric, thermal and infrared smoke detector, Velociti, bright white color  
MCS-PTIR-IV: Multi-criteria photoelectric, thermal and infrared smoke detector, Velociti and CLIP, ivory color

### Bases

B501-WHITE: 4" Mounting base, white  
B501-WHITE-BP: 4" mounting base, white, 10-pack  
B501-IV: 4" Mounting base, ivory  
B501-BL: 4" Mounting base, black  
B300-6: 6" Flanged mounting base, white  
B300-6-BP: 6" Flanged mounting base, white, 10-pack  
B300-6-IV: 6" Flanged mounting base, ivory  
B200S-WH: Intelligent addressable sounder base, white  
B200S-IV: Intelligent addressable sounder base, ivory  
B200S-LF-WH: Intelligent addressable sounder base, low-frequency, white  
B200S-LF-IV: Intelligent addressable sounder base, low-frequency, ivory  
B224BI-WH: Isolator base, white  
B224BI-IV: Isolator base, ivory  
B224RB-WH: Relay base, white  
B224RB-IV: Relay base, ivory

### Accessories

SMB600: Surface mounting kit (flanged)  
TR300: Trim ring, white  
TR300-IV: Trim ring, ivory  
CK300-IR: IR color kit (includes cover and trim ring), white, 10-pack  
CK300-IR-IV: IR color kit (includes cover and trim ring), ivory, 10-pack  
CK300-IR-BL: IR color kit (includes cover and trim ring), black, 10-pack  
RA100Z: Remote LED annunciator  
M02-04-00: Detector test magnet  
M02-09-00: Telescoping test magnet

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