Addressable Devices

Velociti® Series MCS-4-Warn

Advanced Multi-Criteria Detector with Four Unique Sensing Elements

General

The latest addition of the Gamewell-FCI's Advanced Detection product line integrates four complementary technologies into one device to convey accurate fire sensing information to locations where fire fighter response-time is critical. The Gamewell-FCI MCS-4-Warn is an advanced multi-criteria plug-in detector that assembles four unique sensing elements into one unit.

- Electrochemical cell technology that monitors carbon monoxide (CO) produced by smoldering fires.
- Infrared (IR) sensing that measures ambient light levels and flame signatures.
- Photo-electric smoke detection.
- Thermal detection for temperature monitoring.

It is designed to be used with the Gamewell-FCI's E3 Series® and S3 Series fire alarm control panel only.



MCS-4-Warn

The integration of continuous monitoring for all four major elements of a fire allows Gamewell-FCI to create a detector that responds more quickly to an actual fire with the highest immunity to nuisances. This advanced multi-criteria detector operates at a high immunity level. It is designed to detect changing elements, identify nuisance interference and adjust the sensor accordingly to reduce false alarms.

Its on-board intelligence runs advanced algorithms that dynamically adjust detection parameters to respond to the inputs from the sensors, enabling instant response as ambient conditions change.

The panel automatically changes sensor thresholds, sensor gain, time, delays, combinations, sampling rates, and averaging rates. If any sensor fails, the detector automatically adjusts the sensitivity of the remaining sensors and produces a fault condition.

The CO cell has an expected lifetime of approximately six years. It is not a field replaceable component. An internal timer signals the control panel to signal the approach of the CO cell's end of life. Upon expiration, you should contact the system supplier to arrange for replacement of the unit. Detection is not compromised when the CO cell expires. The algorithms automatically adjusts to properly weigh the inputs from the photo-electric, heat, and IR sensors.

Note: The CO cell is specifically deployed as a component of smoke detection in this device. This device is not Listed for applications in which the standalone CO detection is required for life safety.

The IR light sensor recognizes specific situations such as welding and makes adjustments rapidly to further reduce the potential for nuisance alarms. The thermal detection function uses thermistor technology with a software-corrected linear temperature response to offer exceptional nuisance alarm immunity and excellent fire detection.

FEATURES & BENEFITS

- Applies four separate sensing elements
- Has the highest nuisance alarm immunity
- Includes twin LED indicators that provide 360 visibility
- Employs advanced algorithms that interpret and respond to multiple inputs
- Comprises fully integrated infrared sensing to support a quick fire alarm response
- Incorporates CO sensing for the fastest response to slow developing, smoldering fires
- Uses six levels of sensitivity
- Provides the automatic drift compensation of a smoke sensor and a CO cell
- Offers superior EMI protection
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- Programs LEDs to be panel controlled to blink, latch-on, or latch-off
- Contains a built-in test switch

MCS-4-Warn Diagram

Figure 1 illustrates the MCS-4-Warn Advance Multi-Criteria Detector.

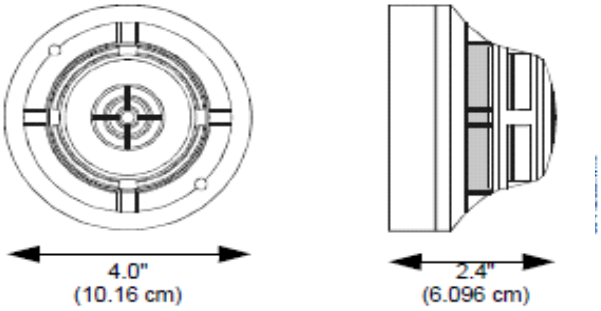


Figure 1 MCS-4-Warn Advance Multi-Criteria Detector

Ordering Information

MCS-4-Warn : Advanced multi-criteria detector with four unique sensing elements.

Accessories

B210LP: Flanged mounting base

B200S: Intelligent sounder base, capable of producing a variety of tone patterns including ANSI Temporal 3. Compatible with the System Sensor synchronization protocol.

B200SR: Intelligent sounder base, Temporal 3 or Continuous tone.

B224BI: Isolator base, maximum of 25 devices between isolator bases.

B224RB: Relay base

Velociti® Series MCS-4-Warn Technical Specifications

SYSTEM

Physical Specifications

Base Diameter: 4.0" (10/16 cm)
Base Height: 2.4" (6.1 cm)
Shipping Weight: 4.6 ounces
Operating Temperature Range: 32° F to 100° F (0° C to 38° C)
Operating Humidity Range: 10 to 93% relative humidity (non-condensing)

Electrical Specifications

External Supply Voltage: 15 to 32 VDC
Standby Current: 200 uA at 24 VDC (no communications)
Alarm Current (LED on): 7 mA at 24 VDC
Sensitivity Settings & Suggested Applications:

Level 1: 1% per foot (30.48 cm) of smoke. Very clean environments: Used in Laboratories.

Level 2: 2% per foot (30.48 cm) of smoke. Clean environments: Used in offices.

Level 3: 3% per foot (30.48 cm) of smoke. Moderately clean environments: Used in hotel rooms, dorm rooms.

Level 4: 3% per foot (30.48 cm) of smoke with different algorithm processing and weighting of sensor elements. Used in hotel rooms near a shower or boiler rooms.

Level 5: 4% per foot (30.48 cm) of smoke. Used in equipment rooms, kitchens, paint shop.

Level 6: Thermal alarm at 135° F (57° C)

Note: After the CO cell has reached the end of life, any device set to Level 3 or Level 4 will default to Level 5 and Level 5 will drop to 3%.

Expired CO Cell Sensitivities:

The following sensitivities apply to devices with expired CO cells.

Level 1: 1% per foot (30.48 cm) of smoke. Very clean environments: Used in Laboratories.

Level 2: 2% per foot (30.48 cm) of smoke. Clean environments: Used in offices.

Level 5: 3% per foot (30.48 cm) of smoke. Moderately clean environments: Used in hotel rooms, dorm rooms.

Level 6: Thermal alarm at 135° F (57° C)

TEMPERATURE AND HUMIDITY RANGES

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

STANDARDS

The Velociti® Series MCS-4-Warn is designed to comply with the following standard:

UL Standard: UL 864 9th Edition

AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

UL: S1195
CSFM: 7272-1703:0173
ISO 9001 Certification

For a complete listing of all compliance approvals and certifications, please visit: http://www.gamewell-fci.com/en-US/documentation/Pages/Listings.aspx

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This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice.

For more information

Learn more about Gamewell-FCI's Velociti® Series MCS-4-Warn and other products available by visiting www.Gamewell-FCI.com

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9021-60672 | E | 11/17
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