GASMARK™ M1

AMMONIA SENSOR

Key Features

M1

- 2-year warranty – including sensor elements
- Durable potted electronics in a sealed enclosure eliminates corrosion
- Temperature and Humidity control adapts to harsh environment from -49°F to +122°F
- Easy operation, field calibration and maintenance
- Optional large OLED display
- RS-485 Modbus or 4-20mA output
- Optional 2 programmable onboard relays
- Auto-cal function – Reduces need for manual Span adjustments
- SmartCell stores all calibration data onboard the sensor module
- SAFECELL technology tracks the condition of the sensing element
- Fully compatible with the GASMARK™ M255 Control Panel

Industrial gas detection for harsh environments. SmartCell technology, Modbus connectivity, easy calibration and long life.

The GASMARK™ M1 detector utilizes proven electrochemical sensor technology in a flexible platform for fast and accurate leak detection which can be updated as needs change.

The M1 may be operated stand alone or as part of an networked system. The transmitter can communicate via RS-485 Modbus or traditional 4-20 mA signal, allowing it to be connected to the GASMARK M255 Control Panel or PLC systems.

Auto-cal function allows the M1 to be calibrated virtually hands-free. Attach calibration gas, activate Auto-cal, monitor progress. Manual calibration can be performed if desired.

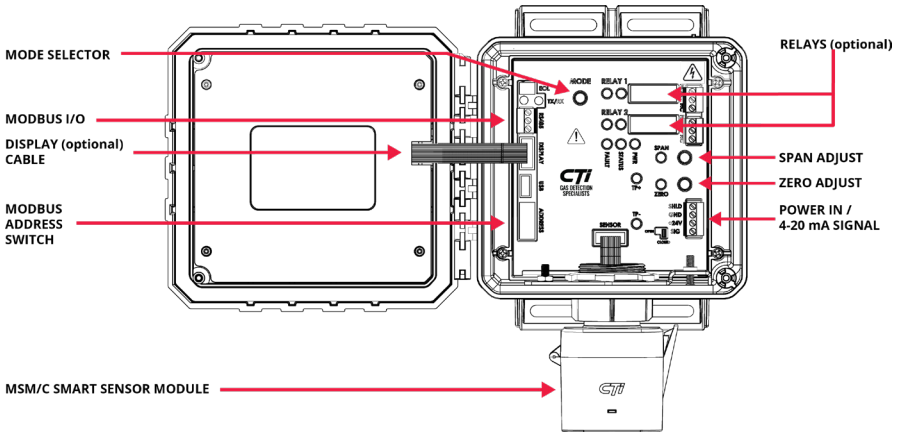
Intelligent temperature and humidity control maintains sensing capability in the harshest areas and extends cell life. The output signal is not affected by drastic temperature changes such as washdown and defrost cycles. SAFECELL monitors electrical viability of the sensing element and alerts the controller. SAFECELL also notifies the controller if the sensing element is missing.

The rugged polycarbonate enclosure is suitable for all non-classified locations. Large slotted mounting feet allow the M1 to be installed in the same location as previous GG series detectors.

Larger rotary encoders allow for technicians to make adjustments more easily than with potentiometers.

Benefits

- Versatile applications
- Easy to order
- Low cost
- Simple operation
- Rugged and reliable
- Indoor and Outdoor



CTI GAS DETECTION SPECIALISTS

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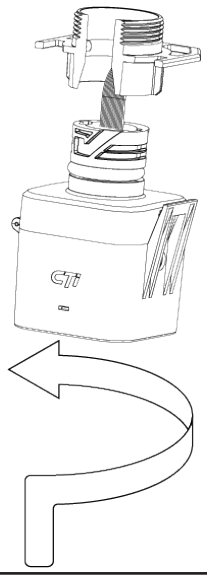
Change as needs require

The M1 detector is adaptable to the needs of a facility. As changes occur, the level or type of gas detection may also change. The plug-n-play nature of the replaceable sensor module used by the M1 can be readily changed out for another, regardless of concentration. Limiting the need to replace the transmitter or wiring necessary.

Reduced wiring costs

Connecting the M1 via a Modbus network reduces wiring costs by limiting the number of home-runs back to the controller.



Ordering Information

Select transmitter with desired options and then select sensor module.

All MSC* Sensor Modules come factory calibrated.

Transmitter *(polycarbonate)*:

M1-R0 *(no relays)*
M1-R0-D *(no relays, w/ display)*
M1-R2 *(2 relays)*
M1-R2-D *(2 relays, w/ display)*

Sensor Module	Detection Range:	Selectable Span Range (ppm)*
MSC-NH3-EC	Ammonia, Low Range	0-100, 0-250
MSM-NH3-EC	Module Only, No Sensing Element Included. *Range is factory set but will require calibration when a sensing element is installed.*	*May select any ranges above.*

**Please call for information on additional ranges.*

Sensing Element *(replacement sensing elements)*

MSE-NH3-EC: Electrochemical cell for MSC-NH3-EC - Ammonia low range 0-250 ppm

Relays where needed

The M1 offers 2 optional relays providing connection to additional audio/visual devices, exhaust fans, and solenoid valves near leak detection with fewer home runs back to the controller.

Real-time visual monitoring

Optional large OLED display allows workers within the area to see current gas concentration.

SPECIFICATIONS

DUE TO ONGOING RESEARCH AND PRODUCT IMPROVEMENT, SPECIFICATIONS ARE SUBJECT TO CHANGE

Detection Principle:
Electrochemical

Detection Method:
Diffusion

Gases:
Ammonia (NH3)

Ranges:
0/100
0/250
Please call for information on additional ranges

Input Power:
24Vdc @ 350 mA (w/o display), 500 mA (w/ display)

Output Signal:
Modubs RTU or
Linear 4-20 mA (max input impedance 400 Ohms)

Relay Output *(optional)*:
5A @ 24Vdc or
8A @ 120-240Vac

Response Time:
T_{50} = less than 30 seconds
T_{90} = less than 60 seconds

Accuracy:
+/- 5% of value, but dependent on calibration gas accuracy and time since last calibration

Zero Drift:
Less than 0.1% of full-scale per month, noncumulative

Span Drift:
Application dependent, but generally less than 2% per month

Linearity:
+/- 1% of full-scale

Repeatability:
+/- 1% of full-scale

Terminal Block Plug:
12-26 AWG, torque 4.5 lbs-in

Display *(optional)*:
OLED, 2.7"x1.5" monochromatic

Wiring Connections:
RS-485 Power - 2 conductor, stranded copper, 14 AWG with drain (Belden 5100UE or equivalent)

RS-485 Communications - 2 conductor, twisted pair, stranded, 22-24 AWG with drain (Alpha 6460 or equivalent)

3 conductor, shielded, stranded, 18 AWG cable (Belden 8770 or equivalent) up to 1500 ft.

Enclosure:
Injection-molded UL 4X polycarbonate with hinged lid and captive screw closure.
For non-classified areas.

Temperature Range:
-49°F to +122°F (-45°C to +50°C)

Humidity Range:
5% to 100% condensing

Dimensions:
10.35" high x 7.42" wide x 4.93" deep

Weight:
4 lbs

Warranty:
2 years

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