



Gas & Flame  
Detection

# Food & Beverage



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# Who are we

## **Solutions for the Food and Beverage Industry**

3M Gas & Flame Detection's array of gas detection products can meet the wide-ranging needs of breweries and food and beverage processing plants. Our products are also able to withstand the extreme environments found in facilities that range from blast freezers to high-heat ovens and cookers. Through our innovative and flexible approach we can find the solution to ensure your gas detection requirements are met accordingly and effectively.

## **One Collective Brand, One Comprehensive Gas & Flame Detection Portfolio**

3M Gas & Flame Detection is one of the largest global manufacturers of gas and flame detection products, comprising five internationally known companies – Scott Safety gas & flame division, Detcon, Simtronics, GMI, and Oldham – under one 3M brand. We are strongly committed to providing innovative gas and flame detection solutions that save lives, improve businesses, and protect people where they live and work. Hundreds of years of combined experience, as well as a comprehensive portfolio of products and services for diverse industries make 3M Gas & Flame Detection the unmatched leader in the gas and flame detection marketplace.

## **One Source for All Gas and Flame Detection Needs**

Every customer scenario demands a different, customized approach, and 3M Gas & Flame Detection applies expertise in building the right plan every time. Our comprehensive portfolio and industry-leading solutions offer expert perspective and products you can rely on in the most critical situations. When it comes to superior value, efficacy, efficiency, and service, 3M Gas & Flame Detection delivers like no one else.

## **Global Reach, Local Gas Detection Expertise**

Manufactured in four countries, our products are sold through a worldwide network of distributors, manufacturers' representatives and sales subsidiaries. Our customer commitment does not stop at product delivery but encompasses ongoing services. From custom-designed solutions to unmatched technical support, our gas and flame detection solutions are backed by expert judgment and premier technology that you can count on in any emergency.

# Fixed Gas Detectors

## CTX 300

### 4-20 mA Transmitter with Optional Backlit Display

- **2-Wire Loop Powered Option (Electrochem Only)**
- **Commercial or Industrial Applications in Unclassified Areas**

CTX 300 is designed to detect hazardous levels of toxic gases, oxygen and refrigerant gases in unclassified areas. It has the flexibility to protect against many potentially hazardous environments for both commercial and industrial applications. Maintaining the unit is easy with pre-calibrated sensors and an optional LCD display.

Gases Detected: toxic, O<sub>2</sub>, CO<sub>2</sub>, refrigerant

Sensor Technologies: electrochemical, infrared, semiconductor

Power In/Output: 15-32VDC/ 4-20 mA

Approvals: CE • CSA • EAC



## GD10P-CO2

### IR Point Gas Detector

- **No Field Recalibration Required**
- **SIL2/3 Compliant Certified by TUV-Rheinland and Standard HART Interface**
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GD10P-CO<sub>2</sub> is a sophisticated infrared point gas detector that provides quick, accurate detection for a wide range of applications. Advanced design includes two solid-state IR sources that require no calibration or servicing during the products lifetime. Stable opto-mechanics provide an ultra fast speed of response (T<sub>90</sub> < 2s). Unparalleled life, warranty and savings on maintenance.

Gases Detected: Combustible, CO<sub>2</sub>

Sensor Technologies: solid state infrared

Power In/Output: 18-32VDC/ 0-20 mA, HART

Approvals: ATEX • CE • EAC • IECEx • CSA • SIL2/3 • INMETRO • ABS • CCCF pending •

UL variant available



# OLCT 10N

## Designed to Detect the Most Common Gases

- **Digital Transmitter Without Display**
- **For Commercial and Light Industrial Applications**

Intended for use with the MX 43 controller, up to 32 gas detectors can be connected on the same digital line or distributed on 8 lines. All transmitter information is received by the controller in less than 1 second. Operator interface is non-intrusive using a handheld magnet and features one person calibration.

Gases Detected: O<sub>2</sub>, CO<sub>2</sub>, CO, H<sub>2</sub>S, NO<sub>2</sub>, NO, NH<sub>3</sub>, combustible  
Sensor Technologies: electrochemical, catalytic, infrared  
Power In/Output: 15-30VDC/ RS 485 for use with MX 43 controller  
Approvals: **ATEX • CE • IECEx • EAC**



# OLCT 60

## 4-20 mA Analog Transmitter With Display

- **Simple Non-intrusive One Person Calibration**
- **Pre-calibrated Sensors**

OLCT 60 features a local display and non-intrusive calibration. The detector units are made of 316L stainless steel, and are rugged and resistant to corrosion. A remote mount option allows the sensor to be installed up to 15 meters. The versatile instrument is the ideal solution for gas detection needs throughout various industries and in a wide variety of applications.

Gases Detected: toxic, combustible, O<sub>2</sub>, CO<sub>2</sub>, VOCs, refrigerant  
Sensor Technologies: electrochemical, catalytic, infrared, semiconductor  
Power In/Output: 16-30VDC/ 4-20 mA  
Approvals: **ATEX • CE • EAC**



# OLCT 100

## 4-20 mA Analog Transmitter Without Display

- **SIL2 Compliant for Combustible (LEL), O<sub>2</sub>, CO, H<sub>2</sub>S, NH<sub>3</sub>**
- **Stainless Steel and High Temperature Options Available**

An economical design for industrial applications, OLCT 100 gas detectors combine reliability, durability and ease of use. OLC 100 includes a Wheatstone bridge (catalytic only) output while OLCT 100 provides a 4-20 mA output. Both are available in explosion proof versions and are SIL2 certified according to IEC 61508 and EN 50402. Loop power option.

Gases Detected: toxic, combustible, O<sub>2</sub>, CO<sub>2</sub>, VOCs, refrigerant  
Sensor Technologies: electrochemical, catalytic, infrared, semiconductor  
Power In/Output: 15.5-32VDC/ 4-20 mA; Wheatstone Bridge option for catalytic  
Approvals: **ATEX • CE • IECEx • SIL2 • INMETRO • NEPSI • India Ex • EAC • MED**



# Meridian

## Universal Fixed Gas Detector

- **SIL2 Compliant Certified by TUV-Rheinland**
- **One Universal Product for Toxic and Combustible Applications**

Meridian offers a single detector head that supports hot-swappable combustible and toxic sensors resulting in true plug and play functionality. It can also have up to 3 heads allowing the detection of multiple gases. Its modular design reduces maintenance time and costs and allows easy integration into existing infrastructures. Advanced industry-standard communications protocols offer detailed diagnostics for preventative maintenance.

Gases Detected: toxic, combustible, O<sub>2</sub>, CO<sub>2</sub>

Sensor Technologies: electrochemical, catalytic, infrared, MOS

Power In/Output: 18-30VDC/ 0-20 mA, HART

Approvals: ATEX ● CE ● IECEx ● cCSAus ● SIL2 ● INMETRO ● ABS ● MED

● CHINA EX, CCCF, EAC, RCM, FCC and ANATEL pending



# Model 700

## Environmentally Bulletproof Gas Detector

- **Specifically Designed for Harsh Environments and Extreme Locations**
- **Water-resistant, Corrosion-resistant, Vibration-resistant**

Model 700 fixed gas detectors feature a proven and robust design that includes an electropolished 316 stainless steel housing, multi-layered transient spike protection circuitry and 100% encapsulated electronics. The sensor electronics are completely protected and immune to water ingress and corrosion. Sensor elements are plug-in components and can easily be replaced in the field.

Gases Detected: toxic, combustible, O<sub>2</sub>, CO<sub>2</sub>, VOCs

Sensor Technologies: electrochemical, catalytic, infrared, MOS, photo ionization

Power In/Output: 11.5-28VDC/ 4-20 mA, RS485 Modbus RTU; optional relays, HART.

Approvals: ATEX ● CE ● cCSAus ● SIL2 ● CEPEL ● INMETRO ● PESO ● ABS ● FM

● CNEX ● EAC ● ANZ ● DGMS ● ITRI ● CNS ● CCCF pending



# Flame detectors

## 3M™ Simtronics™ DF-TV7 Series

### Triple IR & UV/2IR flame detectors

- **Excellent immunity to false alarms**
- **Wide field of vision (up to 120°)**
- **Continuous monitoring of optics**

The DF-TV7-T includes three infrared detectors to detect hydrocarbon fires up to 80 meters away. It is designed for detecting fires that generate a large amount of smoke. The DF7-T is the first SIL3-certified flame detector!

The DF-TV7-V combines infrared and ultraviolet detectors for increased immunity to false alarms and a shorter reaction time. The DF-TV7-V detects hydrocarbon fires up to 45 meters away and is SIL2-certified.



Type of flame detected: Hydrocarbon fires

Technology: Triple IR (TV7-T) and Ultraviolet-Double IR combination (TV7-V)

Power supply: 18-28 Vcc

Outputs: 4-20 mA, Relays, HART (optional), LonWorks (for connection to the Syntel system)

Certifications: CE • ATEX • IECEx • India Ex • EN 54-10 • SIL3 (IR3) • SIL2 (UV/2IR)

## 3M™ MultiFlame FV-40 Series

### Multi IR & UV/IR flame detectors

- **Excellent immunity to false alarms**
- **Detection of all fire types**
- **Continuous monitoring of optics**

While the Triple IR (IR3) or Multi IR (IR4) models are designed for hydrocarbon fires (and hydrogen fires in the case of the IR4 model) up to 65 meters away, the UV/IR versions are more suitable for detecting inorganic fires (hydrogen, ammonia, metals, etc.). All the models are SIL2-certified and equipped with a heating system to prevent frost or condensation from forming on the optics.



Type of flame detected: all fire types (hydrocarbons, hydrogen, metals, etc.)

Technology: Triple IR (IR3), Quad IR (IR4) and Ultraviolet-Infrared combination (UV/IR)

Power supply: 18-30 Vcc

Outputs: 4-20 mA, HART, RS485 Modbus RTU, Relays

Certifications: CE • ATEX • IECEx • FM • CSA • EN54-10 • MED • SIL2

# Control Systems

## MX 15

### Single Channel Controller

- **Cost Effective Monitor for Light Industrial Applications**
- **Compatible with Toxic & Flammable Gas Detectors**

MX 15 is a single channel controller designed for use in boiler rooms, charging rooms and other light industrial applications. The MX 15 is low cost, easy to operate, and includes three built in relays. The din rail mountable enclosure is easy to install and is rated IP31.

Input/Output: Wheatstone Bridge and 4-20 mA/ 2 alarm and 1 fault relays

Power In: 21-30 VDC, 115 or 230 VAC

Indicators: LEDs for power, alarm 1, alarm 2, and fault

Approvals: ATEX • CE • EAC



## 3M™ Oldham™ MX 32

### Single- or dual-channel controller with display

- **Up to 8 analog or digital detectors**
- **5 programmable alarm thresholds per channel**
- **OR, AND, NAND, VOTING logic for alarm**
- **Data logging**

The MX 32 is a digital and analog controller designed for measuring gases in the atmosphere and more generally for processing any 4-20 mA analog or compatible on/off digital signal. Up to 8 detectors can be distributed on its 2 lines for increased cost savings. The MX 32 accepts different modules (analog inputs, relay outputs, logic inputs, analog outputs) that can be installed at a distance of up to several hundred meters for increased system capacity and flexibility.

Inputs: 4-20 mA, digital, Wheatstone Bridge

Outputs: 5 built-in relays and up to 16 external relays, 4-20 mA, RS485 Modbus RTU

Power supply: 22 to 28 Vcc or 100 to 240 Vca

Indicators: Built-in audible and visual alarms, optional additional alarm kit

Certifications: CE • ATEX metrology (in progress) • EAC • CSA • SIL1 (in progress)



# MX 43

## Analog and Digital Controller

- **Up to 32 Channels via RS-485 Modbus RTU or 4-20 mA**
- **USB for Data Logging and Automated Backup of Configuration and Firmware**

MX 43 is a flexible, fully scalable, easy to use control system that allows up to 32 detectors to be distributed on 8 lines for increased cost savings. MX 43 is SIL1 reliable. The COM 43 application makes programming fast and easy on a PC allowing the user to choose devices from a pre-programmed library which can then be transferred to the MX43 via USB.

Input/Output: 4-20 mA, RS-485 Modbus RTU, 4-20 mA, relays (up to 32), logic input

Power In: 21-28 VDC, 100-240 VAC, optional on-board battery backup

Classification Options: IP55 (wall-mounted), IP31 (rack)

Approvals: ATEX • CE • SIL1 • CSA pending • EAC • MED (except rack version)



# MX 62

## Modular Controller

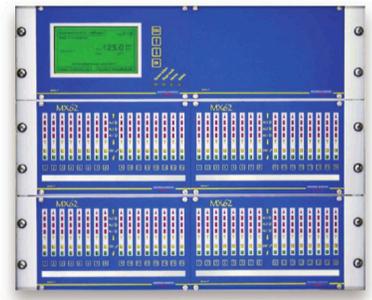
- **64 Secure Channels per System**
- **SIL3 Compliant - Redundant Processor Ensures Continual Measurement**

MX62 is a modular gas and flame detection system that can monitor up to 64 channels per console. The system offers the high level of security required by SIL3. The heart of the system is the CPU module containing dual processors. The LED modules provide 64 channels with 6 alarms per channel. An LCD Module provides a graphical display.

Input/Output: RS-485 Modbus RTU, 4-20 mA, relays (up to 128)

Power In: 24 VDC (others by request)

Approvals: ATEX • CE • SIL3 • EAC



# Model X40

## Integrated Alarm and Control System

- **8 or 32 Channel Capacity**
- **Wired or Distributed I/O and SmartWireless Capable**

Model X40 is designed to monitor gas detection sensors and a wide range of other field devices. It functions as a Modbus™ master and can be expanded based on application needs using Detcon's stackable I/O modules. The X40 is field programmable using a small handheld magnet and includes extensive event data logging.

Modules for Distributed I/O: 4-20 mA input, 4-20 mA output, relay output, relay contact input

Input/Output: RS-485 Modbus RTU, 4-20 mA, relays, wireless option

Power In: 11.5-30 VDC, 115-230 VAC Option for Model X40-32-N7 (NEMA 7 version)

Classification Options: NEMA 1 panel mount, NEMA 4X fiberglass or stainless steel, NEMA7

Approvals: CE Marking (Models X40-N4X & X40-SS)



# Portable & Transportables

## PS200

### Up to Four Gas Personal Monitor

- **Auto Bump and Calibration Station** (Accessory)
- **Optional Internal Pump and Easy One Button Operation**

PS200 provides unrivaled protection in confined space applications. Monitoring up to 4 gases simultaneously, it can be configured to detect a combination of Oxygen, Carbon Monoxide, Hydrogen Sulfide and Combustible gases. An optional internal pump allows for pre-entry checking.

Gases Detected: Combustible, H2S, O2, CO

Sensor Technologies: electrochemical, catalytic

Run Time: 14 hours, 8 hours (pumped)

Alarms: highly visible flashing LED, piercing >90dB audible

Approvals: **ATEX • CE • IECEx • cCSAus • MED**



## PS200 ABC Docking Station

### Automatic Bump & Calibration Station

- **Ethernet, PC or Stand Alone mode**
- **Full Bump, Calibration and Charging Options**

The multifunctional Auto Bump/Calibration station provides simple but intelligent testing and calibration of the PS200 portable gas detector. Easy to use, with a durable, user friendly design, this automated test station offers high performance from a PC or stand-alone unit. The Auto Bump/Calibration station dramatically improves compliance record-keeping, efficiency and accuracy. Once the PS200 is placed in the dock it can be tested, calibrated and charged. Extremely cost effective, the station requires no testing and minimal effort by users.



## PS500

### Up to Five Gas Personal Monitor

- **Auto Bump and Calibration Station** (Accessory)
- **Over 15 Plug-&-Play Smart Sensors to Choose From Including PID for VOCs**

PS500 can be tailored to detect up to five gases and is particularly useful in noisy environments, featuring a piercing 95dBA alarm. An optional internal pump allows for pre-entry checking. PS500 features a high-impact resistance case and on-board data logging for calibration certificates, data management and event logging.

Gases Detected: Combustible, H2S, O2, CO, CO2, SO2, CL2, NH3, NO, NO2, PH3, VOC, C6H6, dual tox CO/H2S

Sensor Technologies: electrochemical, catalytic, PID, NDIR

Run Time: 12 hours min with pump - rechargeable NiMH or 3 AA alkaline

Alarms: visual 360° light bar, piercing 95 dB audible, TWA, STEL, low battery

Approvals: **ATEX • CE • IECEx • UL • MED**



## Protégé ZM

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### Zero Maintenance Single Gas Personal Monitor

- **No Charging or Calibration Required**
- **Display Shows Life Remaining, Gas Readings or Both**

Protégé ZM is an easy-to-use, zero-maintenance gas detection solution that delivers high performance in a small package. Once activated, the Protégé ZM monitor will operate for two years, maintenance and hassle free. Additional features include user configurable alarm set points, bump & calibration reminders and data logging.

Gases Detected: H<sub>2</sub>S, O<sub>2</sub>, CO

Sensor Technologies: electrochemical

Run Time: 2 years; hibernate mode extends life up to one year on CO and H<sub>2</sub>S

Alarms: 95 dB audible, red LED visual, vibrating

Approvals: ATEX • CE • IECEx • CSA • INMETRO • EAC • IP66/67



## BM 25/BM 25W

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### Up to 5 Gas Transportable Monitor (with Wireless Option)

- **Network up to 30 Wireless Devices (up to 1 km/.62 Mile Line of Sight)**
- **Intrinsically Safe Trickle Charger For Long-Term Monitoring In Classified Zones**

BM 25 is ideal for mobile or temporary work applications, team protection, area surveillance or locations where fixed detection systems are not suitable. Features include STEL and TWA values, data logging of four months or more and is compatible with the MX 40 controller.

Gases Detected: toxic, combustible, O<sub>2</sub>, CO<sub>2</sub>, Isobutylene

Sensor Technologies: electrochemical, catalytic, infrared, PID

Run Time: NiMH up to 170 hours operating time, 135 hours in wireless mode

Alarms: ultra bright LED beacon visible 360 degrees, 103 dB @ 1 meter, relays

Approvals: ATEX • CE • IECEx • CSA • INMETRO • EAC



# Alarm systems

## MEDC XB13

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### Rugged Weatherproof Beacon

- **Certified IP66 & IP67**
- **Corrosion Resistant Red Painted GRP Body.**

This range of ruggedised, weatherproof beacons, has been designed with high ingress protection to cope with harsh environmental conditions. Features include a high intensity flash, UV stable glass reinforced polyester corrosion resistant body, UV stable polycarbonate lens and retained stainless steel cover screws. Options include lens guard and telephone or relay initiate.

Power Options: 12VDC, 24VDC, 48VDC, 115VAC, 230VAC

Dome Colors: red, blue, green, amber, yellow, clear

Beacon: Xenon discharge, 10 Joules (second flash 7.5 Joules), 1 flash per second

Operating Temperature: -40°C to +70°C



## AV1/AV2 C1Dx

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### Hazardous Area Alarm Stations

- **Designed for Use in Hazardous Environments**
- **Optional Class I, Div 1 and Class I, Div 2**

AV1/AV2-C1Dx audio visual alarm stations are designed for installation and use in heavy industrial areas. The alarm stations consist of a warning light (2 light for AV2) and a siren and are suitable for hazardous locations or corrosive environment. Horn options include coded blast, sustained tone and multi-tone.

Approvals (horn & strobe only): cUL • (CSA option depending on model)

Power Options: 24 VDC, 120 VAC or 240 VAC

Dome Colors: amber, blue, clear, green, red or magenta

Horn/Strobe Options: coded blasts, sustained tones, multi-tones/98-100 dB @ 10 ft, 80-85 flashes per minute



# AV1/AV2-N4X

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## NEMA 4X Alarm Stations

- **Designed for Use in Hazardous Environments**
- **Rugged Construction and Easy Mounting**

AV1-N4X & AV2-N4X audio visual alarm stations are designed for use in light industrial non-hazardous environments where a very bright visual and high decibel alarm signal is required. The audible alarm is capable of producing coded blasts or sustained tones. AV1 consists of a single strobe and horn. The AV2 includes an additional horn.

Approvals: 4UL • CUL • CSA • CE (Strobe Only); UL • CUL • CSA • FM (VAC horn only), UL • CUL • ULC • CSFM (VDC horn only)  
Power Options: 12VDC, 24 VDC, 120 VAC or 240 VAC  
Dome Colors: amber, blue, clear, green or red  
Horn/Strobe Options: 99dbA @ 10 feet/1.75 joules per flash, 60-80 fpm



## Alarm Bar

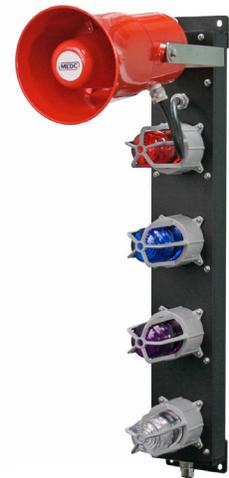
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### Audio/Visual Alarm Station

- **Dual or Quad Strobe Options**
- **Designed for use with the Site Sentinel, Pipe or Wall Mountable**

Alarm Bar is designed for use in industrial environments where a very bright visual and high decibel alarm signal is required. It is available in a dual strobe or quad strobe configuration. The horn and strobes meet NEMA 4X watertight, dust-tight requirements and are rated Class 1, Div 2. They are packaged in a NEMA 4X rain tight enclosure.

Strobe Color Options: amber, blue, clear green and red  
Alarms: Audible up to 125 dB @ 1 meter (128 selectable tones), joules xenon strobe 60-80 fpm  
Power Input: 12-48 VDC  
Approvals: ATEX • CE • IECEx (horn only); CSA, UL (strobe only)



## MEDC CU1

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### Combined Sounder Beacon

- **27 User Selectable Tones**
- **Suitable For Use in Harsh Environmental Conditions**

Intended for use in potentially explosive gas atmospheres, the CU1 has a power rating of up to 10 watts (sounder) and 10 joules (beacon) and is suitable for use in the harsh environmental conditions. The flamepaths, flare and body are manufactured from a UV stable glass reinforced polyester. Rated for IP66 and IP67 the CU1 includes many industry approvals including ATEX, IECEx and CENELEC.

Power Options: 24VDC, 48VDC, 110VAC, 120VAC, 230VAC, 240VAC, 250VAC  
Dome Colors: red, blue, green, amber, yellow, clear  
Horn/Beacon: up to 116dB / Xenon standard, filament & florescent optional  
Operating Temperature: -50°C to +60°C



# Application Engineering solutions

From consulting to implementation service, 3M Gas & Flame Detection specialists are inspired with a unique mission: getting it right the first time, every time.

## Your project in the hands of experts

No matter what your company's specifications are, (location, size, type of activity, standards to be met, ...), iES scrupulously reviews every requirement to determine the best response for your project. After a thorough analysis by engineering and gas detection experts, iES quickly establishes a properly architected solution. If necessary, 3D simulations can be made to facilitate the visualization of the project before implementation. In every circumstance, iES specialists provide advice and guidance throughout the partnership. From start to finish, your project is in the hands of experts.







## Gas & Flame Detection



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