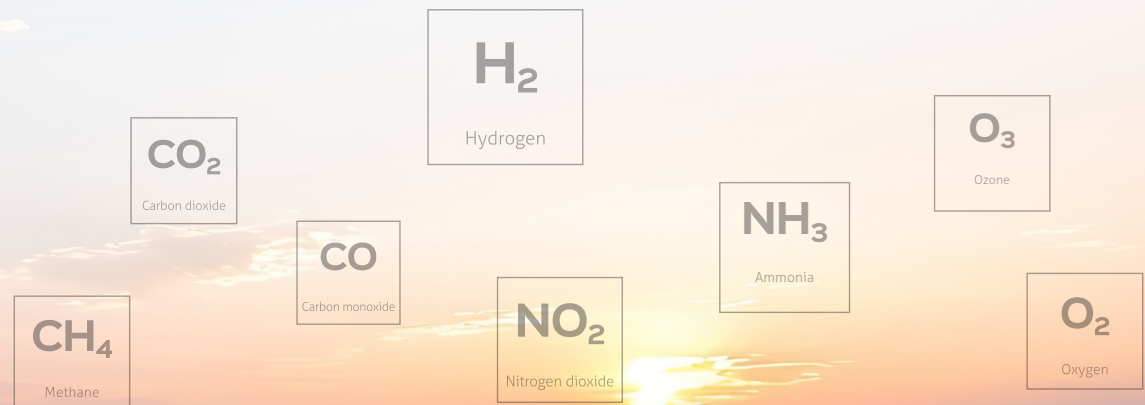


Gas Detection.



Application Book

Customized solutions for gas detection systems



Customized solutions for gas detection systems

- 
- ☒ Aviation and space travel
 - ☒ Battery Monitoring
 - ☒ Biogas Plants
 - ☒ Building Monitoring
 - ☒ Conservation
 - ☒ Data Center
 - ☒ Defence
 - ☒ Disposal & Recycling
 - ☒ Food & Beverage
 - ☒ Garage, Tunnel and Loading Zone
 - ☒ H2 – Electrolysis and storage
 - ☒ H2 – Mobility/charging stations
 - ☒ Heat pumps
 - ☒ Indoor Farming
 - ☒ Laboratory / Medicine / Research
 - ☒ Marine
 - ☒ Monitoring of livestock
 - ☒ Oil & Gas
 - ☒ Process monitoring
 - ☒ Water Treatment

Aviation and space travel

Detection of CH₄, H₂, O₂, NH₃, CH₃OH, C₂H₄O, H₂O₂ *

The aviation and space travel industries are exposed to a wide range of gas-related risks, for example through the use of flammable or toxic fuels, compressed gases or refrigerants. Research facilities, launch systems and maintenance areas work with highly explosive

or hazardous substances. Reliable gas detection is essential for protecting personnel, securing processes and detecting hazards such as fires, explosions or poisoning at an early stage. Our systems guarantee maximum safety for critical applications in aviation and space travel.

Gas hazards


- Hydrogen (H₂) and methane (CH₄) are highly flammable and are used as rocket fuels
- Hydrogen peroxide (H₂O₂) is highly oxidizing and dangerous in concentrated form
- Carbon monoxide (CO), NO, and NO₂ are produced during engine tests and pose a risk to personnel
- Ammonia (NH₃) and formaldehyde (CH₂O) are toxic and irritating
- Methanol (CH₃OH) and ethylene oxide (C₂H₄O) are flammable and hazardous to health

Benefits


- Reliable detection of toxic and combustible gases – for maximum safety on the ground
- SIL2 and ATEX/IECEX certified technology – for critical test and start-up environments
- Flexible system integration – for research, training, maintenance & launch facilities
- Early warning – protects personnel, infrastructure and operations
- Easy maintenance – quick sensor replacement due to X-Change technology

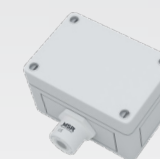
* **MSRGASPORTFOLIO** 
Applications according to gases




Digital-Gas-Controller DGC
S series 



PolyXeta® PX
X series 



Analog sensor MC
A series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 

Battery Monitoring

Detection of CO, CO₂, DMC, VOC, H₂ *

Depending on the cell chemistry, hazardous gases are produced during battery production, use and research. Whether during manufacturing, testing, storage, or recycling, leaks, thermal runaway, or malfunctions can lead to rapid outgassing and create an explosive mixture. Continuous gas

monitoring is therefore essential, especially in enclosed spaces with energy storage systems. Our gas detection systems detect hazardous gases at an early stage and meet the highest standards of safety, reliability and explosion protection.

Gas hazards

- Thermal runaway can release hydrogen, DMC, and VOCs – some of which are explosive and toxic
- Gas accumulations in closed test rooms or storage facilities increase the risk of explosion
- Invisible leaks during cell tests or charging cycles may go unnoticed
- Release during recycling processes can lead to sudden hazardous situations

Benefits


- Early detection of combustible and toxic gases – prevents explosion hazards
- Process reliability – continuous monitoring of critical areas
- Automatic alerting – direct connection to control and alarm systems
- SIL2-certified systems – guarantee maximum safety in hydrogen operation
- ATEX/IECEx and EN 60079-29-1 certified – suitable for potentially explosive atmospheres

* **MSR GASPORTFOLIO** 
Applications according to gases



Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 



PolyXeta® PX
X series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 

Biogas Plants

Detection of CO, CO₂, NH₃, CH₄ and O₂ *

Biogas plants are used to generate energy from organic substances such as manure, plant residues and food waste. During the fermentation process, flammable and toxic gases such as methane, carbon monoxide, hydrogen sulphide and ammonia are produced. These gases can pose explosion or health hazards if released in

an uncontrolled manner. Reliable gas detection is particularly essential in fermenters, gas storage tanks and technical rooms. Our gas detection systems detect hazardous gas concentrations at an early stage and meet the requirements for a safe plant operation.

Gas hazards

- Methane leakage can lead to explosive mixtures and pose a fire hazard
- CO₂ enrichment in gas storage tanks can lead to a risk of suffocation
- Hydrogen sulphide formation during fermentation processes is highly toxic and can cause respiratory arrest
- Ammonia leaks from fermenters or manure storage facilities irritate the respiratory tract and mucous membranes
- Uncontrolled gas leaks endanger operational safety and the environment

Benefits



- Early detection of flammable and toxic gases – prevents explosion hazards
- Process reliability – continuous monitoring of critical areas
- Robust and reliable – developed specifically for the harsh conditions in biogas plants
- Automatic alerting – direct connection to control and alarm systems
- Minimal maintenance effort – easy sensor replacement with X-Change technology

* **MSR GASPORTFOLIO** 
Applications according to gases



Digital-Gas-Controller DGC
S series 



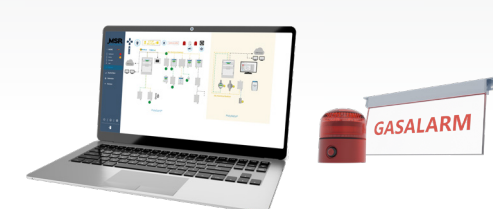
PolyXeta® PX
X series  



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 

Building Monitoring

Detection of H₄, C₃H₈, CO₂, CO, O₂ and fluorinated gases *

Monitoring buildings requires reliable detection of potentially hazardous gases to protect people and systems. Leaks of flammable or toxic gases can occur in technical rooms, central heating systems and enclosed areas, leading

to explosions or health hazards. Gas detection systems are also essential in catering kitchens to detect leaks of natural gas or propane at an early stage.

Gas hazards


- Leaks of natural gas or propane can form explosive mixtures
- CO₂ enrichment in technical rooms can lead to the risk of suffocation
- Leaks of ammonia in heating and cooling systems can cause respiratory irritation and health hazards
- Carbon monoxide formation in heating systems can be caused by incomplete combustion and has a toxic effect
- Refrigerant leaks from cooling systems can be toxic or flammable

Benefits


- Early detection of gas leaks – increases safety in buildings
- Modular system design – flexibly adaptable for different building sizes
- X-Change technology – fast sensor replacement without tools for minimal downtime
- Efficient monitoring – continuous control in all areas

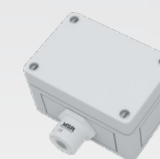
* **MSR GASPORTFOLIO** 
Applications according to gases



Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 



Analog sensor MC
A series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 

Conservation

Detection of CO₂, C₂H₄, O₂ and NH₃ *

In the food processing industry, controlled atmospheres play a central role in the conservation, ripening and storage of products. Precise gas monitoring systems are essential to ensure product quality and safety, particularly when maturing and storing food. Our stationary

gas detection systems enable continuous monitoring of the ambient air and detect hazardous gas concentrations at an early stage. They help to effectively protect people and plants while also ensuring long-term product quality.

Gas hazards

- O₂ enrichment in ripening chambers can pose a risk of suffocation
- Increased ethylene concentrations in ripening rooms can lead to uncontrolled post-ripening and product spoilage
- Leaks of nitrogen can displace oxygen unnoticed
- Uncontrolled gas concentrations can negatively impact product quality and shelf life
- Leaks of ammonia from cooling systems can cause respiratory irritation and health hazards

Benefits


- Early leak detection – prevents quality losses and safety risks
- Efficient gas utilization – reduces operating costs through precise monitoring
- Flexible system solution – from individual detectors to complex systems with remote monitoring
- Fast installation – pre-configured and ready to order immediately
- Reliable service – thanks to an extensive partner network

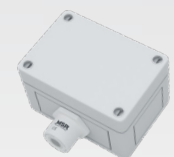
* **MSRGASPORTFOLIO** 
Applications according to gases




Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 



Analog sensor MC
A series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 

Data Center

Detection of CO₂, H₂, CO, O₂ and other gases *

Data centers are highly specialized facilities for storing, processing and managing large volumes of data. Reliable gas monitoring is essential to ensure operational safety. Our stationary gas detection systems enable continuous monitoring of the ambient air – for example, in

the event of leaks, refrigerant leaks or thermal runaway. Through precise sensor technology and modern control systems, hazardous gases are detected at an early stage and targeted measures are triggered.

Gas hazards

- Leaks from extinguishing systems can lead to the displacement of oxygen and cause an acute risk of suffocation
- During the thermal runaway of batteries, highly reactive, flammable and toxic gases such as hydrogen and carbon monoxide are produced
- Leaking cooling systems release refrigerants which, depending on the type, can be toxic, flammable or explosive
- Pollutants in room air endanger IT systems and the health of staff in the long term

Benefits


- Modularly expandable – the system grows flexibly with your data center
- Large controller – flexibly configurable for different areas of application
- Monitoring of the room from outside – no need to enter the room
- Simple access control – uncomplicated integration into existing systems
- X-Change technology – faster, safer replacement of sensor without tools

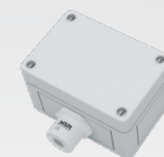
* **MSRGASPORTFOLIO** 
Applications according to gases




Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 



Analog sensor MC
A series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 

Defence

Detection of O₂, CO₂, H₂, NH₃, H₂S, Cl₂, O₃ and many other gases *

Military facilities are subject to the highest safety requirements – especially when handling hazardous substances, storing critical materials and in closed infrastructures such as bunkers, submarines or research facilities. Our gas detection systems enable the reliable

monitoring of a wide range of areas: from missile systems and aircraft hangars to military data centers. Toxic, flammable and oxygen-displacing gases are detected at an early stage.

Gas hazards


- In the event of CBRN incidents, toxic, corrosive or asphyxiating gases can escape in enclosed areas
- Highly flammable and toxic vapors are produced during the storage and refueling of rocket fuels
- In submarines, bunkers and hangars, oxygen displacement due to leaks can be life-threatening
- In research and laboratory facilities, there is a risk of chemical reactions and the release of toxic gases

Benefits


- Reliable protection in the event of CBRN incidents thanks to precise detection of hazardous gases
- Robust technology for extreme conditions
- Ready for use in cold, heat or vibration
- Seamless integration into existing systems
- High reliability (SIL2) – safe operation even in the event of critical faults
- X-Change technology – uncomplicated sensor replacement

* **MSRGASPORTFOLIO** 
Applications according to gases



Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 




PolyXeta® PX
X series  



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 



Disposal & Recycling

Detection of CO, NO, NO₂, SO₂, CL, NH₃ *

A variety of hazardous gases are produced in disposal and recycling processes – for example, during the decomposition of organic waste in landfills or during thermal treatment in waste incineration plants. These gases can be toxic, flammable, or explosive and require continuous monitoring. Precise gas measurement is particularly important in collection points, bunkers, storage facilities, and exhaust gas treatment systems. Our gas detection systems reliably detect leaks and protect people, the environment, and plants from acute hazards.

Gas hazards

- Carbon monoxide (CO) is produced during incomplete combustion and is highly toxic
- Nitric oxide (NO) and nitrogen dioxide (NO₂) are produced in combustion processes and irritate the respiratory tract
- Sulfur dioxide (SO₂) can be released during the decomposition of sulfur-containing substances
- Chlorine (Cl₂) can be released in toxic form in the event of an incident
- Ammonia (NH₃) is produced from organic waste and irritates mucous membranes

Benefits


- Reliable detection of combustible and toxic gases – protects personnel and plant operation
- SIL2, ATEX/IECEX, and EN 60079-29-1 certified – suitable for harsh waste disposal environments
- Centralized monitoring solutions – for bunkers, conveyor areas and exhaust pipes
- Robust system design – suitable for dirty, humid and gas-laden environments

* **MSRGASPORTFOLIO** 
Applications according to gases




Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 



PolyXeta® PX
X series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 



Food & Beverage

Detection of NH₃, CO₂, C₃H₈ and HFKW *

Cooling systems are used in numerous industries to safely store and process goods and products. Refrigerants such as ammonia, CO₂ and fluorinated hydrocarbons (HFCs) are often used, which pose a risk to people and the environment in the event of leaks. Particularly in the food and beverage industry, dispensing systems

and beverage storage facilities, continuous monitoring of the ambient air is essential to protect people and plants. Our gas detection systems detect leaks at an early stage and meet the requirements of the EN 378, ASHRAE 15 and EN 14624 standards to ensure maximum safety.

Gas hazards

- Ammonia refrigerant leaks can lead to acute respiratory distress and chemical burns
- CO₂ leaks from dispensing systems or cold storage cells can lead to suffocation
- Hydrofluorocarbons (HFCs) from refrigeration systems can displace oxygen and be flammable
- Uncontrolled leaks reduce the efficiency of refrigeration systems and increase operating costs
- Escaping gases can impair product quality and lead to the loss of goods

Benefits


- Safe operating environment—monitoring in accordance with EN 378, ASHRAE 15 and EN 14624
- Increased efficiency – fast leak detection prevents energy losses
- Environmental friendly operation – reduces emissions and protects the environment
- Cost reduction – early leak detection minimizes operational downtime
- Flexible system solution – from individual detectors to complex systems with remote monitoring

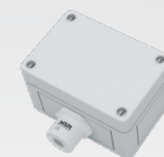
* **MSRGASPORTFOLIO** 
Applications according to gases




Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 



Analog sensor MC
A series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 

Garage, Tunnel and Loading Zone

Detection of CO, NO₂, H₂, NO and LPG *

Garages, tunnels and similar infrastructures pose special requirements for gas detection, as exhaust gases, fuel vapors and gas leaks can occur. Parking garages, charging stations and vehicles using alternative fuels in particular require reliable detection of carbon monoxide, nitrogen oxides, hydrogen and methane. In tunnels, there

is also a high level of pollution from combustion engines. Our gas detection systems ensure continuous monitoring in accordance with EN50545 and detect hazardous gas concentrations at an early stage to ensure a proper ventilation for personnel safety and system protection.

Gas hazards

- Carbon monoxide from combustion engines can reach life-threatening concentrations if ventilation is poor
- Hydrogen leaks in electric vehicles and hydrogen vehicles can form explosive mixtures
- Methane and propane gas leaks in underground garages pose an increased risk of explosion
- High concentrations of nitrogen oxides from diesel and gasoline engines are hazardous to the respiratory tract
- Defective batteries can cause hydrogen to leak in charging zones and pose a risk of explosion

Benefits


- Flexibly adaptable system – modular design and individually configurable
- Standard-compliant and safe – complies with VDI 2053, EN 50545 and EN 50271
- Effective protection against hazards – early warning for CO, NO₂, NO and LPG
- Fast installation – pre-configured and ready to order immediately
- Reliable service – thanks to an extensive partner network

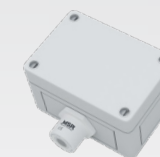
* **MSR GASPORTFOLIO** 
Applications according to gases




Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 



Analog sensor MC
A series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 

H2 - Electrolysis and storage

Detection of H₂ *

Hydrogen is a key energy carrier for the future and is used in electrolysis for production, as well as for storage in pressurized tanks and containers. Due to its high flammability and small molecular size, there is a risk of uncontrolled gas leaks, which can form explosive mixtures with air. Reliable gas detection is therefore essential,

particularly in electrolysis plants and hydrogen storage facilities. Our gas detection systems provide continuous monitoring of H₂ and meet safety and explosion protection requirements in accordance with SIL2, ATEX/IECEX, and EN 60079-29-1.

Gas hazards

- Hydrogen leaks can form explosive mixtures with air
- Leaks in storage tanks or pipes lead to hazardous gas accumulations
- Uncontrolled release of hydrogen can lead to deflagrations in enclosed spaces
- Fast-diffusing H₂ molecules can escape even through the smallest leaks
- Hydrogen accumulations in poorly ventilated areas increase the risk of explosion

Benefits


- Easy integration – connection to central monitoring systems
- Flexible system solution – from individual detectors to complex systems with remote monitoring
- SIL2-certified systems – ensuring maximum safety in hydrogen operations
- ATEX/IECEX-certified devices – suitable for hazardous areas
- EN 60079-29-1 certified – reliable detection of hydrogen leaks

* **MSRGASPORTFOLIO** 
Applications according to gases




Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 



PolyXeta® PX
X series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 



H2 - Mobility/charging stations

Detection of H₂ *

Hydrogen mobility is gaining importance, especially at charging stations and filling stations for fuel cell vehicles. H₂ is stored under high pressure and transferred during refuelling, which carries the risk of leaks and explosive gas mixtures. Due to its high volatility, hydrogen can

escape even from the smallest leaks and form dangerous concentrations. Our gas detection systems continuously monitor the ambient air, detect hydrogen leaks at an early stage and meet the safety requirements of SIL2, ATEX/IECEx and EN 60079-29-1.

Gas hazards

- Hydrogen leaks during refuelling or from H₂ storage containers can form explosive mixtures
- Hydrogen escaping rapidly from a broken pipe can ignite at sources of ignition
- Uncontrolled hydrogen release in enclosed areas increases the risk of explosion
- H₂ accumulations due to malfunctions in the refuelling system can lead to deflagration

Benefits


- EN 60079-29-1 certified – reliable detection of hydrogen leaks
- Modular system design – flexible for electrolysis plants and storage applications
- Easy integration – connection to central monitoring systems
- Flexible system solution – from individual detectors to complex systems with remote monitoring

* **MSR GASPORTFOLIO** 
Applications according to gases




Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 



PolyXeta® PX
X series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 

Heat pumps

Detection of CO₂, NH₃, C₃H₈ and fluorinated gases *

Heating pumps are central components for climate-friendly heating and cooling of buildings. They use refrigerants such as CO₂, ammonia or fluorinated gases and are used in private and industrial applications. Hazardous gas concentrations can occur in the event of malfunctions or leaks, which endanger both people and the environment. Reliable monitoring is particularly essential in closed technical rooms. Our gas detection systems meet the requirements of EN 378, DIN EN 14624 and ASHRAE 15 standards and ensure safe operation.

Gas hazards

- Refrigerant leaks can lead to oxygen displacement and suffocation
- Ammonia leaks from industrial heating pumps can cause respiratory irritation and health issues
- CO₂ leaks in closed technical rooms can create hazardous breathing conditions
- If propane is used as a refrigerant, leaks can pose an explosion risk
- Leaks of fluorinated refrigerants can lead to climate damage and respiratory problems

Benefits


- Early detection of leaks – prevents hazardous gas accumulations
- Efficient monitoring – even in closed technical rooms and heating systems
- Modular system design – flexibly adaptable for different applications
- X-Change technology – fast sensor replacement for minimal maintenance downtime
- SIL2-certified fail-safe operation – reliable operation even in the event of faults (optional)

* **MSR GASPORTFOLIO** 
Applications according to gases




Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 



PolyXeta® PX
X series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 



Indoor Farming

Detection of CO₂, NH₃, O₃, CH₄ and O₂ *

Indoor farming enables the controlled cultivation of plants in enclosed spaces and allows for efficient resource use. In greenhouses, vertical farms and plantations, gases such as CO₂ are often used to promote growth and ammonia and ozone for disinfection. If used improperly

or in the event of leaks, however, these gases can become hazardous and negatively impact the air. Our gas detection systems continuously monitor air quality and detect hazardous gas concentrations at an early stage to ensure the safety of personnel.

Gas hazards

- CO₂ enrichment to promote growth can lead to suffocation if threshold values are exceeded
- Ammonia from fertilizers or disinfectants can irritate the respiratory tract
- Ozone used for air purification can irritate mucous membranes and the respiratory tracts if the concentration is too high
- Methane leaks during the use of biogas heating systems can form explosive mixtures
- A lack of oxygen due to high CO₂ supply can become hazardous in closed cultivation rooms

Benefits


- Early detection of CO₂ and other gases – protects personnel
- Adaptable monitoring – suitable for vertical farms and indoor greenhouses
- Ensure energy efficiency – through precise control of CO₂ supply and gas usage
- Automatic alerting – direct warning in the event of critical gas concentrations
- Minimal maintenance – easy sensor replacement with X-Change technology

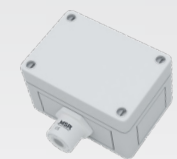
* **MSRGASPORTFOLIO** 
Applications according to gases




Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 



Analog sensor MC
A series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 

Laboratory / Medicine / Research

Detection of CO₂, Cl₂, H₂S, C₂H₆O, C₃H₆O, NH₃, O₂ and CH₄ *

Laboratories, research facilities, food companies, pathology labs and the pharmaceutical industry often work with hazardous gases and chemicals. In these environments, reliable gas detection systems are essential to protect personnel, samples and equipment from dangerous gas

leaks. In particular, when working with reagents, cooling systems, toxic gases and organic solvents, hazardous gas concentrations must be detected at an early stage. Our systems continuously monitor the room air and use precise sensors to ensure safety in laboratories and research areas.

Gas hazards

- CO₂ enrichment in incubation chambers can lead to suffocation
- Solvent vapors such as ethanol or acetone can be flammable and harmful to health
- A lack of oxygen in enclosed laboratory spaces can cause shortness of breath and suffocation
- Leaks of toxic gases such as chlorine or hydrogen sulphide endanger personnel and the environment
- Methane escaping from bioreactors or laboratory processes can form explosive mixtures

Benefits


- Early detection of toxic and flammable gases – protects personnel and samples
- Flexible system design – individually adaptable to laboratory sizes and requirements
- Oxygen monitoring – early warning of critical O₂ deficiency in enclosed spaces
- Wide-ranging portfolio includes many gas and measuring ranges
- Simple connection to existing BMS

* **MSRGASPORTFOLIO** 
Applications according to gases




Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 



Analog sensor MC
A series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 

Marine

Detection of NH_3 , CH_3OH , H_2 , CH_4 , C_3H_8 , CO and many more *

A wide variety of gas hazards occur in shipping – whether from fuels such as LNG, hydrogen, or diesel, from battery systems or during bunkering. Gas leaks in engine rooms, storage tanks, or battery compartments can lead to explosions, fires or poisoning. Continuous gas detection is

crucial for the safety of crew and equipment, especially on enclosed vessels. Our certified systems offer reliable detection in all maritime applications – from cargo ships to ferries, from yachts to bunker ships.

Gas hazards

- Methane (CH_4) and propane (C_3H_8) from LNG propulsion form explosive mixtures
- Hydrogen (H_2) is released in battery-powered ships and charging systems
- Methanol (CH_3OH) as an alternative fuel is highly flammable and toxic
- Ammonia (NH_3) as an emission-free marine fuel is highly irritating and toxic
- Carbon monoxide (CO) and sulfur dioxide (SO_2) are produced in exhaust gases and endanger the crew

Benefits


- DNV-certified systems – suitable for marine and ship approvals
- ATEX/IECEx and EN 60079-29-1 compliant – for potentially explosive ship spaces
- SIL2-certified gas detection technology – maximum operational safety at sea
- Versatile application – engine room, battery compartment, or bunker station
- Modular and robust – resistant to vibration, humidity and salt mist

* **MSRGASPORTFOLIO** 
Applications according to gases




Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 



PolyXeta® PX
X series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 



Monitoring of livestock

Detection of NH_3 , CH_4 , H_2S , CO_2 and O_2 *

In animal husbandry, monitoring the air of stables and storage rooms is crucial for the health of animals and the safety of personnel. Gases such as ammonia, methane and hydrogen sulphide can be produced in livestock stables as a result of manure and organic decomposition. When the carcass is used in slaughterhouses

and processing operations, additional hazardous gases can occur that endanger both the air and the systems. Our gas detection systems continuously monitor the ambient air, detect hazardous concentrations at an early stage and thus ensure a safe and hygienic working environment.

Gas hazards


- Ammonia formation from manure and excrement can severely irritate the respiratory tract
- Methane release from organic waste and manure can lead to the formation of explosive mixtures
- Hydrogen sulphide formation in slurry pits is highly toxic and can cause respiratory arrest
- CO_2 enrichment through fermentation processes can impair air quality

Benefits


- Early detection of toxic and flammable gases – protects animals and personnel
- Robust system technology – specially developed for harsh stable environ
- Flexible modular system – monitoring of stable, biogas plants and silo via a controller
- Can be integrated into stable monitoring – easy connection via Modbus for central control
- Easy maintenance – fast sensor replacement thanks to X-Change technology

* **MSRGASPORTFOLIO** 
Applications according to gases




Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 



PolyXeta® PX
X series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 



Oil & Gas

Detection of CH₄, H₂S, CO, SO₂, C₃H₈, NH₃ and more *

Highly flammable and toxic gases are produced in the oil and gas industry – whether during extraction, processing, storage or distribution. Whether in pipelines, refineries, offshore platforms, tanks, or terminals, leaks or defective systems can cause serious accidents. Gas storage

facilities and petrochemical processes also require continuous monitoring. Our gas detection systems detect critical gas concentrations at an early stage, meet international explosion protection requirements and offer maximum operational safety in demanding environments.

Gas hazards

- Methane (CH₄), the main component of natural gas, is highly flammable and forms explosive mixtures
- Hydrogen sulfide (H₂S) is extremely toxic and is produced during extraction or refining
- Carbon monoxide (CO) occurs during incomplete combustion and is invisibly toxic
- Ammonia (NH₃) and sulfur dioxide (SO₂) irritate the respiratory tract and are produced in process exhaust gases
- Hydrogen (H₂) and propane (C₃H₈) are highly explosive if they leak from equipment or pipes

Benefits


- DNV certified – for use in marine and offshore applications
- ATEX/IECEx and EN 60079-29-1 certified – suitable for potentially explosive atmospheres
- SIL2-certified systems – guarantee maximum safety for critical processes
- Reliable gas detection – detects CH₄, H₂S, VOCs, CO & many more at an early stage
- Robust and adaptable – ideal for offshore facilities, refineries, storage facilities & pipelines

* **MSR GASPORTFOLIO** 
Applications according to gases



Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 



PolyXeta® PX
X series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 

Process Monitoring

Detection of CH₄, VOC, NH₃, H₂S, CO₂, H₂ and more *

A wide variety of gases are produced or used in industrial processes – from combustible to toxic substances. Whether in the packaging, paper, fertilizer or pharmaceutical industry: leaks in pipes, reactors, or storage facilities can quickly lead to explosive or hazardous atmospheres.

Protective or process gases must also be monitored reliably. Our gas detection systems detect a wide range of gases at an early stage, ensure process stability and meet the highest requirements for plant and personal safety.

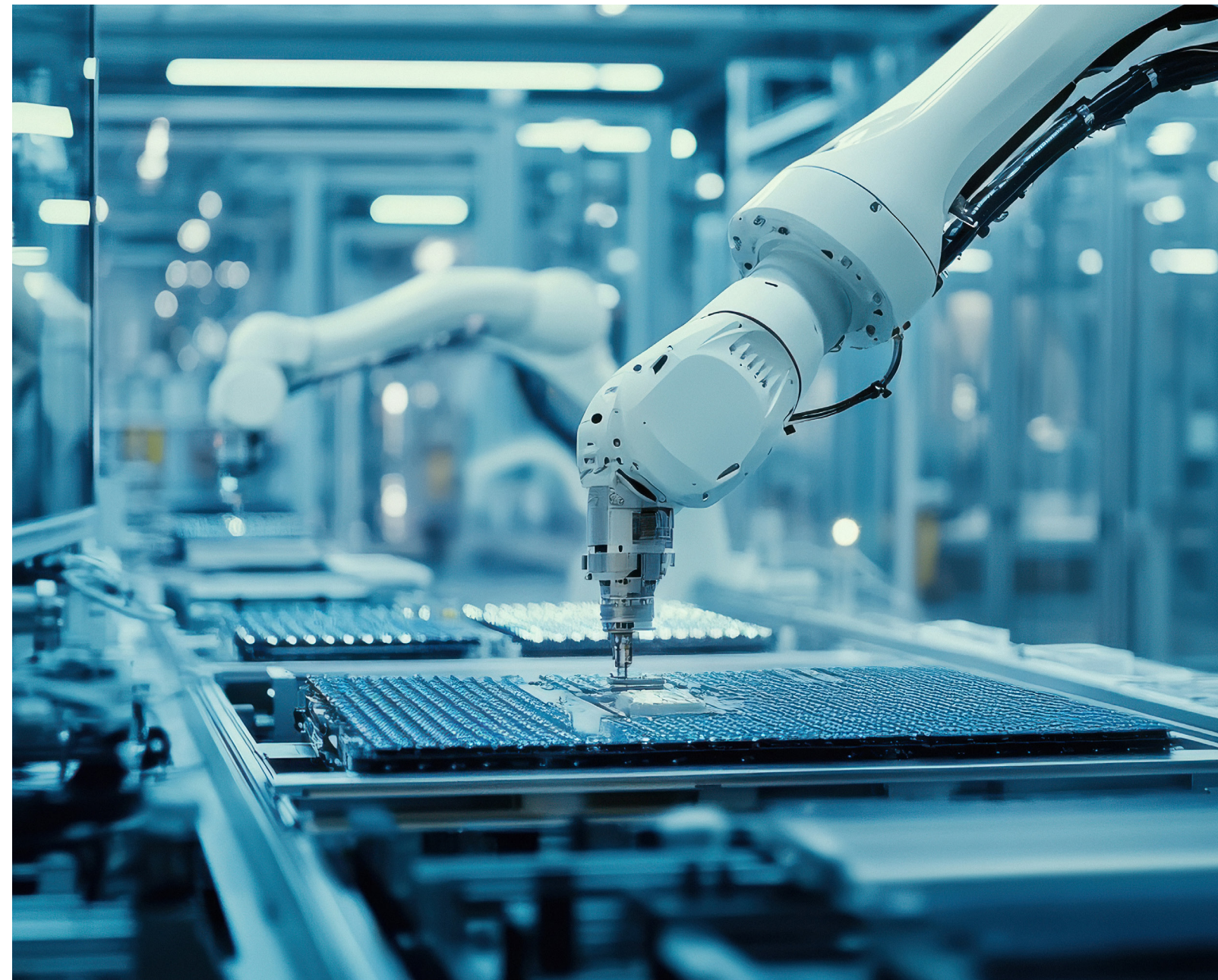
Gas hazards

- Explosive gases such as methane (CH₄) or solvent vapors (VOCs) in the event of leaks
- Toxic substances such as ammonia (NH₃) or hydrogen sulfide (H₂S) pose a risk to personnel
- Oxygen displacement by inert gases such as nitrogen (N₂) or CO₂ can lead to suffocation
- Leaks release uncontrolled gas concentrations and interrupt processes
- Inflammable gases such as hydrogen (H₂) require constant monitoring

Benefits


- Reliable detection of combustible and toxic gases – protects people, processes and plants
- SIL2, ATEX/IECEX and EN 60079-29-1 certified technology – suitable for critical areas
- Modular system design – scalable for any process environment and plant size
- Integration into control systems – easy connection via Modbus or analog
- Easy sensor replacement due to proven X-Change system

* **MSRGASPORTFOLIO** 
Applications according to gases



Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 



PolyXeta® PX
X series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 

Water Treatment

Detection of O₃, Cl₂, H₂S, CO₂, O₂ and NH₃ *

Water treatment involves the purification and treatment of water for various applications, ranging from swimming pools and drinking water treatment plants to wastewater treatment and fish farming. Chemical disinfectants and gases such as chlorine, ozone or ammonia are used in these areas, which can pose a risk to people

and the environment. Reliable gas detection is essential, particularly in enclosed spaces or technical areas. Our gas detection systems detect hazardous gas concentrations at an early stage and thus ensure the safety of people and systems.

Gas hazards

- Chlorine gas leaks in swimming pools can lead to respiratory irritation and health risks
- Ozone leaks during drinking water treatment can irritate mucous membranes and cause respiratory issues
- Ammonia leaks in aquaculture facilities can result in poisoning of humans and animals.
- Hydrogen sulphide formation during wastewater treatment can be hazardous due to the fermentation process
- Uncontrolled release of CO₂ in ventilation systems can lead to shortness of breath

Benefits


- Flexible system solution – from individual detectors to complex systems
- Early detection of hazardous gases – prevents health hazards and environmental risks
- Efficient monitoring – continuous control in treatment plants and swimming pools
- Easy to maintain – fast sensor replacement thanks to X-Change technology
- Uncomplicated connection to existing BMS systems

* **MSRGASPORTFOLIO** 
Applications according to gases



Digital-Gas-Controller DGC
S series 



Sensor-Board SB
S series 



PolyXeta® PX
X series 



Multi-Sensor-Controller MSC
M series 



Warning- and Sensor-Board WSB
W series 



Accessories 



Global Experts in Gas Detection.



With a worldwide partner network and its own branches around the globe.



www.msr-electronic.de

We are part of the MSR-Group.