

PERFECT SOLUTIONS FOR GAS ALARM SYSTEMS



# Catalog 2019



**Fixed Gas Warning Systems  
for Buildings, Industry and Marine**

Version 12.1 2019 EN 



[www.msr-electronic.de](http://www.msr-electronic.de)

# References Gas Alarm Systems



# Perfect Gas Alarm Systems

Developed and manufactured for sustainable protection

**MSR-Electronic develops and produces reliable gas alarm systems that permanently monitor the ambient air and thereby protect human life and values.**

MSR-Electronic offers a broad spectrum of methods for the detection of gases. On this basis MSR-Electronic develops individual gas sensors and systems for many applications where toxic or combustible gas concentrations can form and integrates them into complex warning systems.

The interaction of the components from MSR-Electronic enables fast and reliable monitoring. Thus not only potential sources of error are limited but also the planning effort and installation costs are reduced.

**Safety First – MSR-Electronic provides extended safety and complies with more than the global standards.**

Products by MSR-Electronic comply with and even excel the important European standard EN 50545. The safety features monitor the connected warning devices around the clock for functionality and wire break.

**The image film of MSR-Electronic:**

Visit the new MSR Website or the MSR YouTube Channel





# With the values of a family - owned company

The globally operating company MSR-Electronic combines modern corporate management with the values of a family business. Through its global sales network, MSR-Electronic has long standing client relationships that are based on reliability and mutual trust.

If you opt for the safe solutions and innovative products of MSR-Electronic, you benefit from many advantages such as quality and availability, competitiveness of the products, responsibility towards customers and business partners as well as open mindedness to new challenges.



**Worldwide distribution**



**Innovative products**



**Customer-oriented development**



# Refining innovative ideas to meet customer needs

Inventions arise where promising ideas meet customer requirements. The basic development prepares new technologies for product development. Safety technology should not be an end in itself, but must protect life. You lose if you do not know your customer needs. Therefore, MSR-Electronic takes the time to ascertain the needs before developing the product.

## **Sustainability and environmental protection**

Our corporate policy aims for the long-term development of existing business relationships and we would like to make effective use of growth potentials with new products in accessible market niches. We pursue our corporate goals on the basis of legally compliant corporate management with a clear focus on our responsibility towards business partners, employees and the environment – sustainable corporate development is of fundamental importance for us.





# Certificates and Approvals

Across the world and all sectors.



# Safety for all applications

**The products of MSR-Electronic comply with more than the general standards and regulations and can therefore guarantee the safety of the system.**

When handling hazardous substances special precautions are mandatory. This is especially true in the chemical industry, where many different hazardous substances are used.

MSR-Electronic provides innovative sensors and controllers to detect and immediately display life-threatening gases. The products, services and training courses are based on years of experience and have been compiled with a lot of know-how and tailored to individual customer requirements.

The sensor series of MSR-Electronic continuously monitors the air for combustible and toxic gases and O<sub>2</sub> in Zone 1 and Zone 2.



# Certificats and Approvals

Across the world and all sectors.



## Buildings: Approvals for PolyGard®2

### Measurement Function Test

Sensors / control devices - series type:

DGC-06, GC-06, EP-06, SB2, MSC2, MSB2, MGC2, SC2-Tox, SC2-Ex, MC2-Tox, MC2-Ex

**Standard: EN 50545-1 (TÜV-Süd)**

### Functional Test (SIL)

Sensors / control devices - series type:

DGC-06, GC-06, EP-06, SB2, MSC2, MSB2, MGC2, SC2-Tox, SC2-Ex, MC2-Tox, MC2-Ex

**Standard: EN 50271 chapter 4.7 (TÜV-Süd)**

### Additional standards and certificates:

EN 61010-1

ANSI/UL 61010-1

CAN/CSA-22.2 No. 61010-1

EN 378

ISO 9001

Intertek ETL

PCT Approval





## Industry: Approvals for PolyXeta®2

### Electrical Explosion Protection Test

Sensors / controllers – device series type:  
PX2, SX1-Tox, SX1-Ex

**Standard:**

**ATEX and IECEx in protection type Ex d for Zone 1 and Zone 2 (DEKRA-EXAM)  
EN 60079-0, EN 60079-1 (DEKRA-EXAM)**

### Functional Test (SIL)

Sensors / controllers – device series type:  
PX2, SX1-Tox, SX1-Ex

**Standard:**

**EN 61508-0, EN 61508-2, EN 61508-3, EN 61508-4 (DEKRA-EXAM)  
SIL2 approval for hardware and software (DEKRA-EXAM)**



## PolyGard®2

**Gas Alarm Systems  
in Closed Buildings**

**Extended Safety**



## PolyXeta® 2

**Gas Alarm Systems  
for Industrial Plants**



## PolyMarine®

**Gas Alarm Systems  
for Shipping**



## PolySam®

**Gas Alarm Systems  
for Gas Analysis**



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# PolyGard<sup>®</sup> 2

Fixed Gas Alarm Systems  
for closed Buildings



# Modular for individual Requirements

Gas warning or gas alarm systems must be reliable at all times. When gas leakages such as carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO) or nitrogen oxides (NO<sub>x</sub>), occur, quick intervention and reliable products are needed.

The sensors, controllers and warning devices by MSR-Electronic effectively protect people and systems in hazardous situations when combustible or toxic gases are emitted. With the help of modern communication technology a swift reaction is possible.

## + Your advantages:

- **More security:**  
More than required by all national standards
- **Exchangeable sensor (X-Change):**  
Significantly lower maintenance costs
- **Better predictability with overall lower costs**
- **Integration in BMS (Bacnet, Modbus)**

# Garages, Tunnels, Loading Zones

## Your Protection against CO, NOx and LPG

**MSR-Electronic offers reliable sensors, controllers and warning devices for parking garages and loading zones.**

PolyGard®2 sensors are used for the continuous monitoring of harmful gas contents in the air. Whether as a classic CO warning system or as a gas warning system combined with NOx (nitrogen oxides) and LPG (liquefied petroleum gas) measurement, the MSR-Electronic gas warning systems protect human health in these areas.

The devices are manufactured according to the regulations for parking garages and to different directives like EN 50545-1. In addition to the obligatory CO measurement required by law, a NOx measurement is also recommended because of the increased number of diesel vehicles.

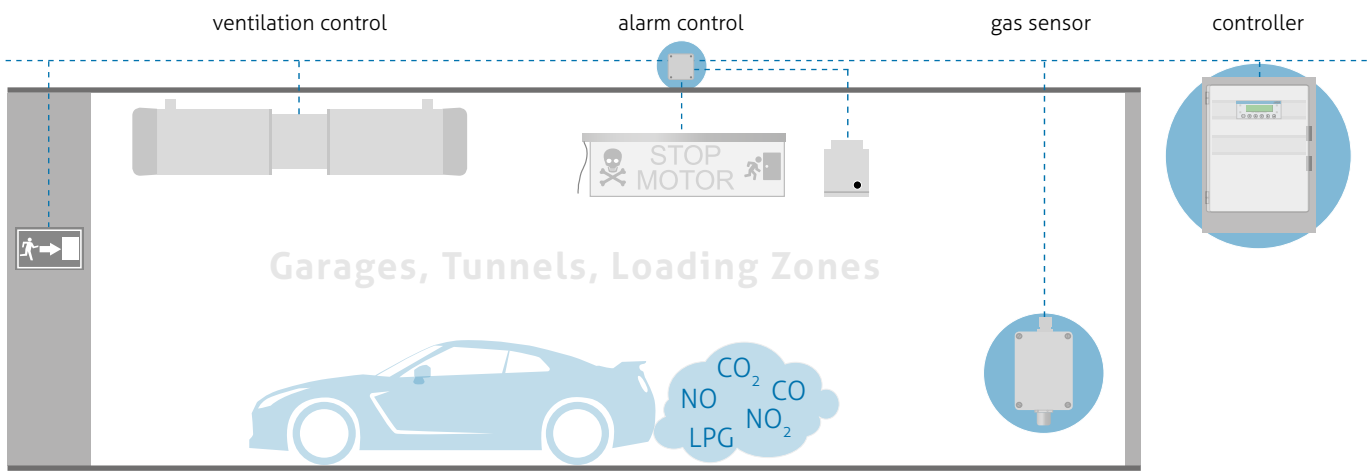
### Your features:

- Up to 7 modules EP-06 / GC-06 for controlling the actuators
- Per module up to 32 actuators
- Digital controller PolyGard®2 DGC-06 for connecting
  - up to 7 modules
  - up to 32 analog (MC2) and/or 96 digital sensors (SC2, SB2, MSB2)
  - up to 32 relay outputs: potential-free / 250 V / 5 A
  - up to 16 analog outputs 0-10 V / up to 4 digital inputs
- EN 50545 and EN 50271
- Housing protection type IP54

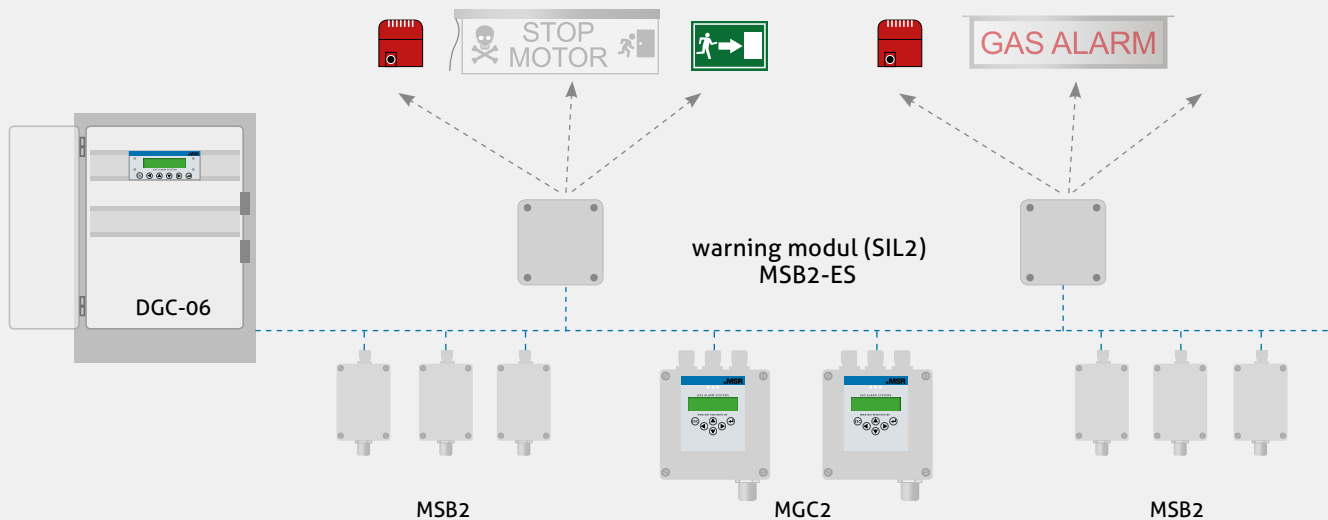




### Schematic overview



### Communication of products





# Refrigeration Systems

## Your protection against refrigerants

**MSR-Electronic offers reliable sensors, controllers and warning devices for refrigeration systems.**

PolyGard®2 sensors are used for leakage detection in refrigeration systems. Refrigerants are highly toxic and usually very harmful for the environment. An undesired leakage of the refrigerant has to be strictly avoided. The gas alarm systems of MSR-Electronic reliably detect any gas leaks. First and foremost you protect human life and the refrigeration system is monitored.

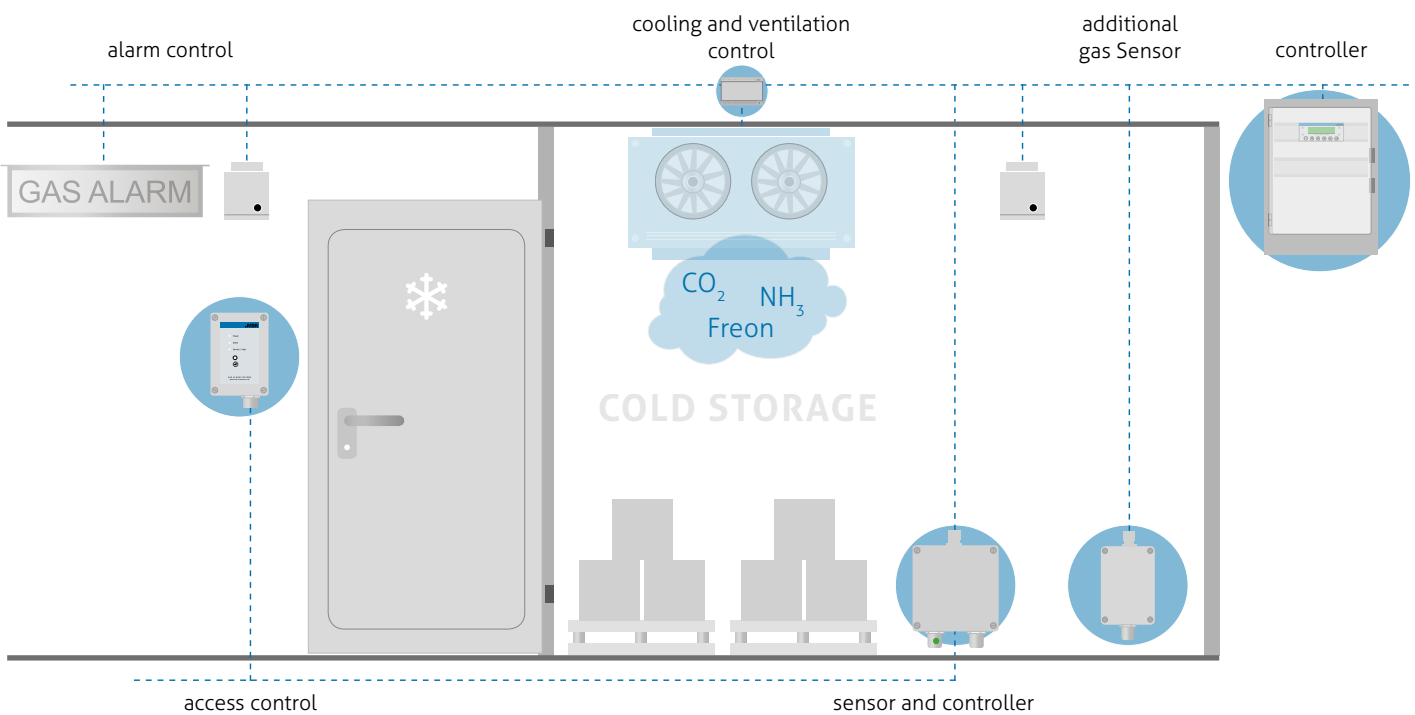
**All products comply with and even exceed the new European standard EN 378.**

### Your advantages:

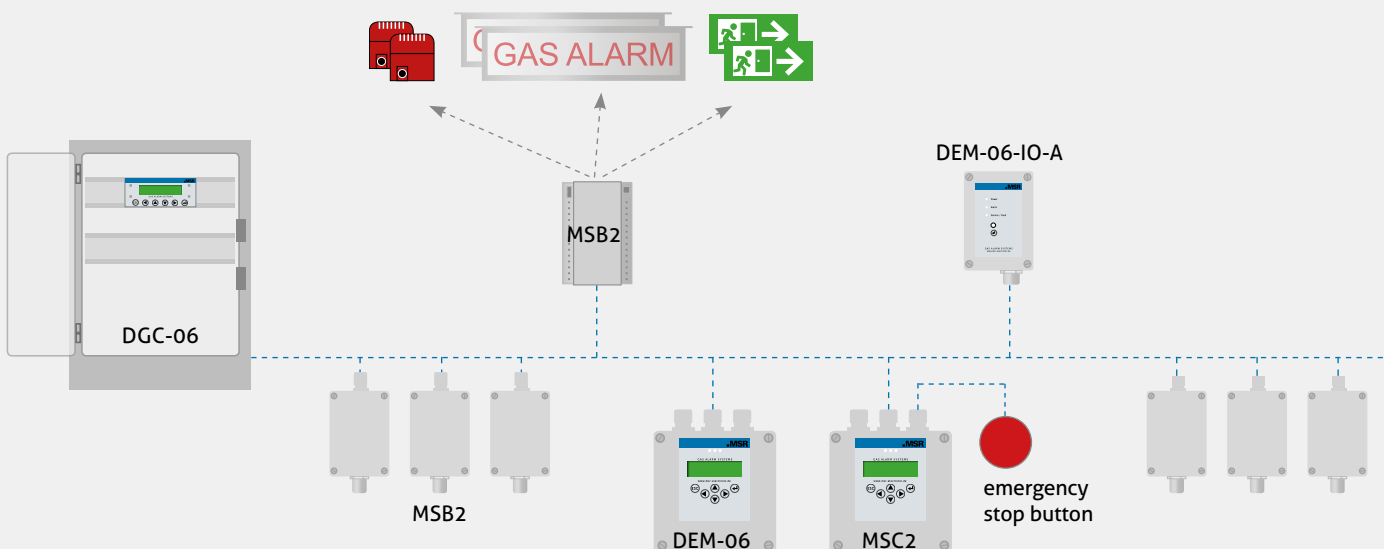
- More safety: More than required by all national standards
- Significantly lower maintenance costs
- Integration into BMS (Bacnet, Modbus, LON)
- Up to 7 modules EP-06 / GC-06 for controlling the actuators
- Per module up to 32 actuators
- Digital controller PolyGard®2 DGC-06 for connecting
  - up to 7 modules
  - up to 32 analog (MC2) and/or 96 digital sensors (SC2, SB2, MSB2)
  - up to 32 relay outputs: potential-free / 250 V / 5 A
  - up to 16 analog outputs 0-10 V / up to 4 digital inputs
- Conformity to EN 50545 and EN 50271
- Housing protection type IP54



### Schematic overview



### Communication of products





# VRF/VRV Systems

## Your protection against refrigerants

**VRF climate systems can be found in many hotels.**

**The Risk: High concentrations can cause suffocation.**

If there is a leakage in an air conditioning system, there is a risk that the entire quantity of refrigerant in the system will escape into the corresponding room.

### **Max. refrigerant concentration: Extract from DIN EN 378**

In the case of a leak, the maximum refrigerant concentration in rooms where persons are permanently present must not be exceeded.

**The device WSB2-VRF makes your VRF/VRV system a safe thing.**

The WSB2-VRF ensures refrigerant monitoring in enclosed spaces where leaks can occur and it displays the possible increased gas concentration in real time. With the 2nd integrated sensor, you also keep an eye on the air quality at all times.

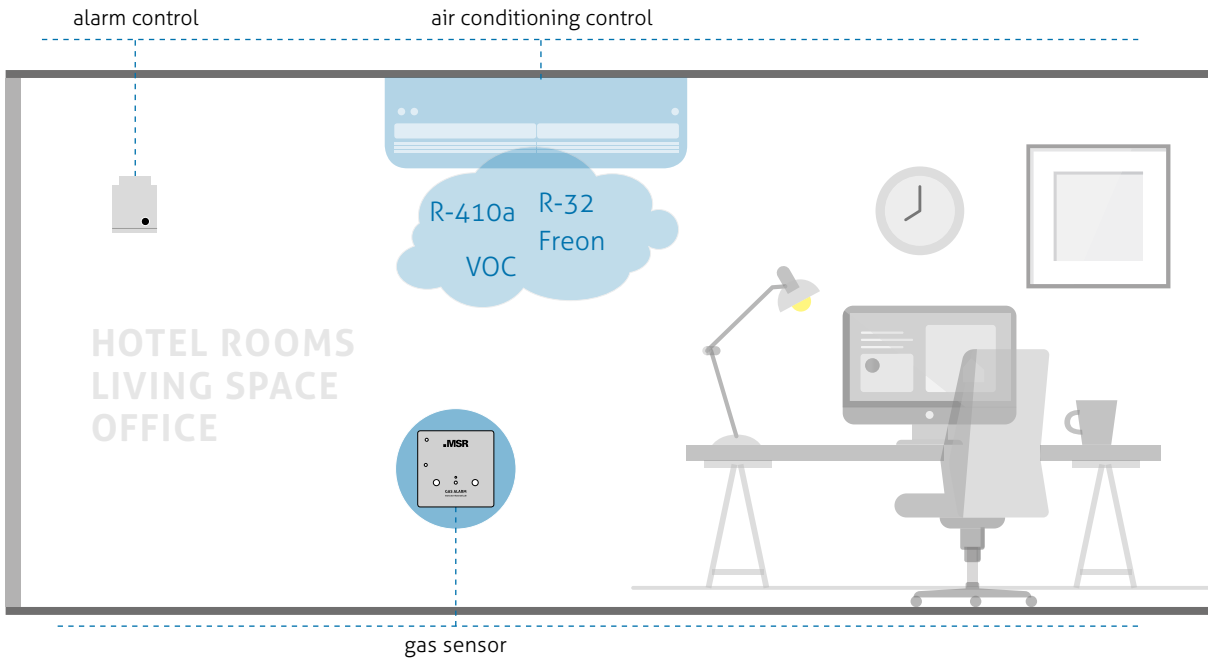
This perfectly guarantees your safety and that of the guest.

### **Your advantages:**

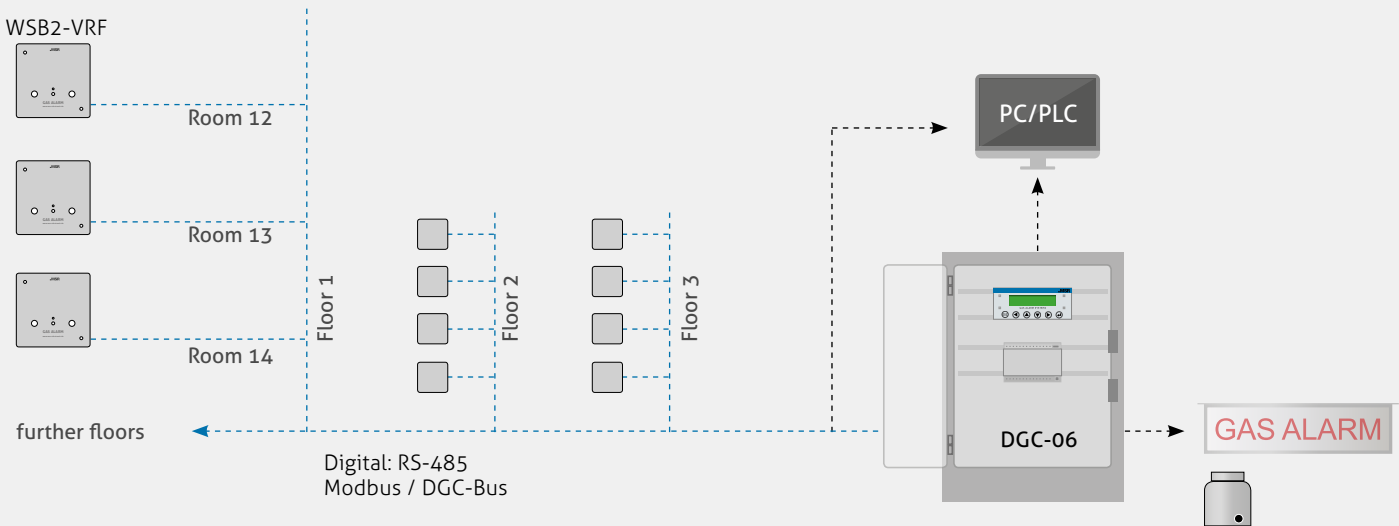
- Flat design for an aesthetically unobtrusive appearance
- Various communication options for the notification of building management and initiation of countermeasures (e.g. silent alarm)
- Alarm options (LED, buzzer) to alert the hotel guests and to inform the building management about the alarm location
- Fail-safe conform SIL
- Refrigerant-specific sensors for more safety
- Self-diagnosis and simple configuration via hand tool for simple commissioning
- Unique, pluggable, pre-calibrated sensor for low operating costs
- 2 integrated sensors: Freon (e.g. R410a) for leaks or VOC/IAQ for air quality



**Communication: As a stand-alone solution or in a bus system**



**Communication of products**









# Laboratory and Medicine

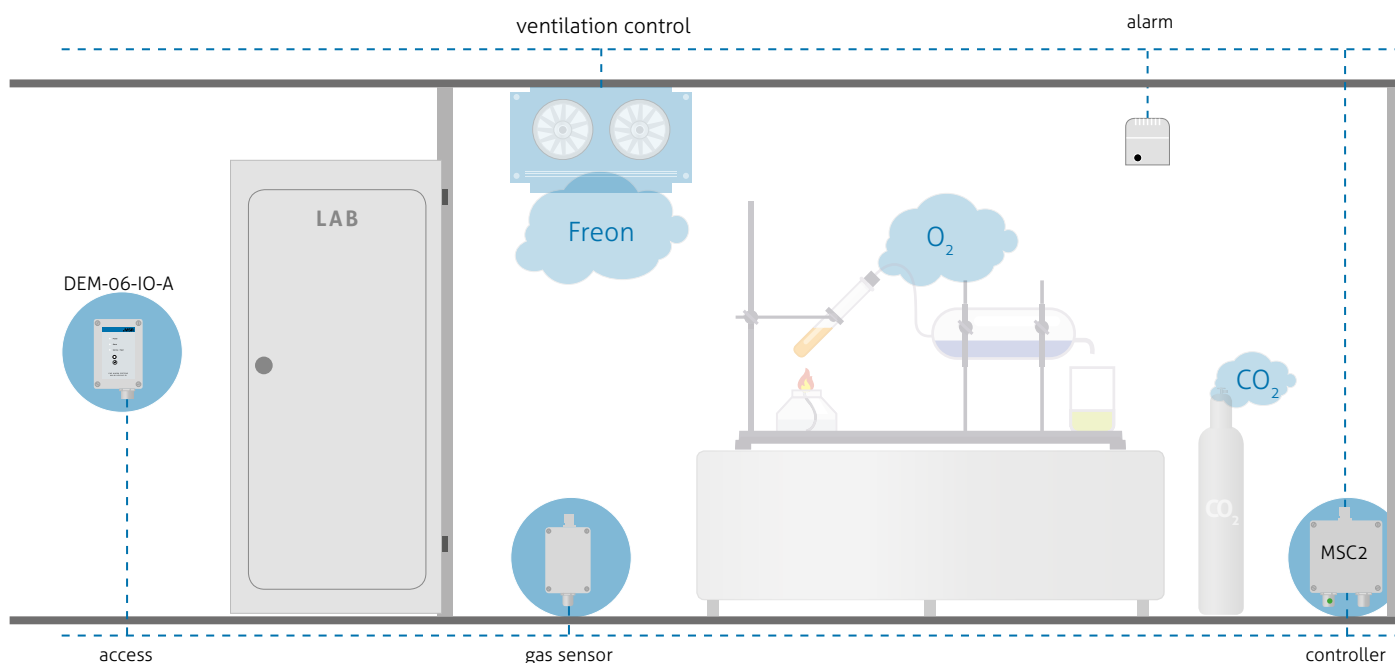
Your protection against  $N_2O$ ,  $O_2$ ,  $CO_2$ , EX

**MSR-Electronic offers sensors, controllers and warning devices for laboratories and operating theatres.**

PolyGard<sup>®</sup>2 sensors are used to ensure the adherence to the MAC values in laboratories and in food processing facilities. The products by MSR-Electronic not only reliably monitor the plant, but also protect people in these areas against dangerous gas concentrations.

### Your advantages:

- More safety: More than required by all national standards
- Significantly lower maintenance costs
- Integration in BMS (Bacnet, Modbus, LON)



# Additional Applications

## Safer applications in closed buildings



### PRODUCTION AREAS:

VOC, O<sub>2</sub>, CO<sub>2</sub>

PolyGard®2 sensors are employed for monitoring the air quality in offices or CO<sub>2</sub> leakages in production areas. For monitoring the air quality, the gas alarm systems by MSR-Electronic permanently measure the ambient air and reliably detect all harmful gases and vapors.



### WATER TREATMENT:

Cl<sub>2</sub>, O<sub>3</sub>, Cl<sub>2</sub>O<sub>2</sub>, O<sub>2</sub>

The PolyGard®2 sensors are used for monitoring leakages in chlorine or ozone systems in swimming pools of all sizes in order to protect human safety and the equipment. The fixed gas measuring technology by MSR-Electronic always and reliably detects harmful concentration of gases and vapors in the ambient air.

## HEATING:

CH<sub>4</sub> and Methane (natural gas)

MSR-Electronic offers reliable sensors, controllers and accessories for heating systems. PolyGard®2 EX Sensors are monitoring leaks in the pipes in gas heating systems and gas distributors.



## REPAIR SHOPS:

CO, NOX, LPG

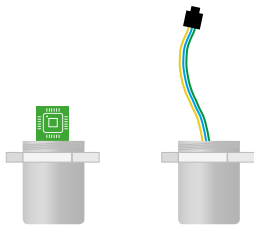
Whether in car or truck repair shops, the PolyGard®2 sensors are used for monitoring and warning of harmful gases and vapors. Whether exhaust gases, welding vapors, varnish vapors or leaky gas bottles – the sensors always detect reliably and consequently protect persons and equipment.



# Product Overview

## PolyGard<sup>®</sup>2, µGard<sup>®</sup>2

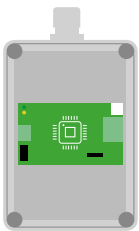
### SENSOR X-CHANGE



#### MC2, SC2:

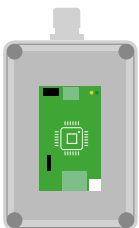
- Exchangeable sensor (X-Change)
- Flexible installation
- Mounting without housing possible (all MC2)
- Flush mounting possible
- 4-20 mA / 2-10 V
- No further restrictions

### SENSOR BOARDS



#### SB2:

- Digital
- Plug & Play, ModBus
- Multiple sensors in one device
- Lower error potential
- Remote version with remote board
- Conforms to EN 50271, EN 61010-1

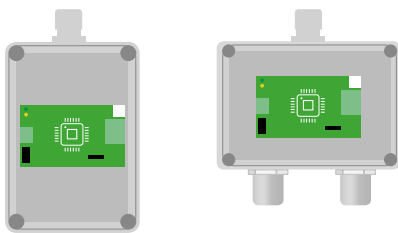


#### WSB2:

- Serial RS-485 interface for DGC-06
- Modbus, 4-20 mA Analog output
- Lower error potential
- Reverse polarity protected
- Conforms to EN 50271, EN 61010-1

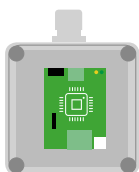


**SENSOR BOARDS**



**MSB2:**

Serial 3 alarm relays  
 Reduced wiring effort due to direct control of the warning system controls  
 Cost savings (no EPs required)  
 PC Tool



**ARB2:**

4-20 mA analog output and input  
 Alarm relay  
 Reverse polarity protected  
 Conforms to EN 61010-1

# Product Overview

## PolyGard<sup>®</sup>2, µGard<sup>®</sup>2

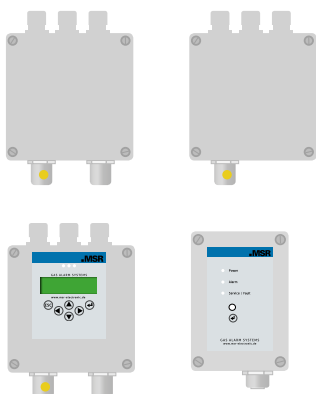
### MODULES



#### GC-06, EP-06:

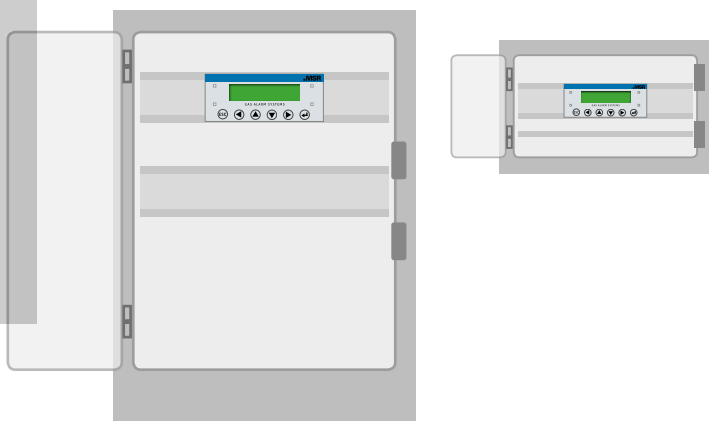
- 4 analog inputs, 4-20 mA
- 4 alarm relays with change-over contact, potential-free, max. 250 VAC, 5 A
- 2 analog outputs, 4-20 mA, with selective signal output for special status, fault, etc.
- Integrated polarity and overload protection
- Second fieldbus output with repeater function
- Suitable for rail mounting (electrical distributor)

### CONTROLLER / REMOTE DISPLAY



#### MGC2, MSC2, DEM-06-IO:

- With display
- Direct connection to GLT via ModBus
- Direct connection of 3 sensors and 2 warning devices
- Set switching thresholds (variable) with jumper
- Cost saving
- Customer protection through PIN / digital signature
- PC Tool



#### DGC-06:

- 128 sensors (96 digital, 32 analog)
- Relay can be extended by EP modules
- Display with LED
- PC-Tool (PCE06) for configuration
- Direct connection to GLT
- Units selectable
- GC-06 module integrated
- Option UPS/ Datalogger
- Can be installed in switch cabinet
- Safety product (compliant with SIL2)





**CONTROL BOX**



**PGCB-GC06:**

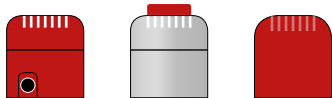
- Plug & Play Software
- Automatic readout of the configuration
- More user levels, Integrated web server
- Display of current values, statistics, faults, alarms, etc.
- Capacitive multi-touch screen
- High quality display

**HANDSET**



- Plug & Play Software
- Automatic readout of the configuration
- More user levels, integrated web server
- Display of current values, statistics, faults, alarms, etc.

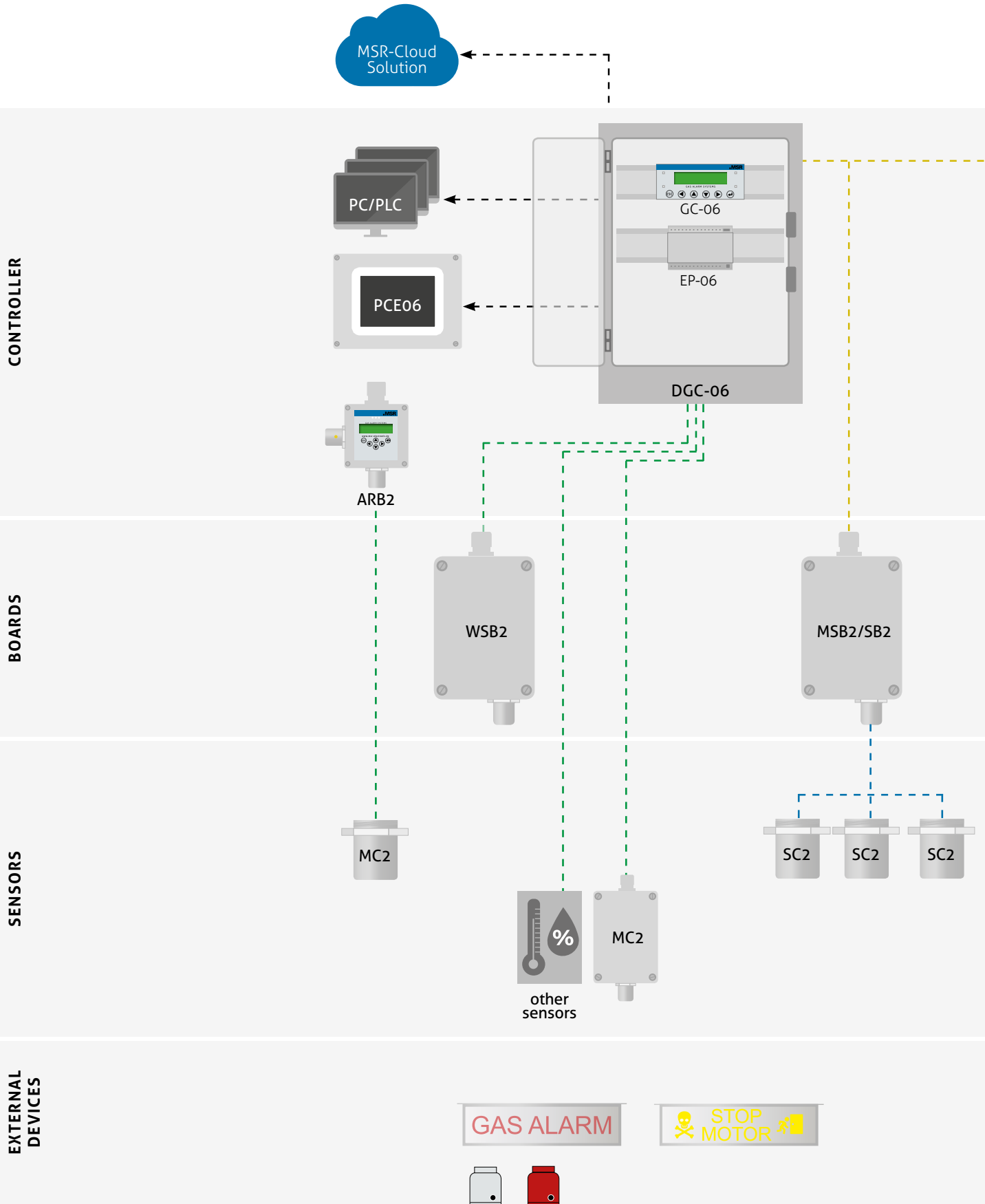
**WARNING DEVICES**

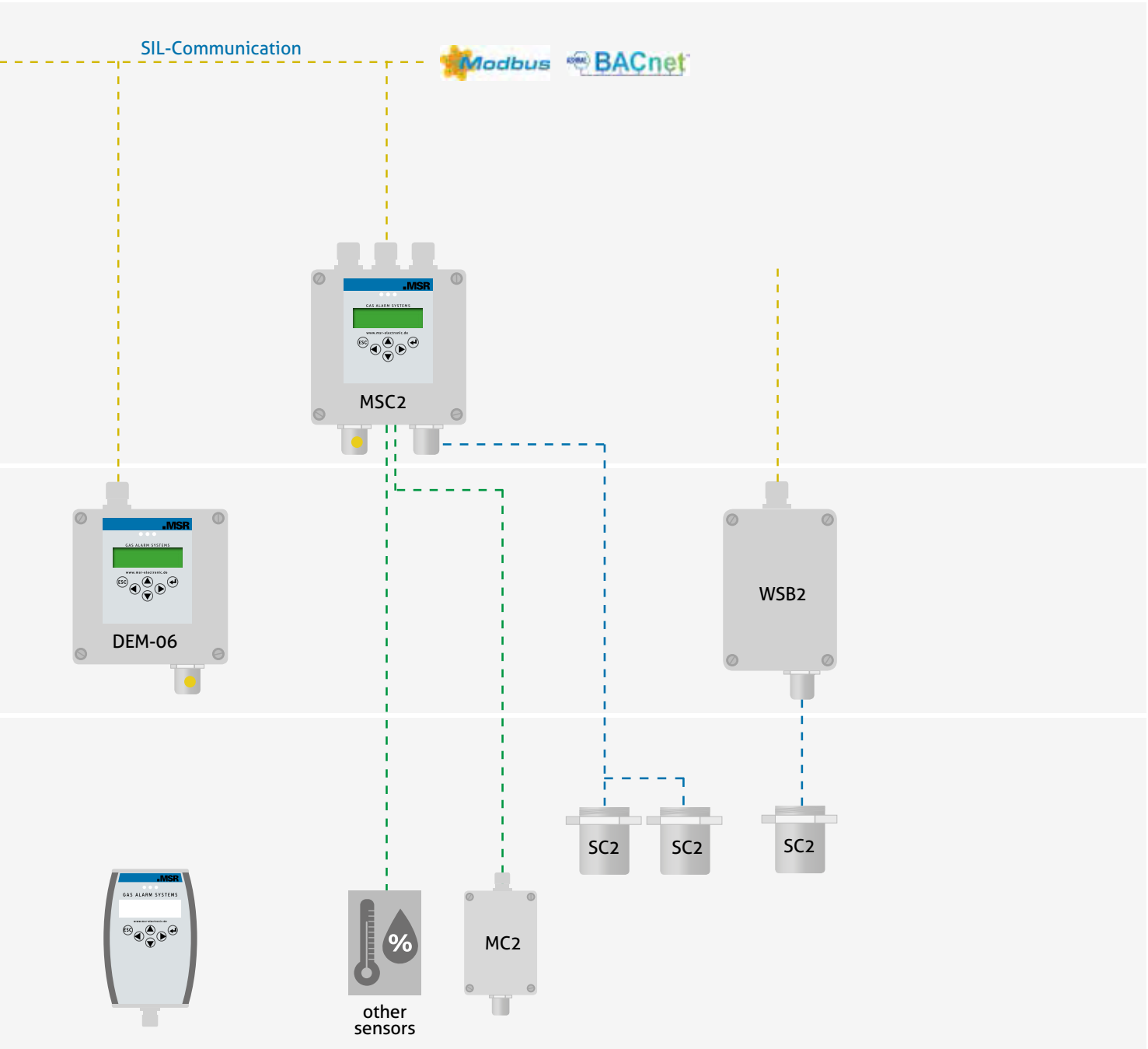


- Modern warning banners
- Flexible labeling with red or green
- Yellow illumination
- Alarm horn
- Flashing light
- Flashing light horn combination

# Communication

## PolyGard®2





- Digital RS-485 Modbus / BACnet DGC-Bus
- Digital L-Bus
- Analog 4-20 mA

# Sensors and Boards

With the innovative exchangeable sensor (X-Change)

Exchangeable sensor (X-Change)

Sensor Cartridge SC2 and MC2

Sensor Board SB2

Warning and Sensor Board WSB2

Multi Sensor Board MSB2



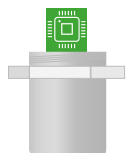
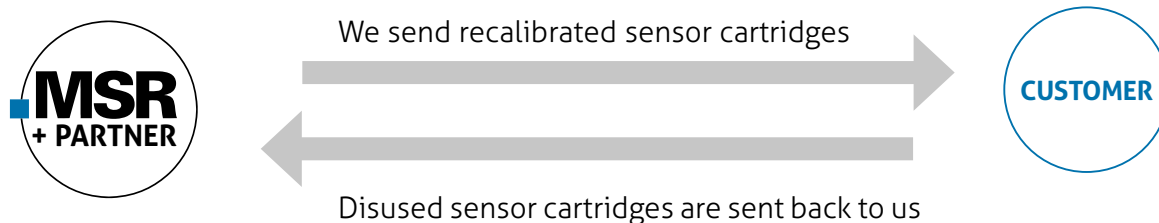
# X-Change

## The PolyGard®2 Exchange Sensor

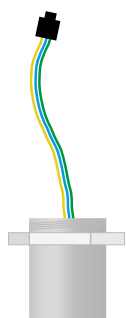
The necessary calibration of the sensors was a complex procedure until now and you were dependent on an external certified company. This involved a great deal of time and money.

**With the exchangeable sensor X-Change you turn the recalibration into a home game:**

- Delivery of recalibrated sensor cartridges
- Easy and independent change
- Considerable time and cost savings
- Increased safety of your system



Sensor cartridge MC2 X-Change



Sensor cartridge SC2 X-Change



## Experience the change - the quick and safe change:



Open the housing with a customary screw driver (1).



Disconnect the sensor cable and unscrew the disused sensor cartridge (2).  
**The yellow LED lights up.**



Change the sensor cartridge (3).

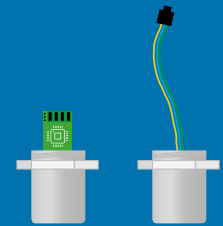


Connect the cable of the recalibrated cartridge to the PCB (4).  
**The yellow LED goes off again.**

Close the cover of the housing (1) again and the recalibrated sensor is immediately ready for use.

# Sensor Cartridges SC2 and MC2

## Easy Plug & Play



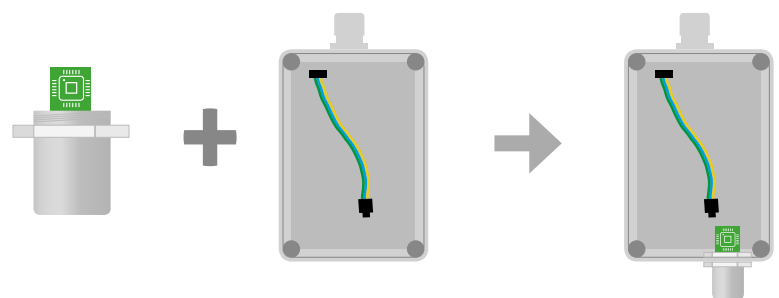
### Experience the Change.

- Sensor with digital value processing and temperature compensation
- For continuous monitoring of the ambient air to detect gases and vapors
- Comfortable calibration routine with selective access release
- Standard analog output, 4-20 mA (MC2) or/and an RS-485 interface
- Sensor exchanging system X-Change

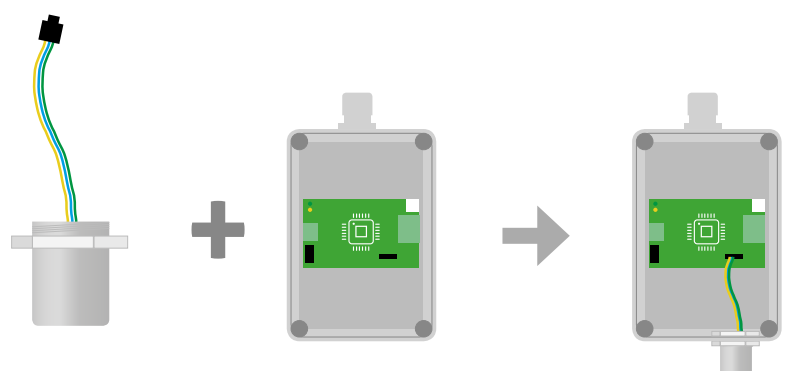
### FEATURES AND BENEFITS:

- Exchangeable sensor cartridge (X-Change)
- Flexible mounting, mounting possible without housing (only for MC2)
- Flush mounting possible
- 4-20 mA / 2-10 V (only for MC2)
- No additional specialist company

PolyGard®2 MC2 sensor components  
with sensor cartridge MC2 X-Change  
Communication: 4-20 mA



PolyGard®2 sensor components  
with sensor cartridge SC2 X-Change  
Communication: L-Bus



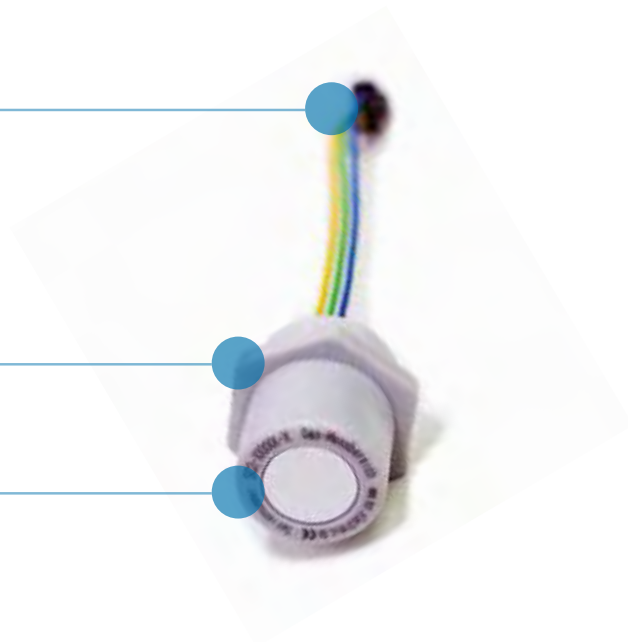


**Sensor cartridge SC2 X-Change**

Connection L-Bus  
(mountable in a distance  
of max. 5 m)

Exchangeable sensor cartridge  
(X-Change)

Sensor cartridge housing IP65  
with laser engraving  
(type designation)



**Sensor cartridge MC2 X-Change - The smallest analog sensor**

Sensor cartridge MC2  
with 4-20 mA output

Laser engraving  
(type designation)



**NEW**

# Infrared Sensor SC2

Measuring explosive gases  
with strong infrared technology

## SC2 with infrared sensor for combustible gases

Exchangeable infrared (IR) sensor including digital value processing, temperature compensation and self control for the continuous monitoring of the ambient air to detect combustible gases. The sensor cartridge SC2 includes a high-quality infrared sensor for combustible gases and an amplifier as well as a  $\mu$ Controller for measured values processing.

The IR measuring principle with integrated temperature compensation ensures highest accuracy, selectivity and reliability. In the  $\mu$ Controller, all the data and measured values of the sensor element are stored fail-safe and transmitted digitally via the local bus to the sensor board SB2 or MSB2. The calibration management is also integrated in the  $\mu$ Controller of the sensor cartridge.

## YOUR BENEFITS:

- High accuracy, selectivity and reliability
  - +/- 3 % at < 50 % of the measuring range //
  - +/- 5 % at > 50 % of the measuring range
  - Resolution 0.04 % of measuring range
  - Reproducibility 0.1 % of measuring range
  - Measured value setting time  $t_{90}$  < 30 sec.
- Gold-plated mirror surface
- Low zero drift
- Sensor with long service life
- High resistance to poisoning
- Running-in time until operation < 60 sec.

**Also for refrigerant gases - from autumn 2019.**

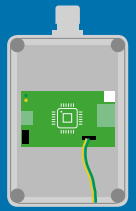
# Sensor production at MSR

Fully automated and Made in Germany



# Sensor Board SB2

For connecting up to three different sensor cartridges

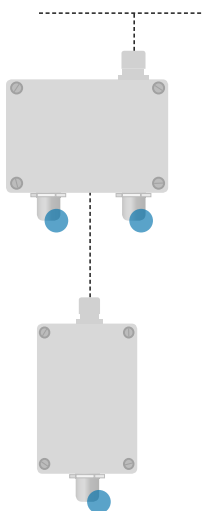


## Sensorboard with RS-485 Interface.

- Up to three different sensor cartridges of the SC2 type
- Can be connected via local bus
- Ensures the power supply of the SC2 sensor cartridges
- Provides the measured data of the sensor cartridges for digital communication
- RS-485 fieldbus interface with DGC-06 protocol
- Direct connection to superordinate building control system (Modbus, BacNet, etc.)

## FEATURES AND BENEFITS:

- Digital measurement value processing
- Internal function control with integrated hardware watchdog
- Measured values in SC2 sensor cartridge, therefore easily changeable uncalibrated <> calibrated
- Up to 3 different sensor cartridges
- Sensor cartridge can be mounted separately via remote board (RB2)
- Software according to SIL2 compliant development process
- Modular technology (plug-in and replaceable)



For the connection of up to 3 different sensor cartridges



Housing IP65

Service Tool

Control LED (green / yellow)

DGC-06 fieldbus power supply

Input 3 sensor cartridge  
(mounted remotely)

Input 2 sensor cartridge

Input 1 sensor cartridge

Exchangeable sensor

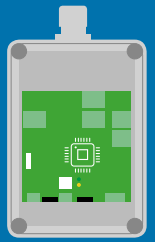
Sensor cartridge housing IP65





# Warning and Sensor Board WSB2

With RS-485 interface, 4-20 mA output and alarm relay



The WSB2 provides the power supply of the SC2 and makes the measured data of the sensor cartridge available for digital communication. Communication with the DGC-06 controller takes place via the RS-485 fieldbus interface with DGC-06 protocol. The optional alarm relays can be controlled both by the DGC-06 controller and locally via the measured values.

The SC2 is connected to the local bus via a plug-in connection, allowing an easy SC2 change instead of an on-site calibration. The internal X-Change routine detects the exchanged SC2 during the change process and starts the measuring operation automatically. An LED signals the correct sequence of the change process.

Alternatively, on-site calibration via the DGC-06 service tool can be performed with the integrated, comfortable calibration routine.

## FEATURES AND BENEFITS:

- Digital measurement value processing incl. temperature compensation
- Internal function control with integrated hardware watchdog
- Up to 3 different sensor cartridges
- Analog input, 4-20 mA for an analog sensor
- Software according to SIL2 compliant development process
- Modular technology (plug-in and replaceable)
- IP65 version
- Easy maintenance and calibration by exchanging the sensor cartridge or by comfortable on-site calibration
- Serial RS-485 interface with protocol for DGC-06. Modbus as an option
- 4-20 mA analog output (option)
- One alarm relay with changeover contact, potential-free max. 40 V AC/DC, 0.5 A
- One fault signal relay, additionally configurable as an alarm relay, with changeover contact, potential-free max. 40 V AC/DC, 0.5 A
- Display (optional)

Housing IP65

Relay 40 V AC/DC, 0.5 A

Analog input 4-20 mA

Power supply

Service Tool

Exchangeable sensor

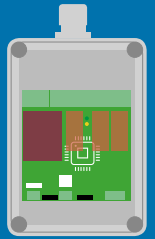
Sensor cartridge housing IP65

**Also available as 230 V version:**



# Multi-Sensor-Board MSB2

Flexible for multiple gases



## Sensor board with RS-485 interface for integration of the sensor cartridge SC2:

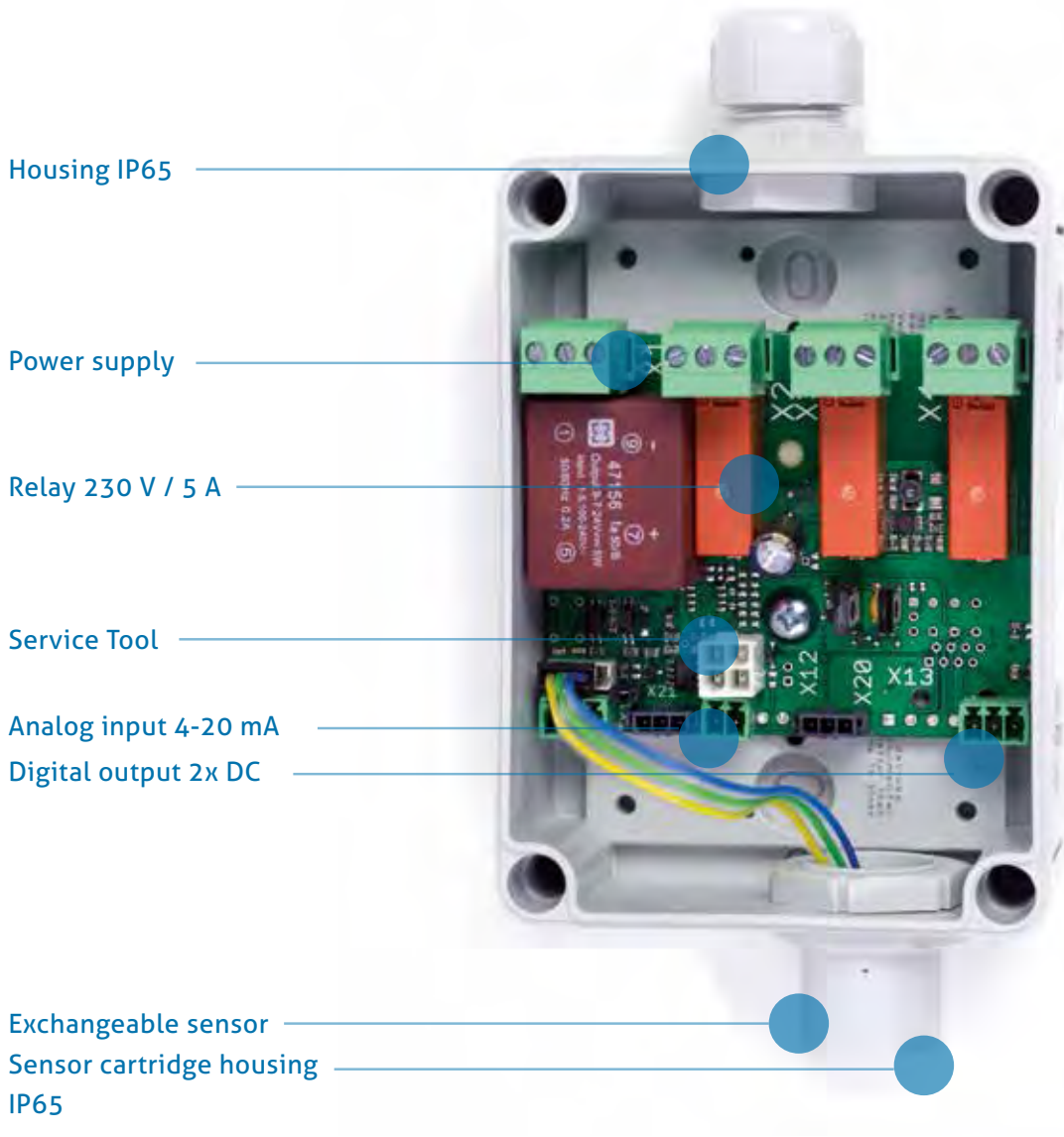
- For the connection of 2 sensor cartridges SC2 and 2 MC2 (in total up to 3 sensor cartridges)
- Ensures the power supply of the SC2
- Provides the measured data for digital communication and for the 4-20 mA output
- Communication with the DGC-06 via the RS-485 fieldbus interface with DGC-06 protocol

## FEATURES AND BENEFITS:

- Digital measurement value processing
- Internal function control with integrated hardware watchdog
- Measured values in SC2 sensor cartridge, therefore easily changeable uncalibrated <-> calibrated
- Up to 3 different sensor cartridges
- Software according to SIL2 compliant development process
- Modular technology (plug-in and replaceable)
- Serial RS-485 interface with protocol for DGC-06, Modbus as an option
- Relays (3 pcs.)
- Option display (remote or build-in)
- Direct activation of warning devices via DGC-06 possible, thus significant savings in wiring

**INFO**

Also available as a version with extended safety for wire break and function monitoring available



Housing IP65

Power supply

Relay 230 V / 5 A

Service Tool

Analog input 4-20 mA

Digital output 2x DC

Exchangeable sensor

Sensor cartridge housing

IP65

# Controllers and Modules

## Safe controlling and monitoring

Multi Sensor Controller MSC2

Analog Relay Board ARB2

Multi Gas Controller MGC2

Controller Add-On: Gas Selector

Analog Gas Controller AGC-05

Controller Series DGC-06

Modules



 POLYGARD 2

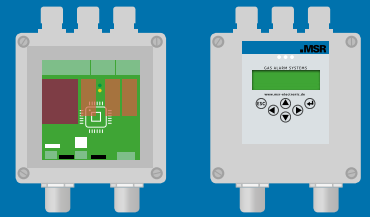
 POLYKETA

 POLYMARINE

 POLYSAM

# Multi Sensor Controller MSC2

Experience the Change



## Modern multi-sensor controller for toxic and combustible gases

- Internal function monitoring with integrated hardware watchdog
- Hardware and software according to SIL2 compliant development process
- Easy sensor change or comfortable on-site calibration
- Modular technology (plug-in and exchangeable)
- Reverse polarity protected, overload and short-circuit proof
- Local bus connection for 2 sensor cartridges SC2 and 2 analog inputs 4-20 mA

## Three relays with changeover contact, potential-free max 250 V AC, 5 A

- In addition 2 transistor outputs 24 V DC / 0.1 A (plus switching)
- Serial RS-485 interface with protocol for DGC-06
- Modbus protocol as an option
- Display, depending on type and multi-color power LED

## FEATURES AND BENEFITS:

- 3 alarm relays
- Less wiring due to direct activation of warning devices
- Cost saving (because there is no need for EPs in the controller)
- Customer protection by PIN / digital signature
- Tool PolyGard control center
- UPS (option)
- Remote display (option)



Certificate no. S 497 2016 C2 for DIN EN 50545-1





Cable glands

Sensor board housing IP65

Power supply 90-230 V / 24 V / 12 V  
The picture shows 230 V

Relays 230 V / 5 A (max. 3 pcs.)

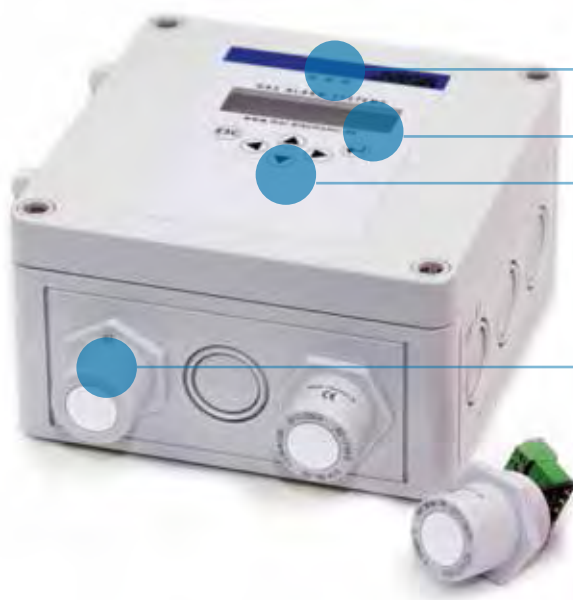
Interface service tool / display

Analog input 4-20 mA (max. 3 pcs.)  
Digital output 2x DC for horn/flashing light

Exchangeable sensor  
(max. 2 pcs.), IP65

Warning module (power LED, buzzer)

### Variation with display



Status LED

Display

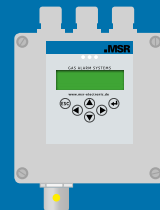
Menu navigation

Warning module  
(Power LED with 3 colors, buzzer)

**COMING  
SOON**

# Multi-Sensor-Controller-Compact

Versatile and flexible in use



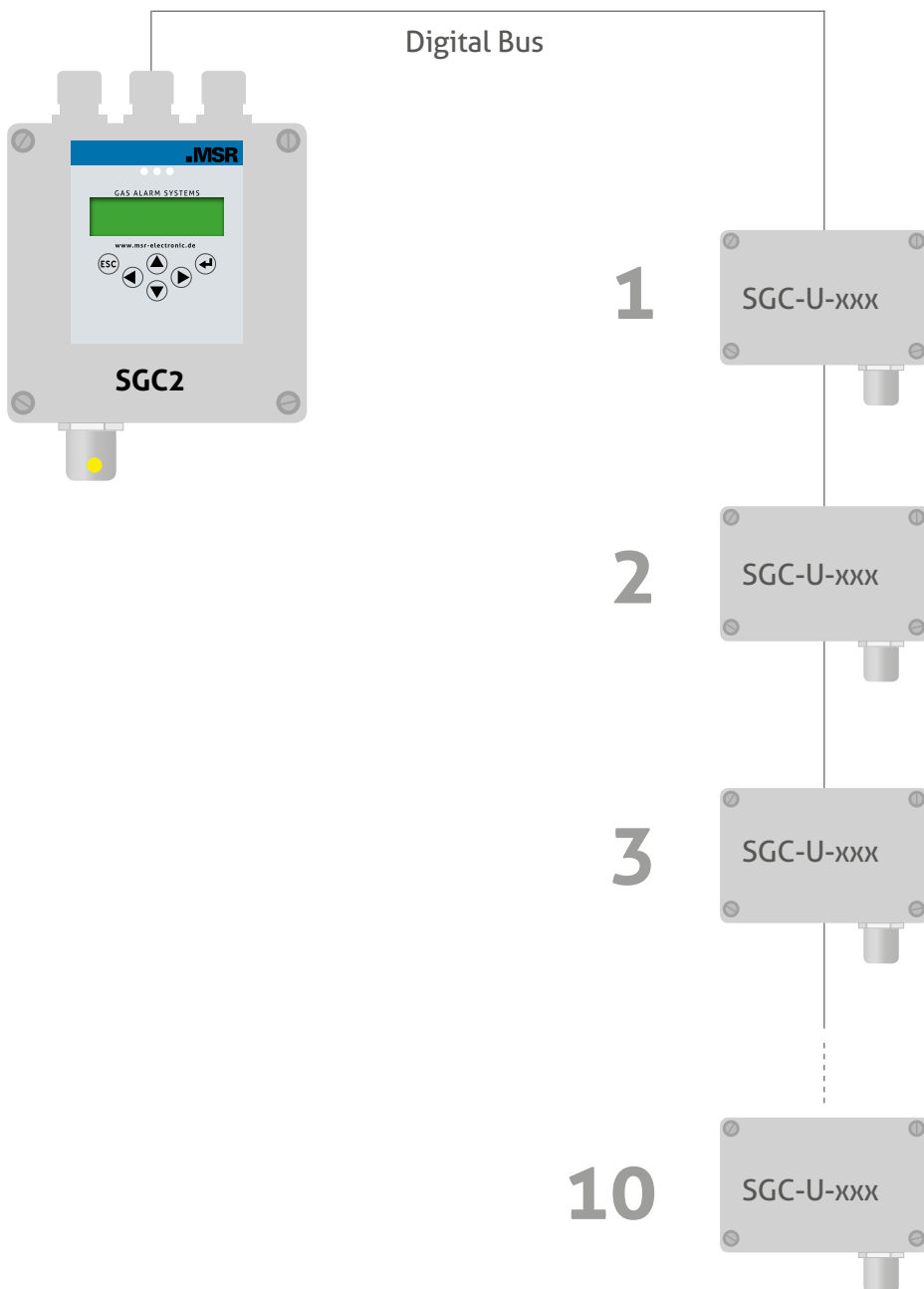
## Modern Small-Gas-Controller for toxic and combustible gases

- Internal function monitoring with integrated hardware watchdog
- Hardware and software according to SIL2 compliant development process
- Easy sensor exchange or comfortable on-site calibration
- Modular technology (plug-in and exchangeable)
- Reverse polarity protected, overload and short-circuit proof
- Three relays with changeover contact, potential-free max 250 V AC, 5 A
- Analog output & serial RS-485 interface with protocol for DGC-06
- Modbus protocol as an option
- Illuminated display, (green/red), multi-color power LED
- With visual / acoustical warning unit as an option

## FEATURES AND BENEFITS:

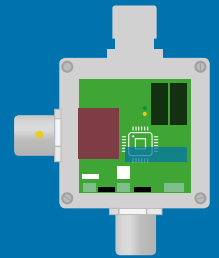
- Easy commissioning due to automatic configuration
- Registration of the sensors on the controller by simply pressing a button
- Preset alarm thresholds depending on gas sensor
- The threshold values and other parameters can be individually set on the controller for for each gas sensor
- Cost savings (only 1 controller for up to 10 sensors)
- Up to 10 digital gas sensors (SGC-U-xxxxx)
- No tool required
- Calibration possible directly via the SGC
- Available as 24 V, 100-230 V and 100-230 V UPS
- 2 digital inputs for e.g. alarm acknowledgement

## System overview: Compact gas warning system for up to 10 sensors



# Analog Relay Board ARB2

No tool required for parametring



**Gas measuring, warning and control board based on state-of-the-art technology for continuous monitoring of the ambient air to detect toxic and combustible gases, refrigerants or oxygen.**

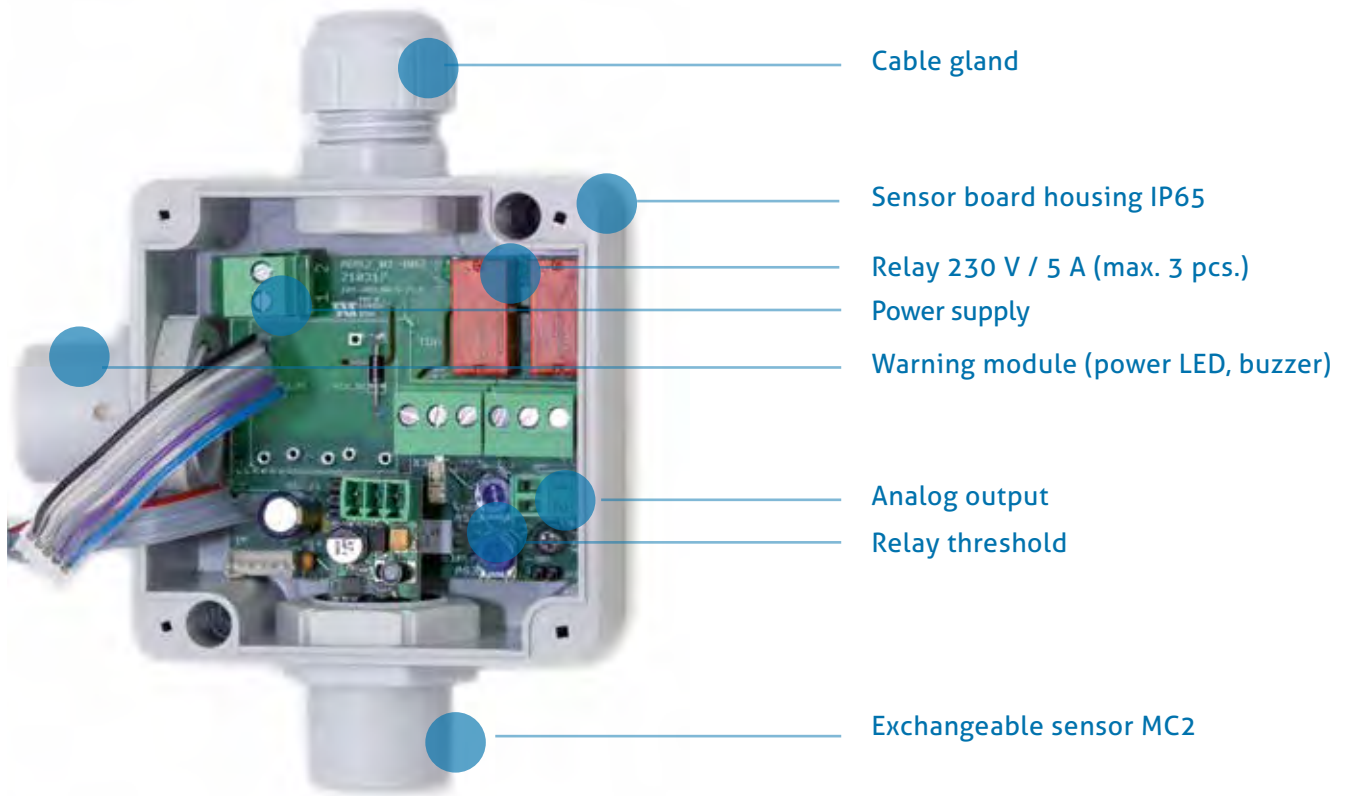
The ARB2 is designed for the connection of one analog 4-20 mA sensor, e.g.  $\mu$ Gard<sup>®</sup>2 MC2 sensors. The board monitors the measured value and activates the alarm relays when the adjusted alarm thresholds for pre-alarm and main alarm are exceeded.

In addition, the measured value is provided as 4-20 mA at the analog output.

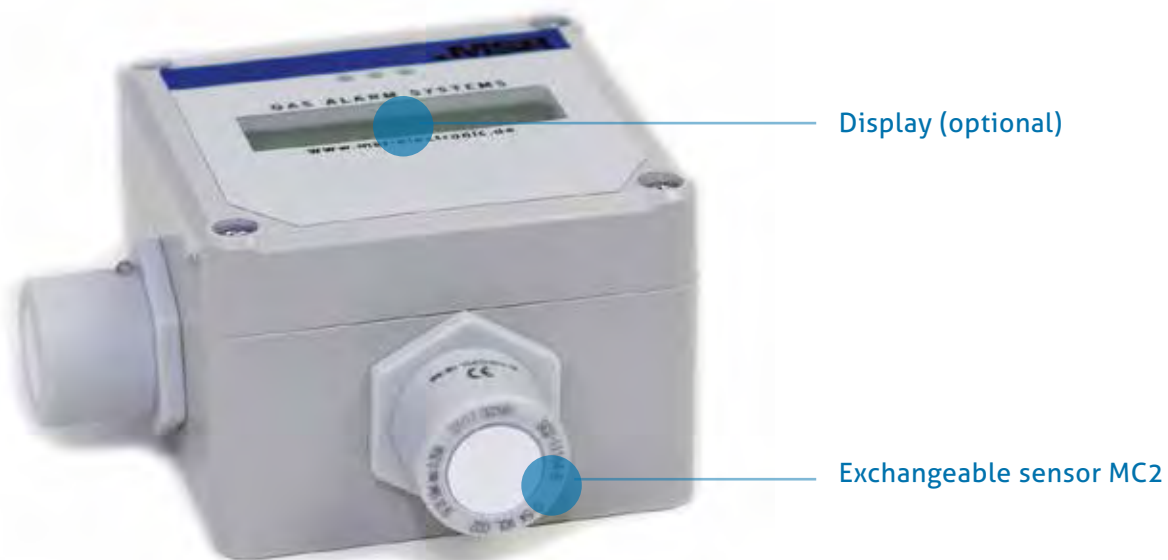
Options such as display and warning unit (WAO) ensure adaptation to the wide range of applications in the gas detection technology.

## FEATURES AND BENEFITS:

- Hardware and software according to SIL2 compliant development process
- Easy maintenance / calibration by changing the MC2 sensors or via comfortable on-site calibration
- Modular technology (plug-in and exchangeable)
- Sensor mountable in a distance of up to 500 m
- Reverse polarity protected, overload and short-circuit proof
- One analog input 4-20 mA (2-10 V) e.g. MC2 series
- Two relays with changeover contact, potential-free, max. 250 V AC, 5 A
- Various housing types with IP65
- WAO, status LED with buzzer (optional)
- Display (optional)
- Operating voltage 24 V AC/DC
- 90-230 V AC (optional)
- 12 V DC (optional)
- UPS (optional)

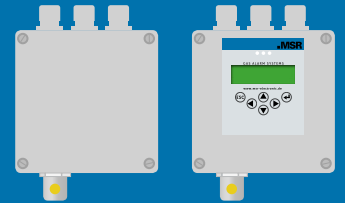


### Analog Relay Board ARB2 with Display



# Multi Gas Controller MGC2

## Versatility and flexibility



### Multi-gas controller for toxic and combustible gases, refrigerants and oxygen.

- Internal function monitoring with integrated hardware watchdog
- Hardware and software according to SIL2 compliant development process
- Easy sensor change or comfortable on-site calibration
- Modular technology (plug-in and replaceable)
- Reverse polarity protected, overload and short-circuit proof
- 3 analog inputs (4-20 mA), 3 relays with changeover contact
- Potential-free max. 250 V AC, 5 A
- Two transistor outputs, 24 V DC; 0.1 A (plus switching)
- Serial RS-485 interface with protocol for DGC-06
- Modbus protocol as an option
- Display depending on type and multicolor power LED

### FEATURES AND BENEFITS:

- Display
- Direct adjustment
- Direct connection to GLT via Modbus
- Direct connection of 3 sensors and 2 warning devices
- Setting of thresholds (variable) via jumper
- Cost saving
- Customer protection by PIN / digital signature
- Tool ParkGard control center
- Remote display (option)



Certificate no. S 497 2016 C2 for DIN EN 50545-1



Cable glands

Sensor board housing IP 65

Power supply 90-230 V / 24 V / 12 V  
Picture shows 230 V

Relays 230 V / 5 A (max. 3 pcs.)

Interface service tool / display

Analog input 4-20 mA (max. 3 pcs.)

Digital output 2x DC for horn/flashing light

Warning module (power LED, buzzer)

**Variation with display**



Status LED

Display

Menu navigation

Warning module  
(Power LED with 3 colors, buzzer)



# Controller Add on: Gas Selector

## We give you free rein for detection

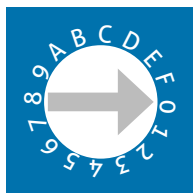
**Add on in the multi sensor controller for your gas combination.**

With the gas selector you get an easy and fast selection of gases to be detected individually. No additional tool is required. Thus fast configuration and adjustment by the gas selector is therefore easily done. Incorrectly connected or reversed SC2 sensor cartridges will immediately be detected as fault.

### FEATURES AND BENEFITS:

- Basic product: MSC2
- No additional tool required
- Universally applicable
- High number of available gas combinations
- Cost and time saving

### The Gas Selector: Setting options



Zero position:  
No gas selected (factory setting)



Gas selection, for example:

Position 1: CO<sub>2</sub> (R744)  
Position 2: R134a

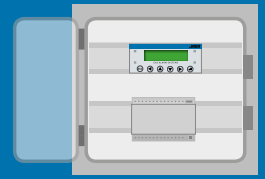


Gas Selector



# Analog Gas Controller AGC-05

## Monitoring and warning



### **Measuring, warning and controlling device for toxic, combustible and refrigerant gases and vapours.**

The gas controller series AGC-05 can monitor and manage up to 12 analog gas sensors. Five free adjustable alarm thresholds are provided per sensor. For the alarm messages the controller offers up to 15 alarm relays with potential-free change-over contact and up to 6 analog outputs with 4-20 mA signal. The freely adjustable parameters and set points enable a very flexible use in the gas measuring technique. Simple and comfortable commissioning, however, is granted by the configuration with default parameters.

Configuration, parameterization and operation are easy to do directly at the controller without special programming knowledge due to the logical, simple menu structure. The AGC-05 series is equipped with a self-monitoring system, with power failure message as well as with a functional control of the registered analog sensors according to the requirements of the gas measuring technique.

Different interface and protocol options are available for the connection to a superior BMS.

### **FEATURES AND BENEFITS:**

- For up to 12 analog gas sensors (4-20 mA)
- Logical system menu
- Five freely adjustable alarm thresholds per sensor
- Six menu languages, selectable
- Several alarm relays configurable per alarm
- Alarm release by falling or increasing gas concentrations selectable
- Max. 15 alarm relays with change-over contact, potential-free, max. 250 V AC, 5 A
- Fault relay with changeover contact, potential-free, max. 250 V AC, 5 A
- Maximum 6 analog outputs, 4-20 mA
- Integrated warning buzzer
- UPS (option)



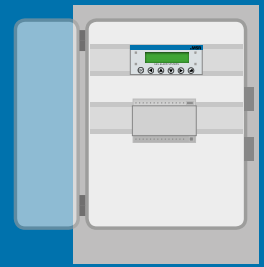
Controller housing IP65

AGC-05 Modules  
with display and keyboard

AGC-EP-05-01 Modules

# Controller Series DGC-06

The flagship of the controller Series



**Measuring, warning and controlling system for toxic and combustible gases in garages.**

- EN 50545-1 certified
- Can monitor and evaluate up to 128 gas sensors, 96 of them PolyGard®2 digital and/or 32 analog (4-20 mA) sensors
- Four free adjustable alarm thresholds per sensor
- Easy, fast commissioning by configuration with standard parameters
- Up to 32 alarm relays with changeover contact
- Potential-free max. 250 V AC, 5 A
- Fault signal relay with normally open contact
- UPS according to EN-50545

## FEATURES AND BENEFITS:

- 128 sensors
- Relay extendable with EP modules
- Display, with LED
- Hand tool for configuration
- Direct connectivity to GLT
- Units are adjustable
- GC integrated
- Option UPS / data logger
- Mountable in the control cabinet
- Safety product
- Adjustable



Certificate no. S 497 2016 C2 for DIN EN 50545-1

Controller housing IP65

GC-06 Module  
with display / keyboard

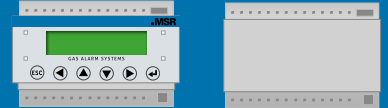
EP-06 Modules





# The Modules

## Perfect Control of the Actuators



### Measuring, warning and controlling system for toxic and combustible gases and vapors

- According to EN 50545-1
- Can monitor and evaluate up to 100 gas sensors, 96 of them PolyGard®2 digital and/or 4 analog (4-20 mA) sensors
- Four free adjustable alarm thresholds
- Four alarm relays with potential-free changeover contact
- Two analog outputs with 4-20 mA signal
- For fault message a separate relay is integrated
- Integrated overload and polarity protection
- Easy and comfortable commissioning
- Extension module EP-06 with four analog inputs (4-20 mA), four alarm relays with potential-free changeover contact and two analog outputs (4-20 mA) for connection to the PolyGard®2 gas controller GC-06
- Via extension modules EP-06 the gas controller can manage up to 32 analog gas sensors, 32 alarm relays and 16 analog outputs
- Up to 7 extension modules, both central and decentral, can be connected via fieldbus to the GC-06 system

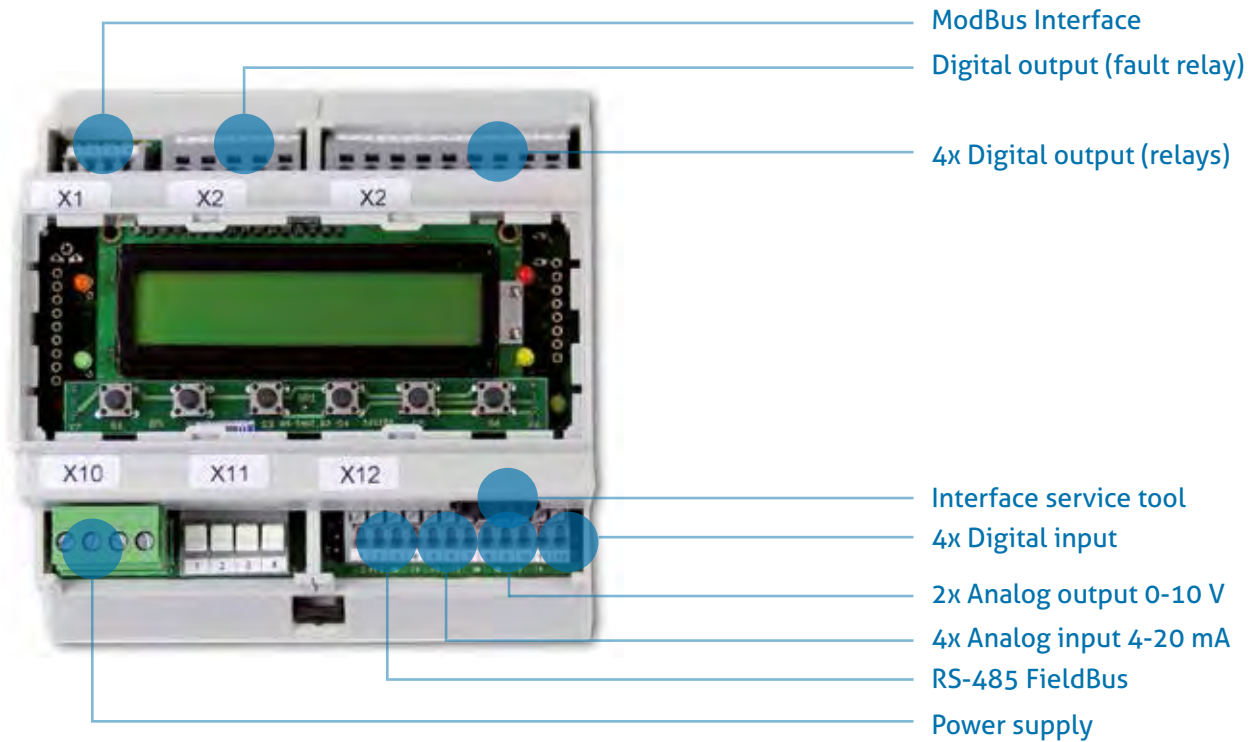
### FEATURES AND BENEFITS:

- Up to five alarm relays, potential-free
- For connection to the PolyGard®2 controller via serial bus
- With or without display or keyboard

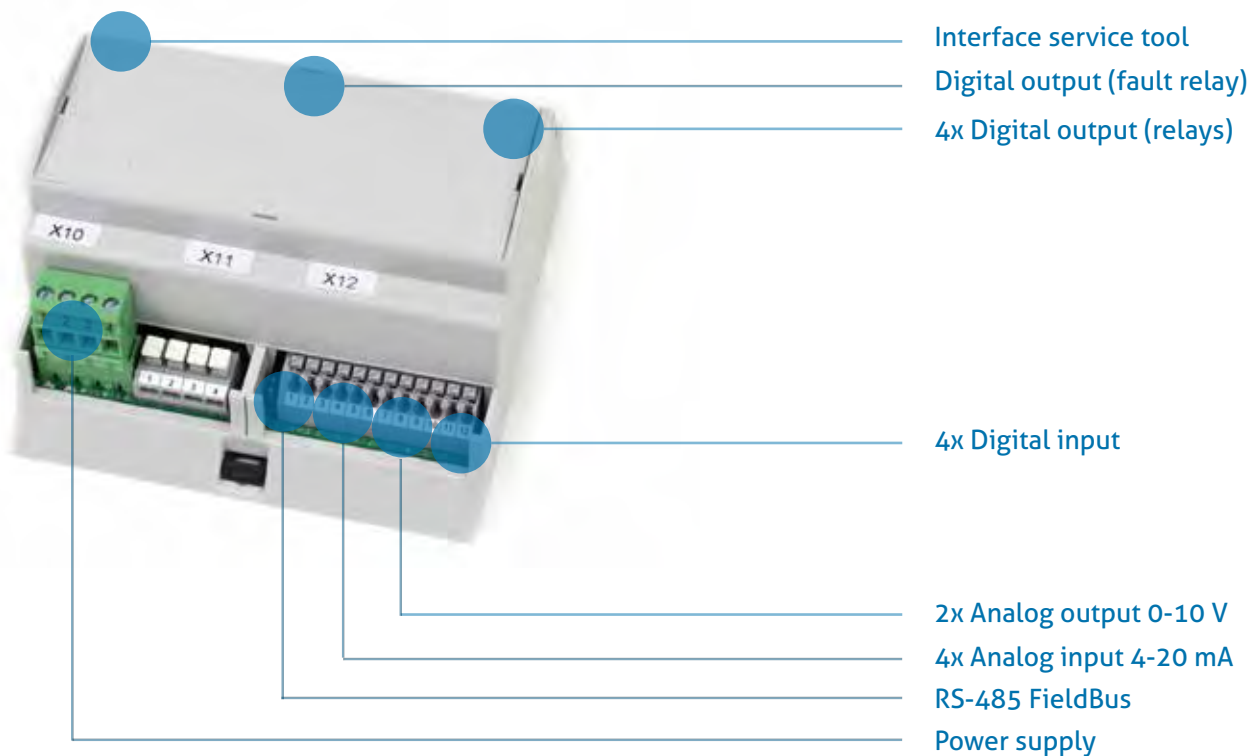


Certificate no. S 497 2016 C2 for DIN EN 50545-1

**Module GC-06**

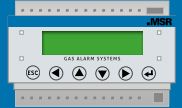


**Expansion Module EP-06 for GC-06**



# PolyGard<sup>®</sup>2 GC-06-ES

## The central Module



### Measuring, warning and controlling system for toxic, combustible gases and vapors

- EN 50545-1 certified
- Can monitor and evaluate up to 100 sensors, 96 of them PolyGard<sup>®</sup>2 digital and/or 4 analog (4-20 mA)
- Four freely adjustable alarm thresholds
- Four alarm relays with potential-free changeover contact
- Two analog outputs with 4-20 mA signal
- A separate relay is integrated for the fault message
- Integrated overload and polarity protection
- Easy and comfortable commissioning
- Extension module with four analog inputs (4-20 mA)
- Four alarm relays with potential-free changeover contact and two analog outputs (4-20 mA) for connection to the PolyGard<sup>®</sup>2 gas controller GC-06
- ES version for use in combination with the motor management

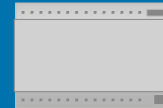
### FEATURES AND BENEFITS:

- Modular system
- Easy parameterization
- SIL communication
- ES version
- More cost-effective maintenance due to automatic test cycles of all devices



# PolyGard<sup>®</sup>2 EP-06-ES-MCM

## The Module for Systems



### FEATURES: Ventilation management with extended safety

- Up to 128 MOT motor modules at max. 14 zones
- Control per drive OFF/ON or OFF - speed 1 - speed 2, fire and reverse operation
- Integrated control of gas/fans (free matrix)
- Fire brigade display tableau
- Measurement of total power of fans per zone
- Energy management
- Easily integrated into the gas warning management and highly user-friendly
- Option: Display DEM-06-ES for monitoring of the engine conditions (up to 128 conditions)

### Parameterization

- Easy parameterization
- No SPS knowledge necessary

### Power measurement

- Detects all deviations
- Continuous adjustment

### Ventilation

- Management of up to 128 modules



# Additional Module

## with extended Safety

### **PolyGard®2 EP-06-ES-MOT - Motor-Module**

Features:

- Control of two 2-speed motors, control of four 1-speed motors or control of one to four continuously variable speed motors
- Stand-alone or in combination with the ES system
- Fire alarm connection, SIL communication
- Modular function, standardized

STANDARDIZED MODULES IMPLY:

- Can be used for all common types of motors
- Dahlander
- Frequency inverters
- Softstarters
- EC
- Reversible



### **PolyGard®2 EP-06-ES-FCM - Tableau-Module**

Features:

- Connection of two independent zones
- Digital and safe SIL 2 communication
- Flexible tableau connection

STANDARDIZED TABLEAU CONNECTION:

- Individual tableaus can be connected standardized to the central
- Flexible application
- Extends the safety

## PolyGard®2 EP-06-ES-FDM - The Fire Alarm Module

Features:

- Connection of up to 8 fire zones
- Digital and safe SIL2 communication

STANDARDIZED FIRE ALARM CONNECTION:

- Collects fire detections
- Flexible application
- Can be used centrally in the switchboard or decentralized



Up to 8  
fire zones

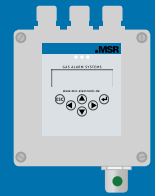


Flexible  
usable



# Door Entrance Module DEM-06

## Safe monitoring of Entrances



### The module DEM-06 opens up new possibilities for your safety

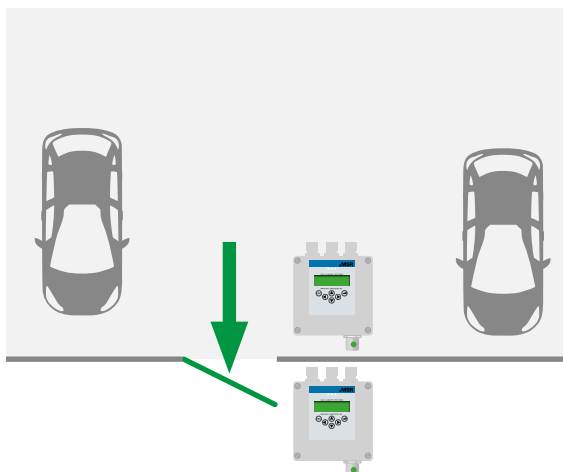
The door entrance modules by MSR-Electronic provide maximum safety. If increased gas concentration occurs in closed buildings, for example in parking garages, the entries and entrances can only be opened in 1 direction: from the inside to the outside. This guarantees that persons can only leave but not enter the hazardous area.

### FEATURES AND BENEFITS:

- Display
- Direct configuration
- Direct connection to BMS via ModBus
- Cost saving
- Safety product

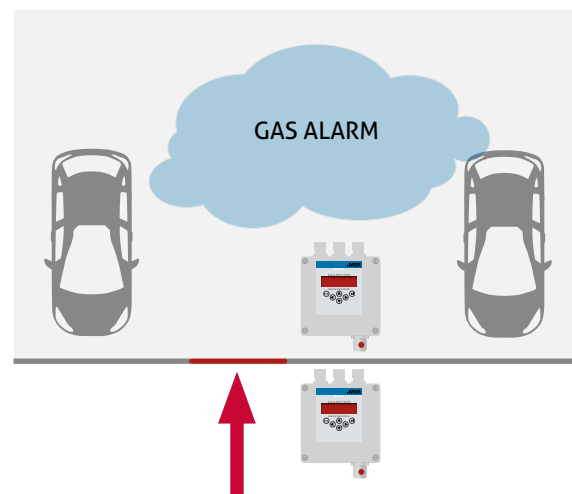
#### Normal mode:

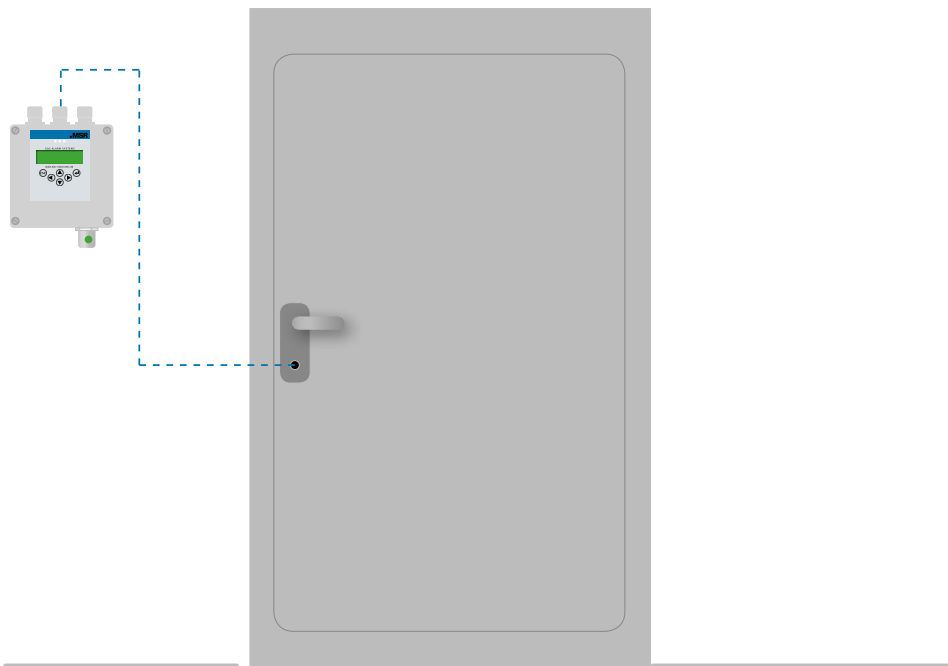
open from the inside and the outside



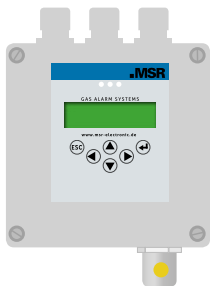
#### Gas-Alarm:

closed from the outside,  
open from the inside



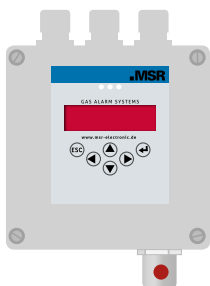


**The module DEM-06 controls the access in case of a gas alarm in real time.**



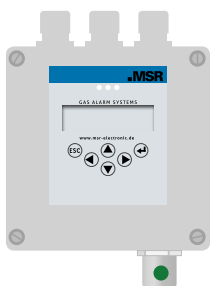
**In case of emergency: Green display inside (outward)**

“Emergency exit. Leave garage immediately.”  
 Mounting module inside  
 Door can be opened, warning devices are active



**In case of emergency: Red display outside (inward)**

“Gas alarm. Do not enter.”  
 Mounting module outside  
 Door can only be opened with access code (option)  
 Warning devices are active



**No alarm:**

Dark display  
 Door can be opened on both sides  
 Warning devices are deactivated

# Monitoring for Dispensing Systems

## Safe monitoring of dispensing Equipment



### **MSR-Electronic offers sensors, controllers and warning devices for dispensing equipment.**

Whether in restaurants, brewing and fermenting cellars, breweries, wineries, beverage bottling lines, but also for CO<sub>2</sub> extinguishing systems in storage and production halls, wherever CO<sub>2</sub> bottles, pipes and tanks are needed, the sensors of MSR-Electronic can be used.

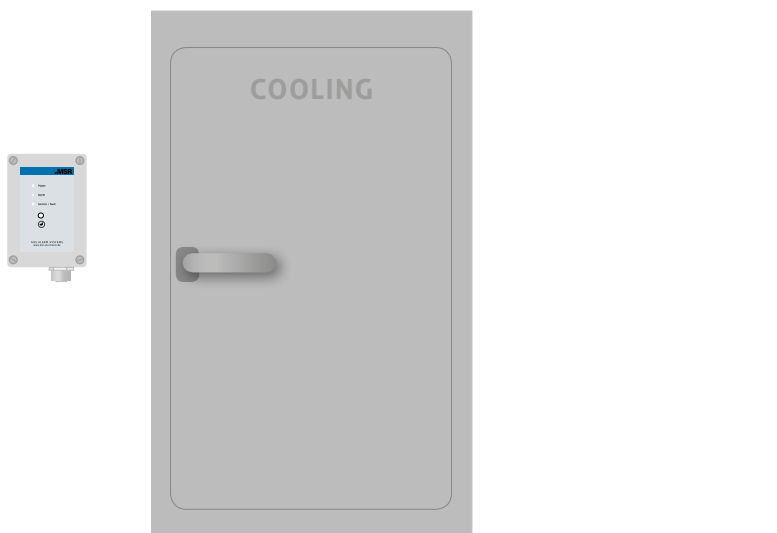
### **The monitoring system makes your dispensing equipment a safe thing.**

The system controls the access to closed rooms, where CO<sub>2</sub> leakages may occur and displays potentially increased gas concentrations in real time.

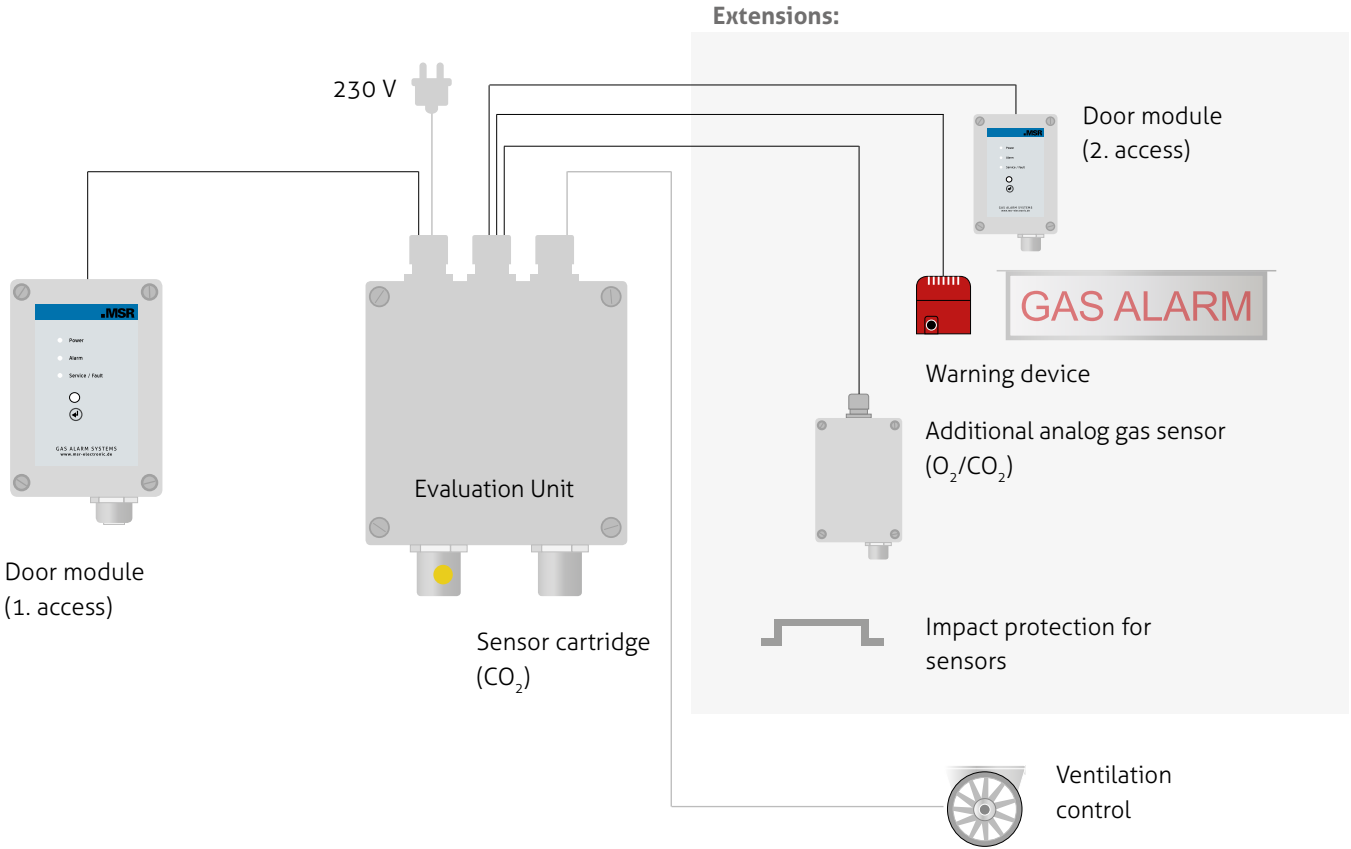
This means that safety is perfectly ensured.

### **Your advantages:**

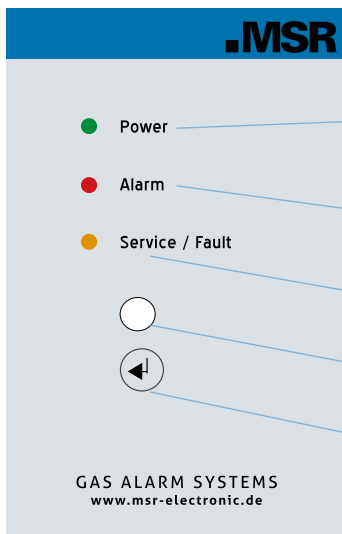
- Safety product: More than required by all national standards
- Absolutely cost saving: Significantly lower maintenance costs
- LED display: Warning of entering the room
- Integrated test and maintenance function
- Extendable for additional entrances
- Plug & Play



## Communication:



## Status - Phases:



**Green LED:** Normal status  
(normal operating status)

**Red LED:** Alarm  
**Alarm 1: Slow red flashing**  
**Alarm 2: Fast red flashing**  
Gas alarm, access is prohibited

**Orange LED:** Test / maintenance status

Alarm buzzer

Reset button / test function

Option for several entrances:  
Parallel warning in front of each respective door

# PCE06

## Software for gas detection system service

**Self-contained, menu-driven PC tool for convenient addressing, parameter setting and calibration of devices for the PolyXeta®2, PolyGard®2 and µGard®2 product series.**

Communication with the PC is via the supplied USB (RS-485) and USB/TTL adapter. The supply and data coupling with galvanic isolation to the devices is carried out via a cable with plug connection.

**For commissioning, calibration and history for the device series PolyXeta®2, PolyGard®2 and µGard®2.**

### FEATURES AND BENEFITS:

- User-friendly design
- No installation required on the PC
- Available for operating systems Windows XP, 7, 8, 10
- Dongle protection in the adapter, thus PC change possible without problems
- (Turn off virus scanner required for USB)
- No free USB required due to internal 4x USB hub
- Communication / power supply of the adapter via a cable



# Service Tool STL06

For the product series PolyXeta®2, PolyGard®2  
and µGard®2

Self-sufficient, menu-driven tool for convenient addressing, parameter settings and calibration of devices for the PolyXeta®2, PolyGard®2 and µGard®2 product series. Communication and power supply are via a cable that is connected to the respective devices.

## FEATURES AND BENEFITS:

- User-friendly design
- Simple menu structure
- Two-line display / 16 characters
- 6 operating keys
- 3 LED for status indication
- Communication / power supply via one cable





# Additional Accessories

## Calibration and protection

### Air duct system

Duct mounting set with plastic housing for accommodation of PolyGard®2 series:

- Flow speed: Min.: 5,000 m/h Max.: 20,000 m/h
- Duct diameter: Min.: 0.1 m Max.: 1.0 m
- Flammability : UL 94 V2
- Tube length: 2 x 1,000 mm



### SplashGuard for PolyGard®2

A cover that protects a SC2 or a MC2 from splash water.

The cover is placed over the sensor cartridge.

It protects the sensor from rain and splash water from all directions.

Calibration can be carried out with the fitted protection cover by means of a compatible calibration adapter.





### Calibration adapter

For comfortable gas injection for sensors of the SC2 and MC2 series.  
Used for targeted supply of zero and test gases on the sensor cartridge

- Suitable for all gases
- Easy handling
- Perfect coverage of the sensor cartridge



# PolyGard<sup>®</sup>2 Control Box

In combination with the GC-06 gas controller  
or DGC-06, SB2, MSC2

**You can visualize the measured values and detect hazards at a glance.**

The PolyGard<sup>®</sup>2 Control Box is used in combination with the gas controller GC-06 or DGC-06 (each with Modbus option) of a gas alarm system.

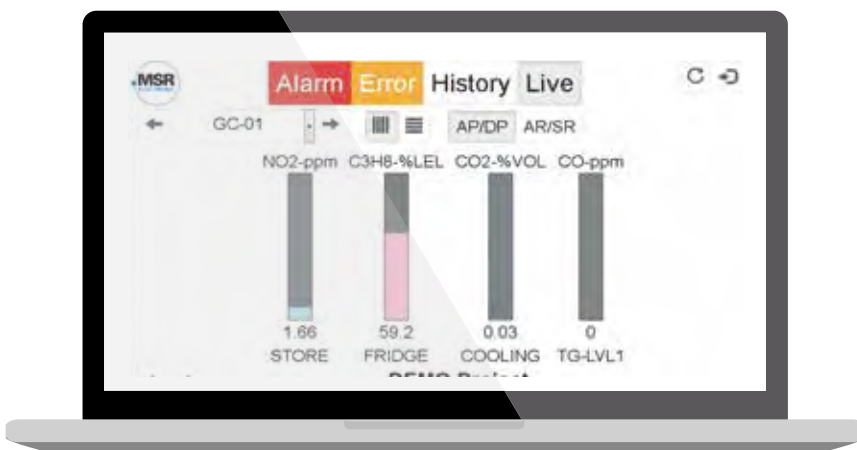
Sensors, measured values and parameters such as alarm relay switching thresholds can be seen via the display. Also statistics can be retrieved and exported. Via the integrated network interface the control box can be integrated into an existing network and thus all measured values can be reviewed remotely.

## FEATURES AND BENEFITS:

- Plug & Play software
- Automatic reading of the configuration and display of the AR/SR measured values
- Multiple user levels are possible
- Display of up-to-date values, statistics, faults, alarms and more
- Capacitive multi touch screen
- High-quality display
- Easy assembly
- Subsequent installation possible
- Network interface for integration into the existing network
- Integrated web server
  - Access via web browser
  - Access with mobile devices (mobile phone, tablet, ...)



Screenshots:



# MSR-Cloud

Keep everything in view on PC, smartphone or tablet

## Who's interested?

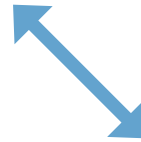
- Partners
- Cloud Plug & Play visualization and trend monitoring
- Project management with configurable structure of rights
- Worldwide access to every project
- Overview of alarms, errors and notifications (sent by post and / or SMS)
- Link to datasheets, manuals, videos and more data export
- For planning maintenance and replacement, reminder by mail and / or SMS
- End Users
- Online monitoring
- Alarm and notification in real-time

## FEATURES AND BENEFITS:

- Fully customizable information
- Integration of building overviews and floor plans
- Adjustable notifications
- Clear Dashboard
- Hosting with MSR possible
- Real-time information such as warning and maintenance messages
- Configurable structure of rights
- Multiple projects in one cloud solution
- Access via web browser
- Access with mobile devices (mobile phone, tablet, ...)



**MSR-CLOUD**

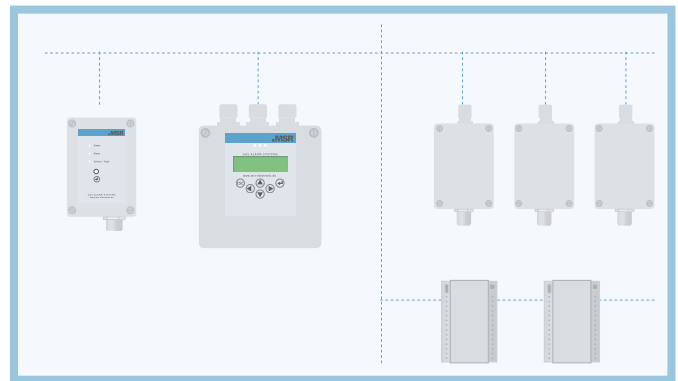
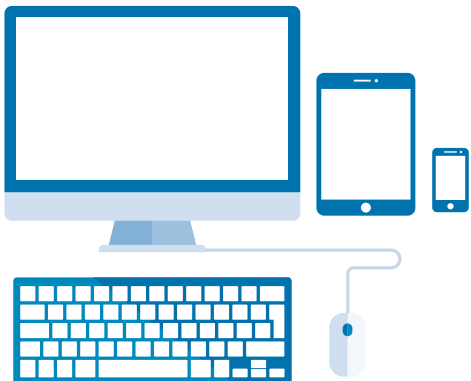


**MSR-HTTPS:**

Compatible with all devices

**MSR-GATEWAY:**

Up to 250 Modbus devices



**Compatible to all devices**

**Up to 250 Modbus devices**

**Creating accounts for different user levels**

**PROJECT ADMINISTRATION:**

- Overview over projects and users with ownership
- Create/ erase/ edit project/ user with ownership
- Create local symbols
- Edit project, gateway, create devices, reset trigger for notification

**APPLICANTS:**

- Overview of projects and users with ownership
- Reset trigger for notification

**USER:**

- Overview of projects and users with ownership



# Warning Devices

On alert at any time

## **Robust, maintenance-free and energy-saving LED technology for static and flashing activation.**

The easy one-man-installation is possible due to the flat design in a solid aluminum profile and the low weight. The electrical connection is carried out in the supplied WT-box without opening the transparent warning sign.

### **Transparent warning signs**

Serve as optical warning of dangerous gas concentration or ventilation system failure in underground car parks, tunnels, car repair shops and loading bays as well as in all areas where optical warning of dangerous gas concentrations or other hazards is vital.

### **Flashing light**

Xenon flashing light made of solid plastic (ABS) according to EN 50545.

Universally applicable Xenon flashing light for fire detection and safety technology in accordance with VdS directives.

### **Warning horn**

Warning horn made of solid housings, e.g. plastic (ABS) according to EN 50545.

Universally applicable audio alert siren with 32 adjustable sounds, incl. DIN tone for fire detection and safety technology in accordance with VdS directives.

### **Warning horn / flashing light combination**

Warning horn / flashing light combination made of solid plastic (ABS) according to EN 50545. Universally applicable audio alert siren with integrated Xenon flashing light for acoustic and optical warning with separate actuation.

**INFO**

**For wire break and function monitoring available as version with extended safety (ES).**



### Standard Versions

Version D3, 642x203x22 mm

Two-sided: Red text, white background

Version: D3, 642x203x22 mm

Two-sided: Yellow text, white background

### Visibility Range

According to the requirements for illuminated safety signs in compliance with DIN 4844, if applicable, the visibility range for backlit signs with a character height of 132 mm and an average luminance of 200 cd/m is 26.4 m.



### Standard Versions: Warning horn and flashing light combination

Warning horn / flashing light combination made of solid plastic (ABS), with integrated Xenon flashing light according to VDI 2053



# PolyGard<sup>®</sup>2-ES

Certified monitoring system according to SIL for ventilation and smoke extraction in garages and tunnels

## Extended Safety

Modular for individual requirements

**MSR-Electronic offers extended safety for the ventilation of parking garages and tunnels.**

This means a fully integrated ventilation control in the gas warning system.

### Your advantages:

**More safety:**

Permanent monitoring of the actuators

**Easier planning:**

Standardized products facilitate planning

**Lower costs:**

Lower planning, maintenance and operating costs

Lower life cycle costs

Lower insurance costs

**Higher value:**

Through more security, better planning and lower costs

**INFO**

Read all details on extended safety in the MSR Catalogue GARAGE.



### The risks of the current standards:

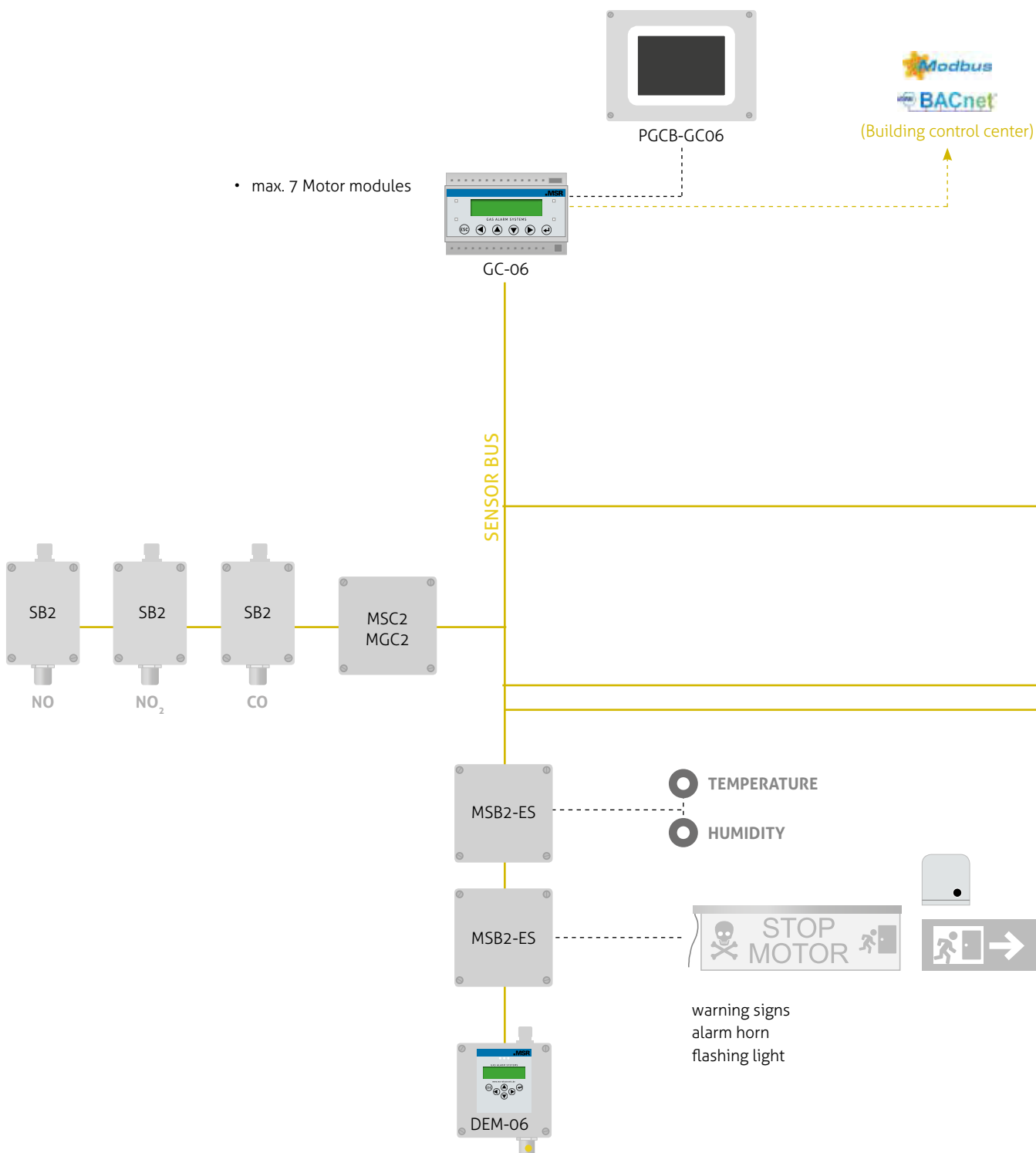
1. No monitoring of warning devices defined  
Consequence: malfunction (wire break or illuminant)
2. Communication of measurement technology not uniformly defined  
Consequence: Not every measured value / fault is transmitted
3. The load control of the fans (actuators) does not have a defined safety standard according to SIL  
Result: failure is not always detected and switch-on process not defined

### THE SOLUTIONS FROM MSR-ELECTRONIC

- Monitoring of warning devices
- Communication of the measurement technology protected by SIL
- Standardized certification of all sensors
- Actuator safety through standardized motor control modules
- Feedback of the fans by current measurement

# PolyGard<sup>®</sup>2-ES: Small Solution

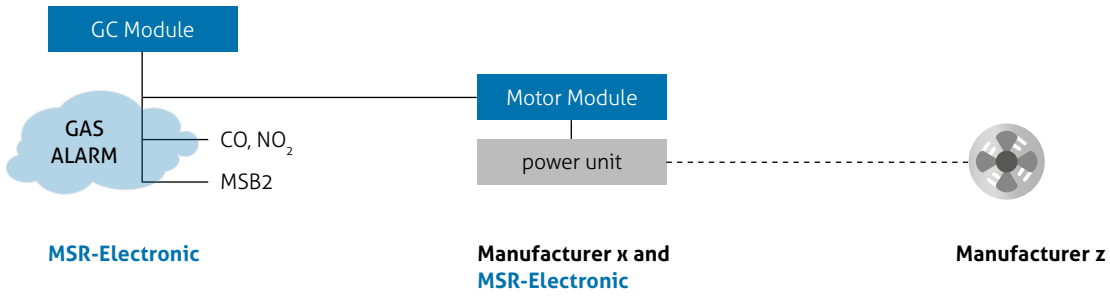
Monitoring system for small ventilation systems  
with max. 14 two-stage fans



## GAS ALARM SYSTEM

## SWITCH CABINET

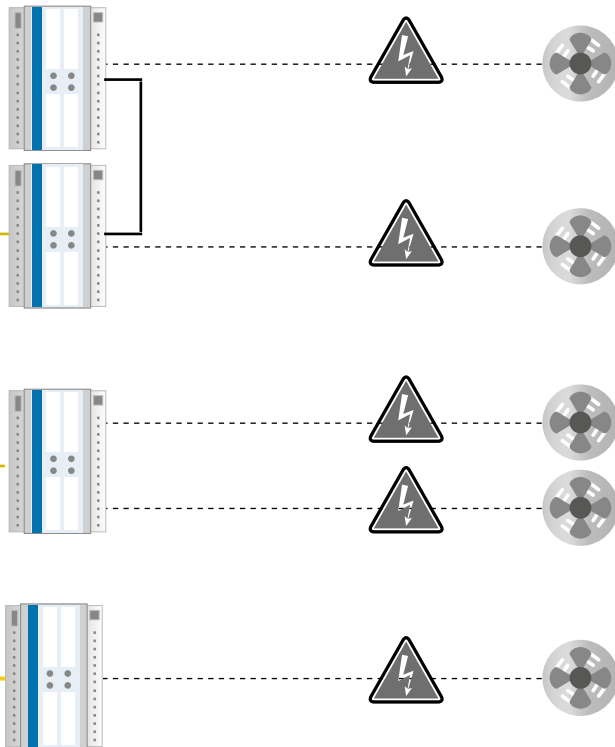
## VENTILATION



## THE ADVANTAGES WITH MSR-ELECTRONIC

- Simpler and faster training phase
- No more special know-how required for switch cabinet manufacturers
- Modular standardized
- Lower cost
- Safer (SIL)

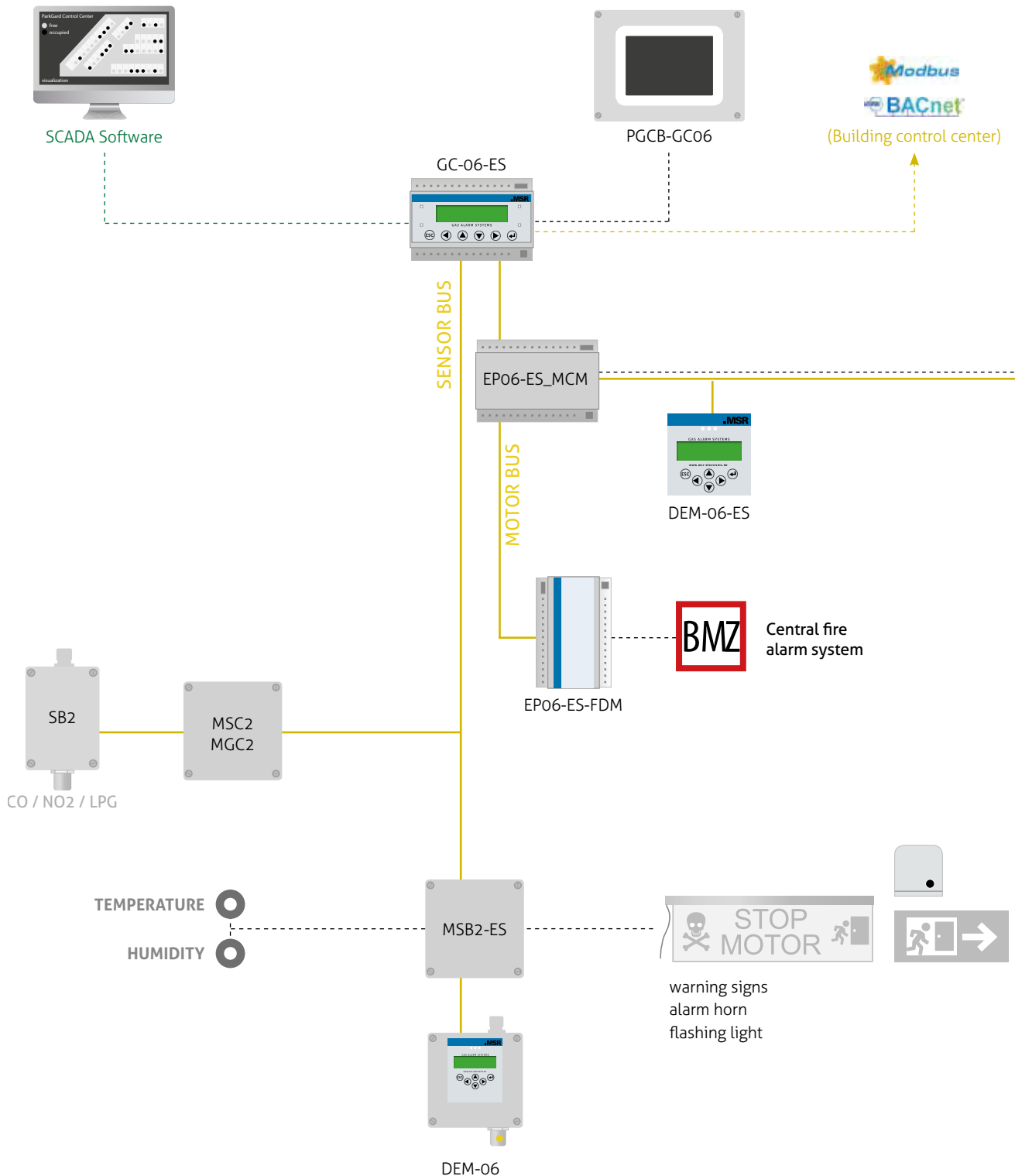
EP-06-ES-MOT



- 14 x 2-stage
- 28 x 1 stage
- 14 x 0-10 V
- 28 valves

# PolyGard<sup>®</sup> 2-ES: Large solution

Monitoring system for large plants with max. 128 motors and several desmoke scenarios

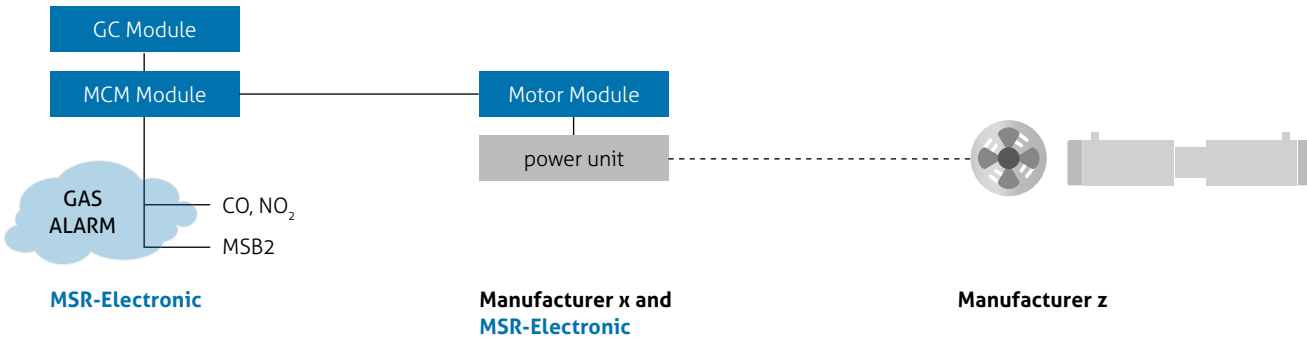




**GAS ALARM SYSTEM**

**SWITCH CABINET**

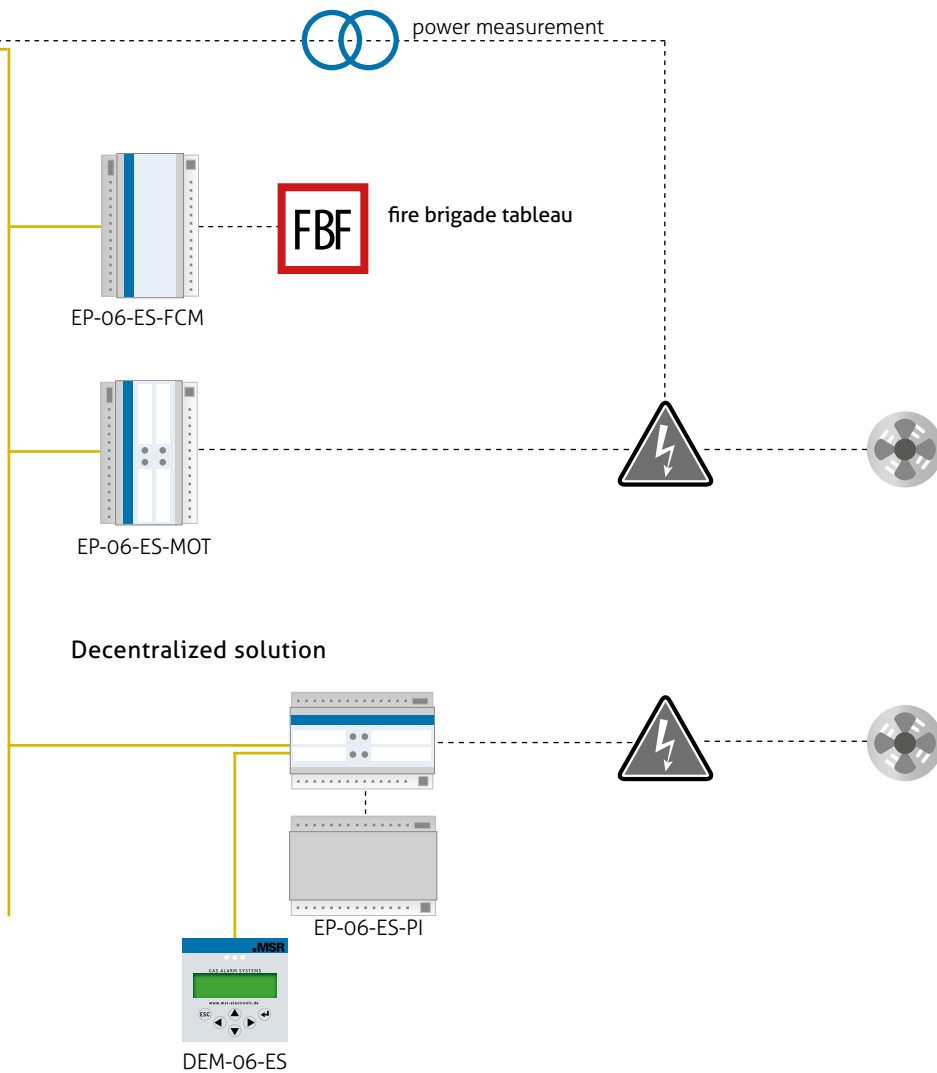
**VENTILATION**



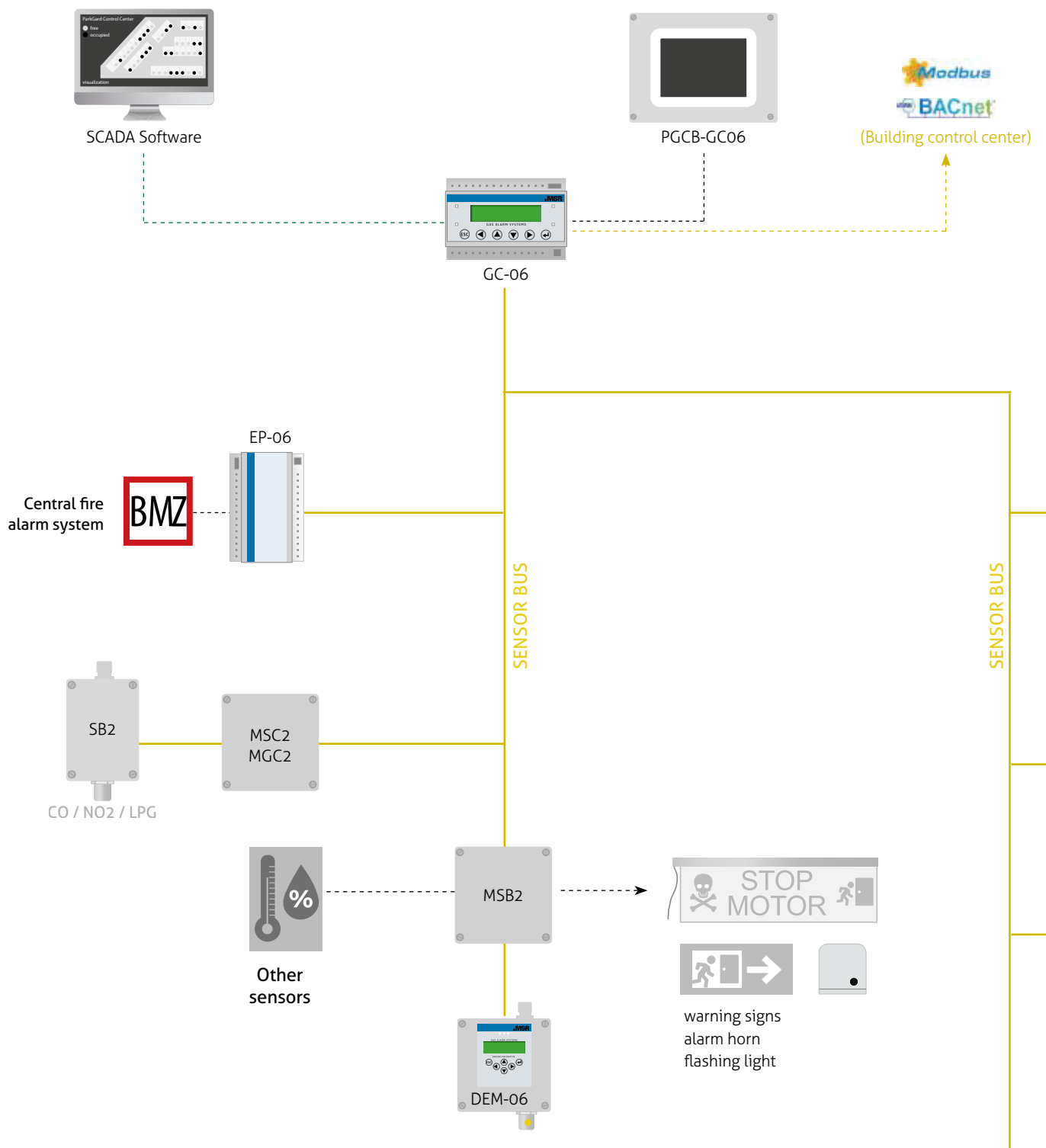
**THE ADVANTAGES WITH MSR-ELECTRONIC**

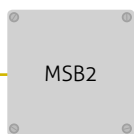
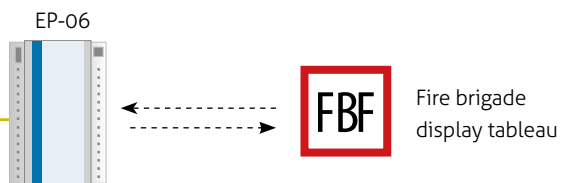
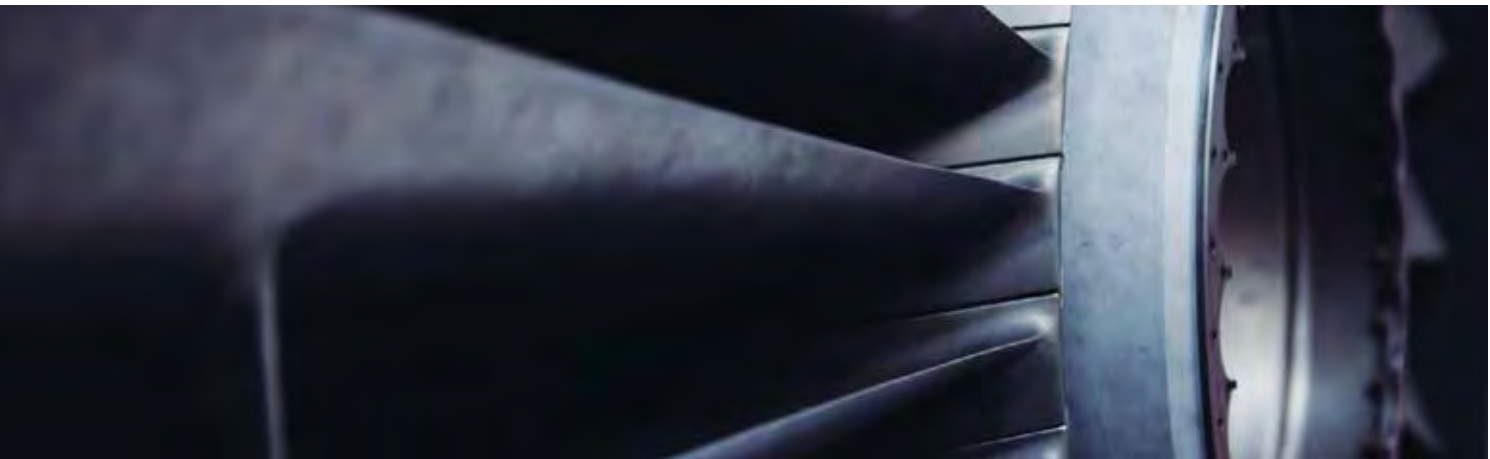
- Simpler and faster training phase
- No PLC know-how necessary
- Modular standardized
- Lower cost
- Safer (SIL)

**MOTOR BUS**



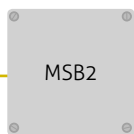
# PolyGard<sup>®</sup>2 Cold Desmoking





- EC Motor
- 3x analog Input
- 1x analog Output
- 2x digital Input
- 1x digital Output

*Sensors, 4-20 mA  
0-10 V / EC Fan  
EC confirm / smoke  
EC enable*



- 2 Stage Motor
- 3x analog Input
- 2x relay
- 1x analog Output
- 2x digital Input
- 1x digital Output

*Sensors, 4-20 mA  
2 Stage switches*

*Smoke*

# Smart Parking Guidance Systems

## Additional sensors for building control technology

**The availability of each individual parking space is detected with ultrasonic sensors and managed via controllers / hosts.**

The resulting occupancy status will be indicated on LED displays at the entrance and on each level. Thus, customers can be guided directly to the nearest available parking space. This not only makes the search easier and reduces the traffic in the garage, but also saves the customer valuable time. In addition, the operator can also reduce ventilation costs when the utilization of the parking spaces is optimized.

The systems for the detection and counting of incoming and outgoing cars in parking garages can be implemented for a certain area, but also for individual levels.

More information at [www.msr-traffic.de](http://www.msr-traffic.de)

If you are interested, please ask also for the MSR-Traffic Catalog 2019.

### FEATURES AND BENEFITS:

- Long service life
- No additional maintenance cost
- Precise detection and monitoring of all parking spaces
- Significant reduction of traffic in search for a parking space
- Minimal installation effort
- Optimization of the parking space situation
- Short payback period of the system
- Reduction of CO2 emissions
- Reduction of ventilation costs
- Suitable for indoor use
- High accuracy
- Sensor and status indicator in one housing



## PolyGard® Control Center

The software for your gas detection system

With the PolyGard® Control Center you can keep an eye on your gas detection system and on any parking space at any time. Whether statistics or alarms – the PolyGard® Control Center allows you access in real time. Faster processing of individual requirements and the retrieval of all relevant information in real-time the easy-to-use PolyGard® Control Center becomes an effective and efficient instrument.

In addition to the statistic and evaluation functions, it is possible to control also sensors and displays of the parking guidance system by using the software, for example, if you want to reserve parking spaces or identify parking offenders. Flexible integration of other external devices complete the comprehensive functionality of the PolyGard® Control Center.

### FEATURES AND BENEFITS:

- Monitoring and visualization of all parking elements in real time
- Control of all sensors and displays (display value, brightness value)
- Evaluation of all data (statistics, trend analysis, etc.)
- Timer for automatic and regular commands
- Possibility to export all data in a CSV file
- Possibility to integrate a gas detection system (indoor)
- Detection of illegal and long-term parkers
- Automatic message about defective devices







# PolyXeta<sup>®</sup> 2

Fixed Gas Warning Systems  
for Industrial Plants



# Protection under extreme Conditions

## **MSR-Electronic protects health and plants under industrial conditions.**

In the chemical and petrochemical industry permanent monitoring of rooms and plants, in which explosive atmosphere can occur, is necessary. For the protection of human beings constant monitoring of toxic and combustible gases and vapors is required. In addition, monitoring of oxygen deficiency and oxygen surplus must be carried out.

MSR-Electronic offers a wide range of methods for the detection of gases. On this basis MSR-Electronic develops individual gas sensors for industrial applications where extreme environmental conditions prevail.

## **+ Your advantages:**

- **More safety**  
More than required by all national standards
- **Exchangeable sensor (X-Change):**  
Considerably lower maintenance costs
- **Better planning with overall less costs**
- **Integration in BMS** (e.g. Modbus)





# Biogas Plants

Safe protection from CH<sub>4</sub>, H<sub>2</sub>S, CO<sub>2</sub> and O<sub>2</sub>

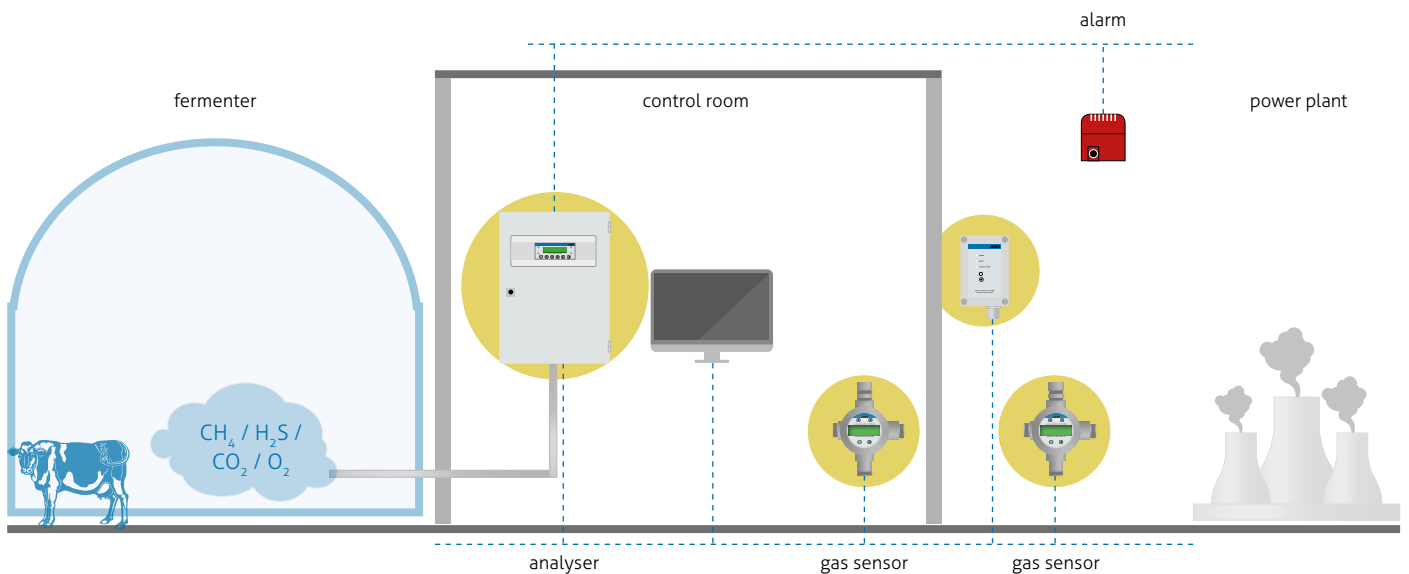
**Through early detection in hazardous areas you can prevent damages or contain existing ones.**

When operating biogas plants, in addition to process optimization, personal protection and plant safety are of crucial importance. MSR-Electronic offers intelligent devices for the extension of process optimization and operational safety of biogas plants.

With the products of MSR-Electronic you work preventively against hazards. In addition to the state-of-the-art technology, MSR-Electronic also provides consulting and conducts analyses that perfect the safety of your plants, e.g. leakages are localized at an early stage.

## PRODUCTS:

Fixed gas warning systems for measuring combustible and toxic gases and oxygen  
 Type: PolyXeta®2 for Zone 1 and Zone 2





# Mining

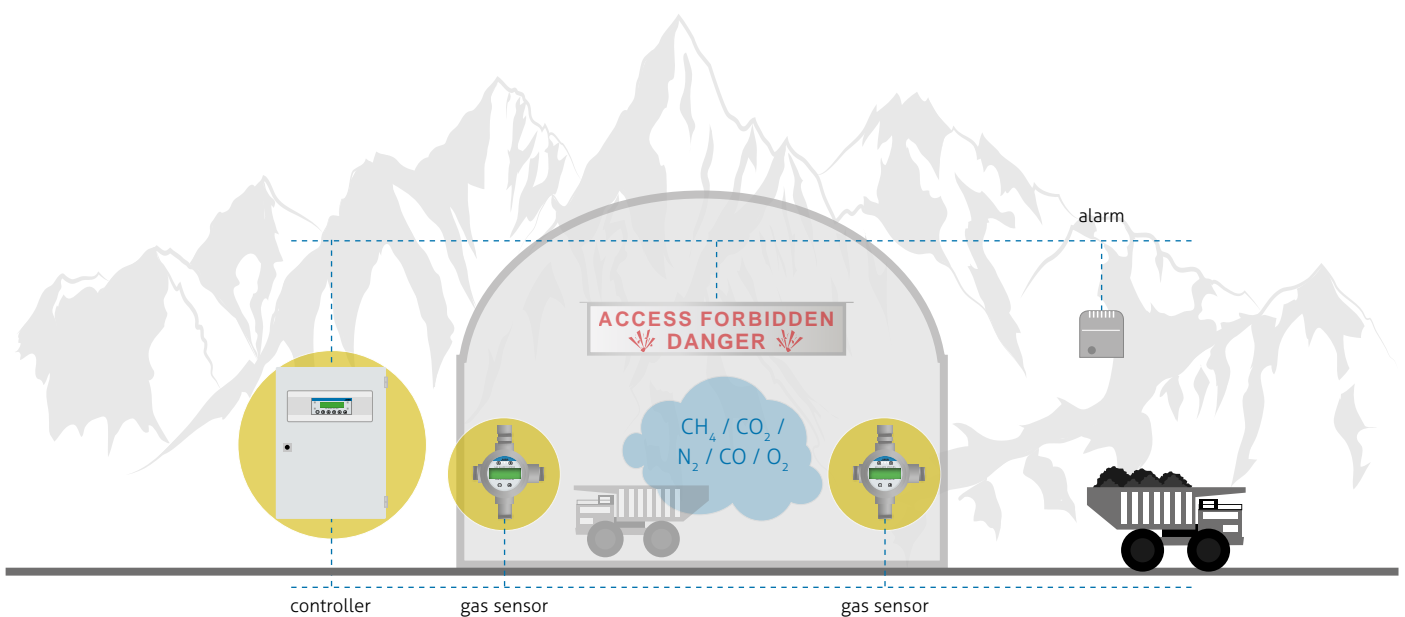
Safe protection from combustible and toxic gases

**MSR-Electronic provides safe monitoring for combustible and toxic environment in mines. Through early detection in mining areas you can prevent damages and contain existing ones.**

Mines are dangerous environments for humans and the mining equipment - the risk of fire, explosions and lack of oxygen is always present. All gases released during mining operations should continuously be monitored. MSR-Electronic provides the products to minimize this risk potential and thus can contribute to the health and safety in the mining industry.

## PRODUCTS:

Fixed gas warning systems for measuring combustible and toxic gases and oxygen  
Type: PolyXeta®2 for Zone 1 and Zone 2



# Additional Applications

## Safer Applications for Zone 1 and Zone 2



### **PRODUCTION INDUSTRY:**

$O_2 / H_2S / CO / CO_2$

In many manufacturing industrial companies health hazardous gases are used. In order to protect workers in these areas effectively, the ambient air must continuously be monitored on the concentration of toxic gases or on the dangerous decrease of oxygen content.



### **PETROCHEMICAL INDUSTRY:**

$CH_4 / C_5H_{12} / C_3H_8 / H_2S / O_2 / CO / NH_3$

In the chemical and petrochemical industry a permanent monitoring of rooms and plants, in which explosive atmosphere may occur, is needed. For personal protection a constant TLV monitoring of toxic gases and vapors is required. In addition, monitoring of lack of oxygen or oxygen surplus must be carried out.



### **OFFSHORE:**

$CH_4 / C_5H_{12} / C_3H_8 / H_2S / O_2 / CO / NH_3$

In offshore installations, gas warning systems can immensely reduce fire and explosion risks, as they warn of dangerous situations at a very early stage. MSR-Electronic develops and produces reliable stationary gas detectors which permanently monitor the ambient air for methane, propane and hydrocarbons and thus protect human lives and property.

## GAS INDUSTRY:

CH<sub>4</sub> / H<sub>2</sub>S / CO<sub>2</sub> / O<sub>2</sub>

All companies that deal with the production and processing of gases need extra protection against explosions or poisoning of the people working there. The continuous monitoring and recording of measurement values serve the primary explosion protection and thus the safety of the plant.



## WASTE DISPOSAL:

CO<sub>2</sub> / H<sub>2</sub>S / HEXANE / BENZENE / TOLUENE

Personnel in the utility and waste management industry are in many areas exposed to risks due to gases. In sewers a decrease of oxygen in the air can occur whereas in disposal sites toxic or explosive gases can arise. In addition it may be necessary to detect damages or leaks in pipelines.



# Product Overview

## PolyXeta®2

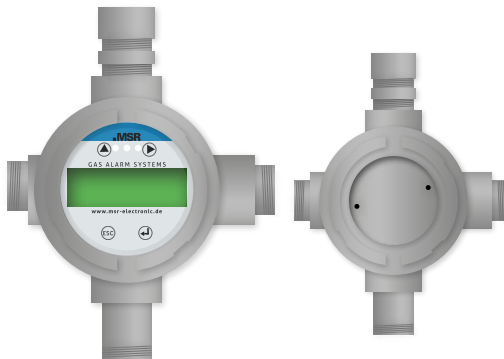
### SENSOR X-CHANGE



#### SX1:

Exchangeable sensor (X-Change)

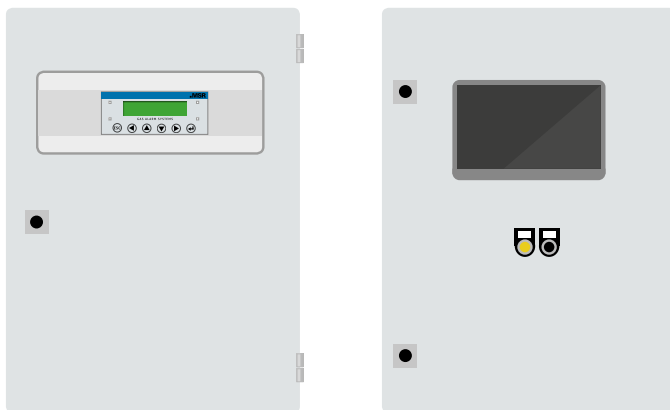
### SENSORS



#### PX2:

ATEX, IECEx certificates for electrical Ex-protection  
ATEX technical measurement test + SIL2 for safety  
functions 4-20 mA, RS-485 and relays  
Continuous self-monitoring  
Easy calibration and calibration service  
by changing the sensor head  
Proportional 4-20 mA output  
Serial interface to the controller  
Polarity and overload protection  
LCD display with status LEDs (optional)  
Alarm and fault relays

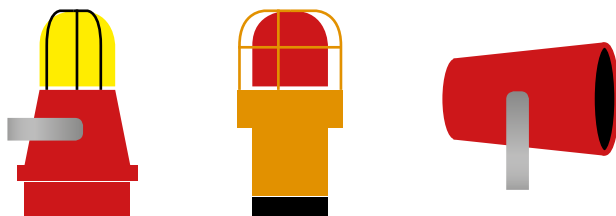
### CONTROLLER



#### XGC-80:

128 sensors  
Extendable relay via EPS  
Display LED  
Hand tool for configuration  
Direct connection to BMS  
Configurable units  
Integrated GC module  
Option UPS / data logger  
Mountable in the control cabinet  
Safety product

### WARNMITTEL

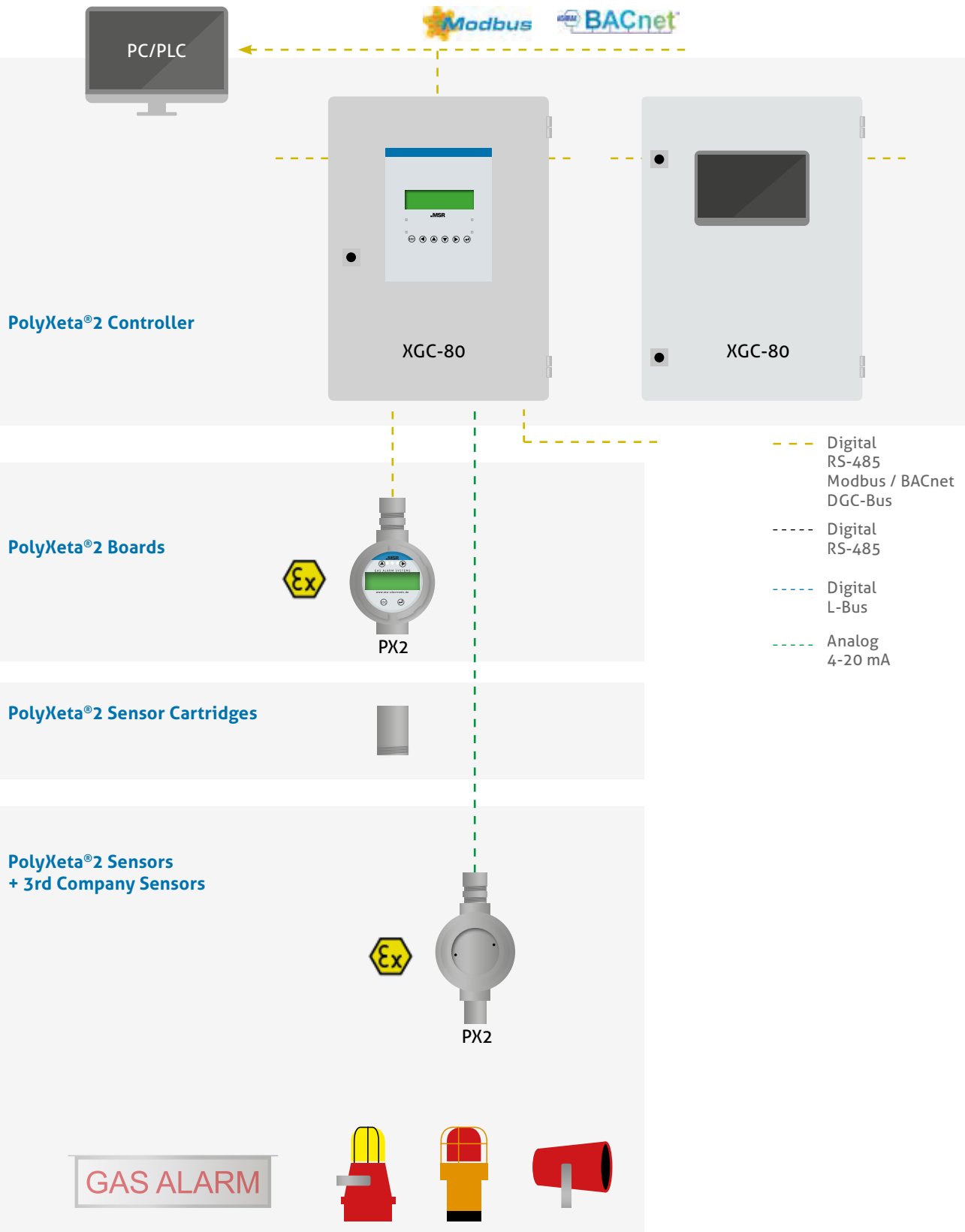


#### WH-X:

Safety products for Zone 1 and 2

# System Overview

## PolyXeta® 2



# Sensors

With the innovative exchangeable sensor X-Change

The PolyXeta<sup>®</sup>2 exchangeable sensor

Sensors for ATEX Zone 1 and 2





POLYGARD 2

POLYXETA 2



POLYMARINE

POLYSAM



# X-Change

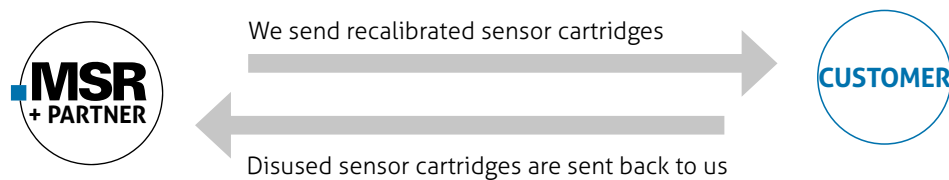
## The PolyXeta<sup>®</sup>2 exchangeable sensor

### New and simple calibration for gas alarm sensors.

Until now, the necessary calibration of the sensors was a complex procedure: Dependent on an external certified company, a great deal of time and money.

### With the exchangeable sensor X-Change you turn the recalibration into a home game:

- Delivery of recalibrated sensor cartridges
- Easy and independent change (see next page)
- Considerable time and cost savings



Sensor cartridge SX1 with X-Change

## Experience the change – the quick and safe change:



Open the housing (1).



Disconnect the sensor cable and unscrew the disused sensor cartridge (2).  
**The yellow LED lights up.**



Change the sensor cartridge (3) and connect the cable of the recalibrated cartridge with the board (4).  
**The yellow LED goes off again.**



Close the cover of the housing again and the recalibrated sensor is immediately ready for use.

# Sensors for ATEX Zone 1 and 2

## With the innovative exchangeable sensor X-Change



### Micro-processor based sensor

4-20 mA output, RS-485 Modbus output

The sensor is suitable for connection to XGC-80, GC-06, GC-05 and GC-03

**OPTIONS** LCD display  
2 relay outputs: Alarm and fault relays

**VARIATIONS** Ex demb[ib] Zone 1, housing can be opened during operation  
Ex d Zone 1, flame-proof enclosure  
Ex d Zone 2, flame-proof enclosure

### PolyXeta®2 Sensor Components

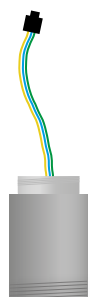
With sensor head SX1 (X-Change)

Communication: L-Bus

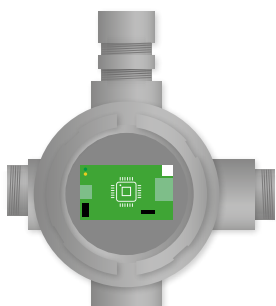
### FEATURES AND BENEFITS:

- Signal output analog, ModBus
- Connection to SB2, MSB2, MSC2
- Calibration – digital
- X-Change housing with M25-threaded connection, protection type IP65

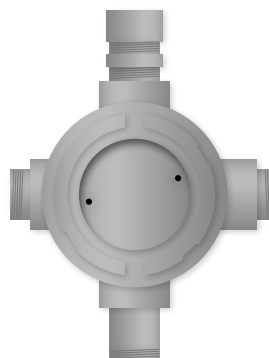
Sensor cartridge

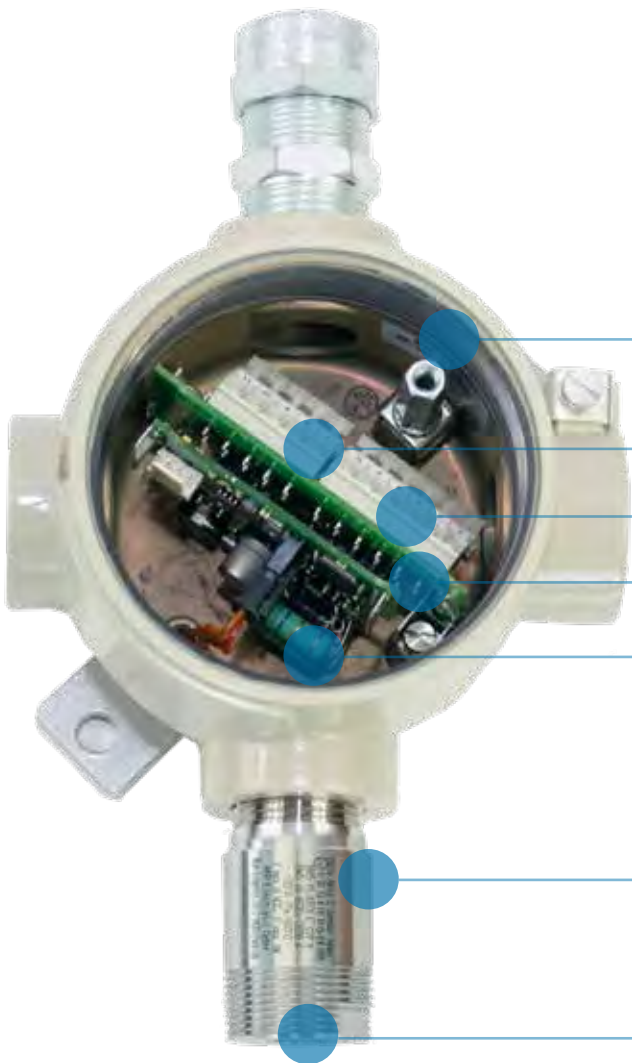


Housing + Sensor board



Sensors without/with display





- Sensor board housing IP65
- RS-485 / Power supply
- Service tool
- Input sensor cartridge
- Control LED (green / yellow)
- Sensor cartridge housing IP54
- Exchangeable sensor (X-Change)

**Variation with Display**



- Magnetic pen for contactless navigation
- Status LED
- 2 coloured display

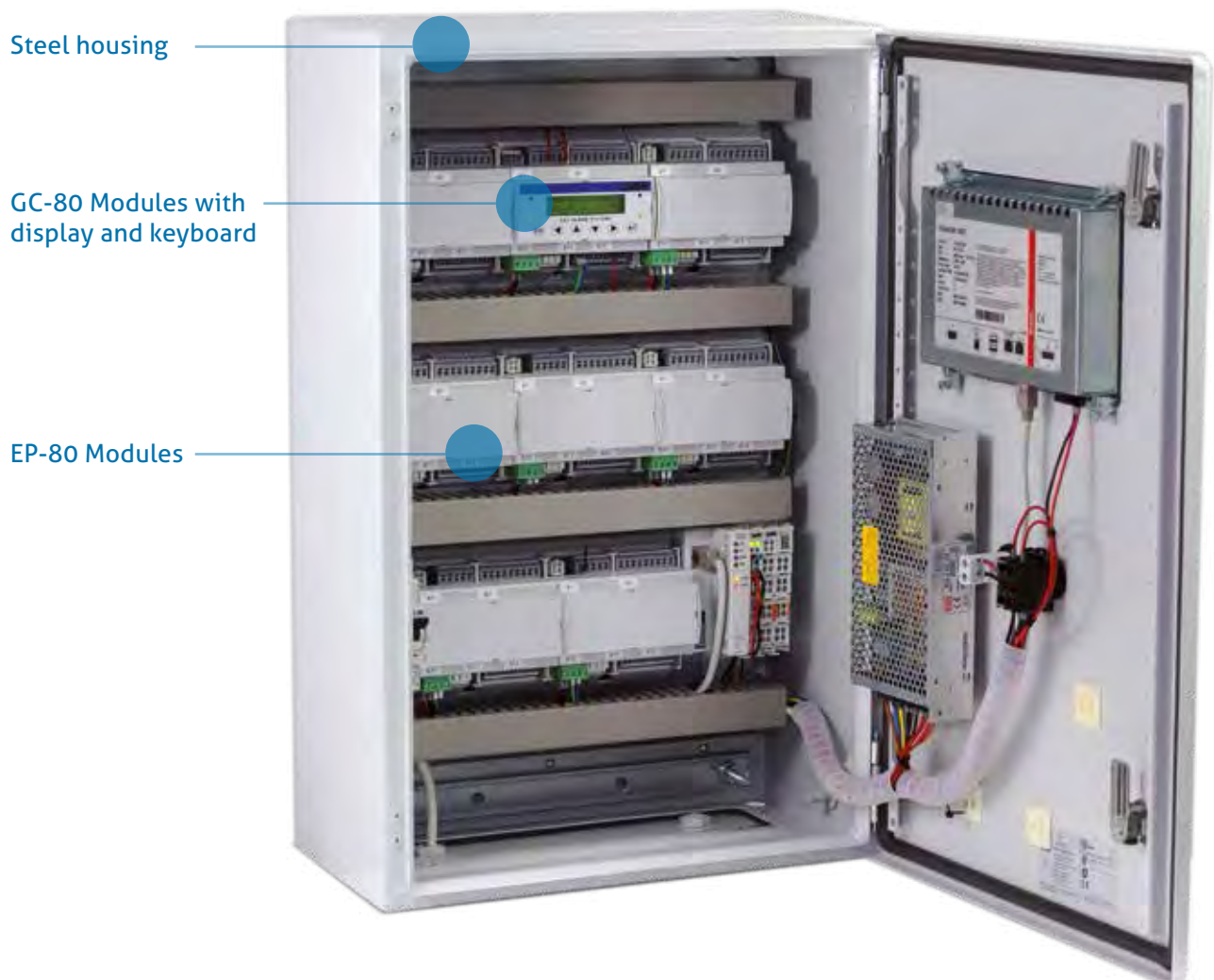


# Controller

Freely extendable for your requirements

## Gas Controller System

Measuring, alarm and control system XGC-80





## System for toxic, combustible gases and vapors.

The gas controller series XGC-80 is designed among other things according to the EN 50545-1 and can monitor and evaluate up to 128 gas sensors; 96 of them can be PolyXeta®2 digital sensors and/or 32 of them analog sensors (4-20 mA).

Per sensor four freely adjustable alarm levels are available. For alarm signals the controller system has up to 32 alarm relays with potential-free changeover contact and up to 16 analog outputs with 4-20 mA signal. Freely adjustable parameters and set points enable the flexible use in the gas detection technology. The easy and comfortable commissioning is also possible thanks to the configuration with standard parameters.

### FEATURES AND BENEFITS:

- 128 sensors
- Relay extendable via EP-80 modules
- Extra large, easy to read and illuminated display with optional touchscreen
- Hand tool for configuration
- Direct connection to BMS
- Units are selectable
- Integrated GC-80 module
- Option UPS / data logger
- Can be installed into the control cabinet
- Safety product

Variations	Max. digital sensors	Max. analog sensors	Relays
A	32	12	12
B	64	20	20
C	96	32	36



# Modules

## Gas controller extension modules GC-80 and EP-80

### **Extend your control.**

Via the fieldbus up to 7 extension modules can be connected both centrally and locally to the GC-System. For the fieldbus output an overload and polarity protection is integrated. In addition another fieldbus output with repeater function is available.

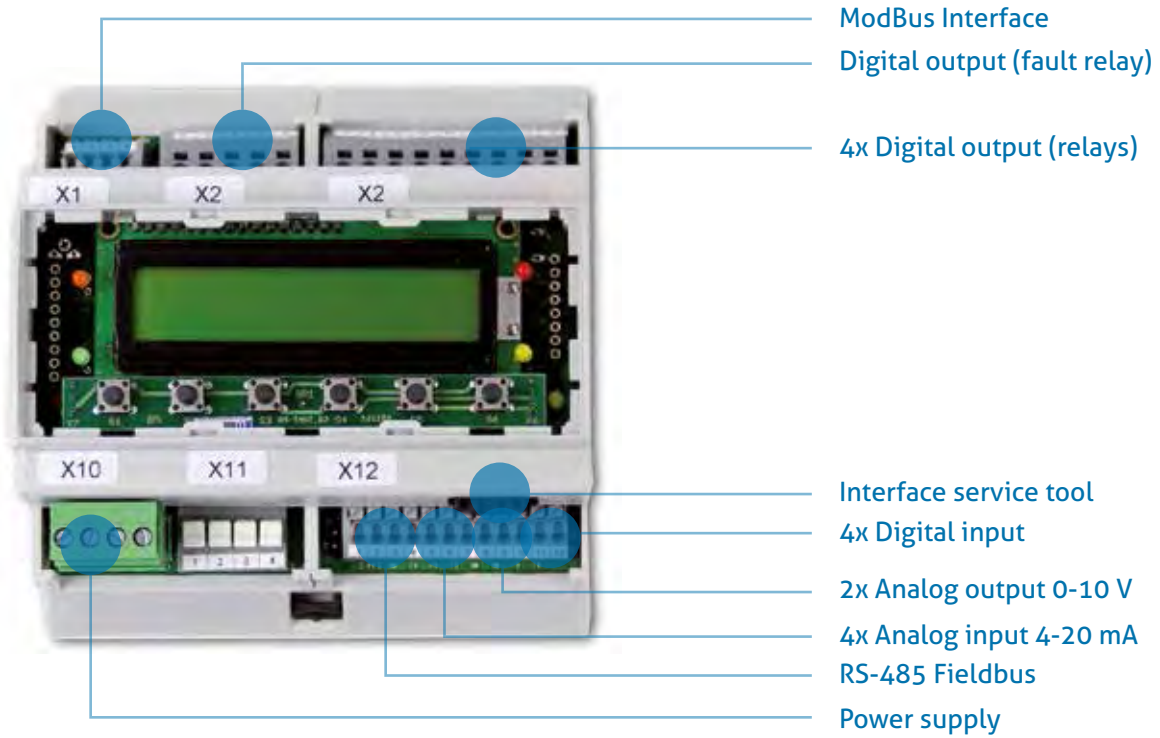
For the alarm relays AR03 and AR04 an open-circuit and functional monitoring of the external warning devices is optionally deliverable.

Extension of the analog inputs and outputs and the alarm relays of the gas controller XGC-80 system.

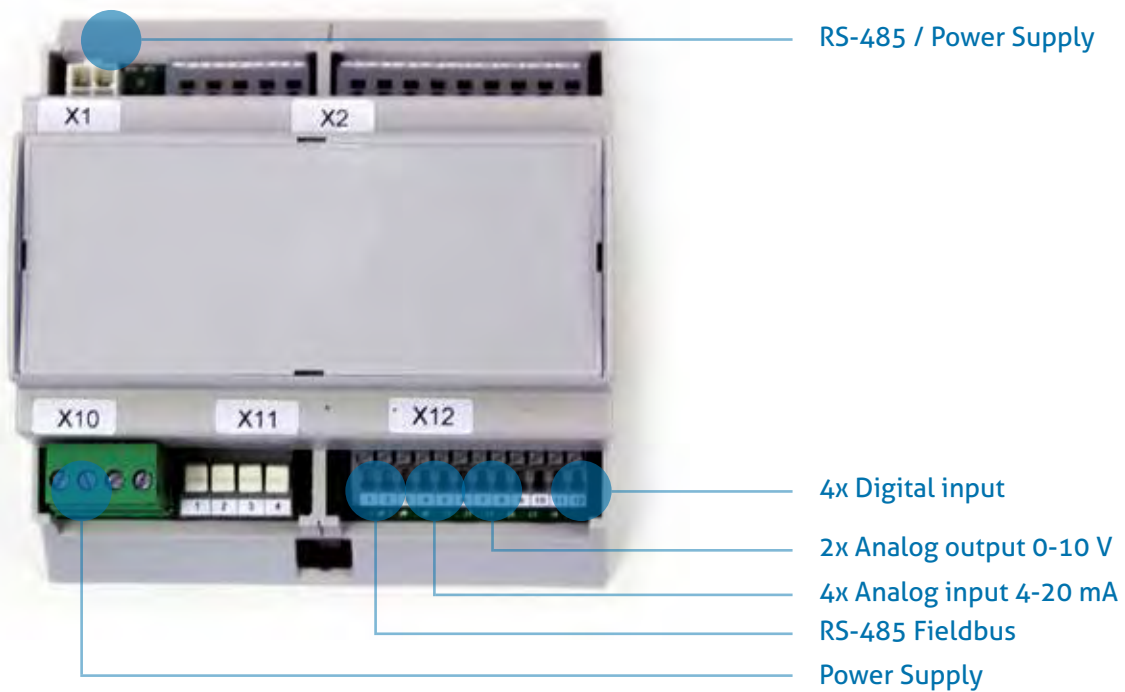
### **FEATURES AND BENEFITS:**

- Extension module with  
four analog inputs (4-20 mA),  
four alarm relays with potential-free changeover contact and  
two analog outputs (4-20 mA)
- For connection of the PolyGard®2 gas controller XGC-80

### Module GC-80



### Module EP-80



# Warning Devices

## Reliable warning in the EX area

**For areas where, due to explosive substances, special requirements exist.**

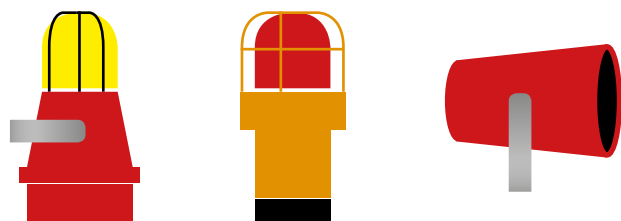
MSR-Electronic offers an extensive repertoire of audible and visual signal devices with different approvals in the Ex-area. The audible and visual signal devices of the Ex-series are characterized by a particularly robust construction and resistance to environmental influences and chemicals.

These are information, warning and emergency signals for safety, hazard and fire alarm systems, building, industrial and commercial automation systems, disaster warning and danger zones.

The products are suitable for the use in gas and steam atmospheres, as well as in dust atmospheres. MSR-Electronic offers Ex-signal towers, visual Ex-signal devices, audible Ex-signal devices and visual-audible Ex-signal devices.

### FEATURES AND BENEFITS:

- Compatible with all controllers by MSR-Electronic
- Applicable for Zone 1 and Zone 2
- Durable and robust





#### ALARM HORN SOUNDER & XENON STROBE BEACON:

- Explosion proof LED multi-function Beacon
- Double / triple strike flash



#### OMNI-DIRECTIONAL XENON BEACON:

- Xenon strobe beacon
- Suitable for Zone 1 and Zone 2
- Approved to IECEx, ATEX, Ex EAC



#### WARNING HORN:

- Suitable for Zone 1 and Zone 2
- High impact, fire retardant ABS



# PolyMarine<sup>®</sup> 2

Fixed Gas Warning Systems  
for Shipping



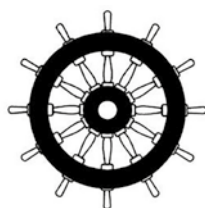
# Broad Spectrum with high Impact

## Reliable and permanent protection against gas leaks on board

Gas leaks on board cannot be detected by the human sense of smell alone, but can quickly lead to fire and poisoning. The leakage of combustible gases can even cause an explosion.

## + Your advantages:

- **More safety**  
More than required by all national standards
- **Exchangeable sensor (X-Change)**  
Significantly lower maintenance costs
- **Better planning with overall lower costs**
- **Integration into the ship system**





# PolyMarine<sup>®</sup>

## Private Shipping

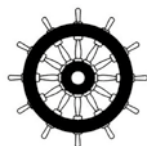
### Reliable and permanent protection against gas leaks on board.

Gas leaks on board can quickly lead to fire or to poisoning. Many of these gases are often odorless. The human sense of smell alone can no longer detect this danger and needs help. The escape of combustible gases can even cause an explosion.

### PolyMarine<sup>®</sup>2 Products:

- Plug-in device for detection of carbon monoxide, LPG, petrol vapors or air quality
- Gas controller, up to 3 different gas sensors possible
- Gas sensors for CO / NO<sub>2</sub> / petrol vapors / propane, incl. exchangeable sensor (X-Change)
- Warning devices (alarm horn with signal lamp and alarm acknowledgement)
- Control unit for the cockpit with buzzer, lamp, button and display
- Smoke alarm, magnetic gas valve

### Approvals:



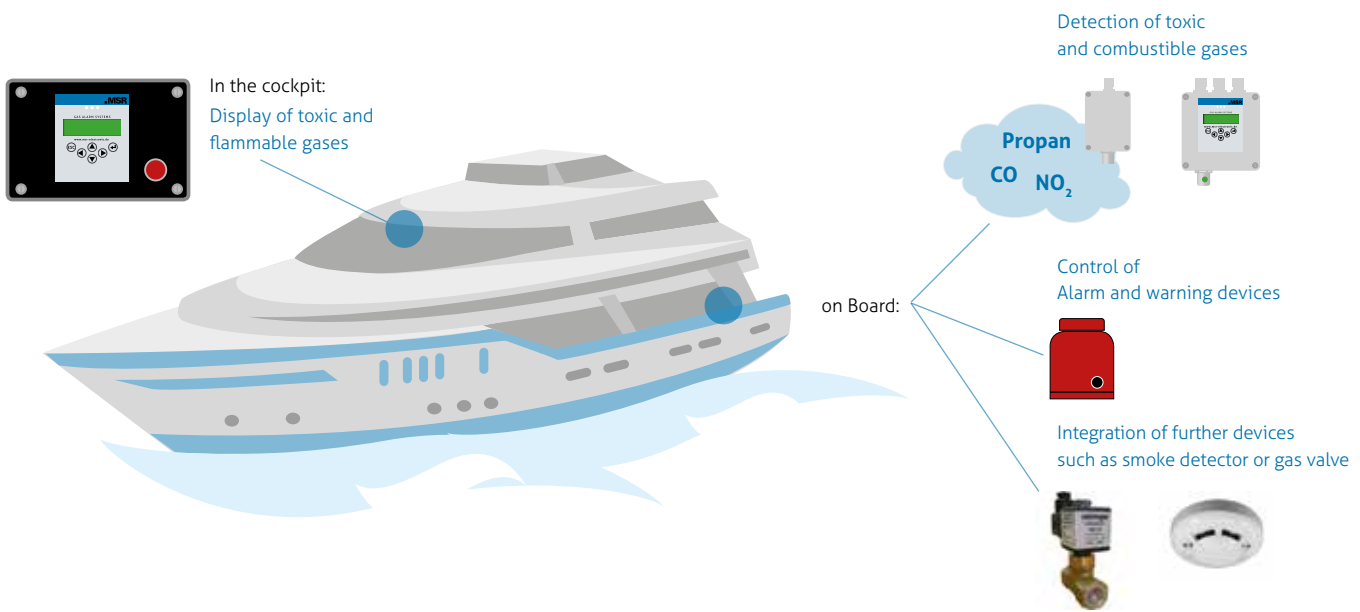
### YOUR ADVANTAGES:

- High accuracy and reliability
- Guaranteed safety and worldwide support
- Significant increase in value

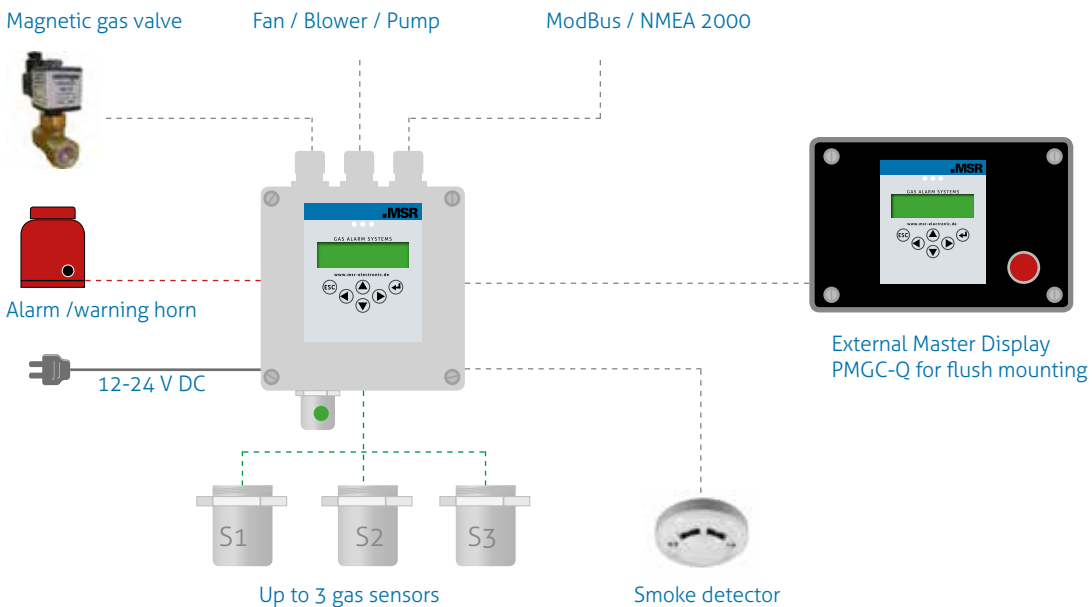




### SCHEMATIC DIAGRAM



### POLYMARINE®2 SYSTEM WITH FIXED GAS DETECTOR:





# PolyMarine®

## Commercial Shipping

### **Gas Alarm Systems for Commercial Shipping**

Depending on the type of seagoing vessel and its cargo, dangerous gas concentrations can form on board at any time. According to the guidelines, stationary gas warning systems must be installed in most ships. In addition, a reliable gas warning system from MSR-Electronic not only protects the life of the crew, but can also protect the cargo of the ship and even the ship itself from damage.

### **LPG - The Marine Alternative Fuel**

The use of LPG as an engine fuel is one of the largest and fastest ones growing globally. The properties of LPG and namely its low emissions and its virtually zero particulate emissions can have an immediate positive impact on air quality. An important property of LPG is that when in vapor form, it is heavier than air and when it leaks it always falls to the ground. If an LPG leak in a vessel is left unnoticed, it will find its way to the engine room floor or bilge. Reliable and high-performance fixed-point LPG gas detectors by MSR-Electronic will make this marine future more secure.

### **Potential gas hazards in marine applications:**

- Explosion risk for liquefied petroleum gas, chemicals and other fossil fuels
- Toxic gases: Carbon monoxide from waste gases and hydrogen sulphide from the degradation of organic compounds
- Danger of suffocation: lack of oxygen during oxidation processes



Reliable detection dangerous gases

**GAS ALARM**

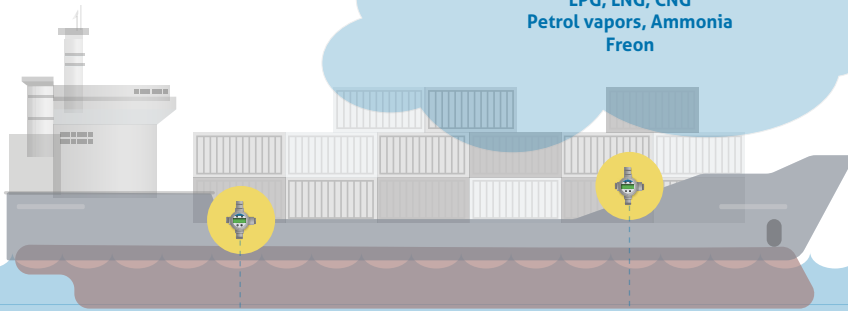
Control of warning devices



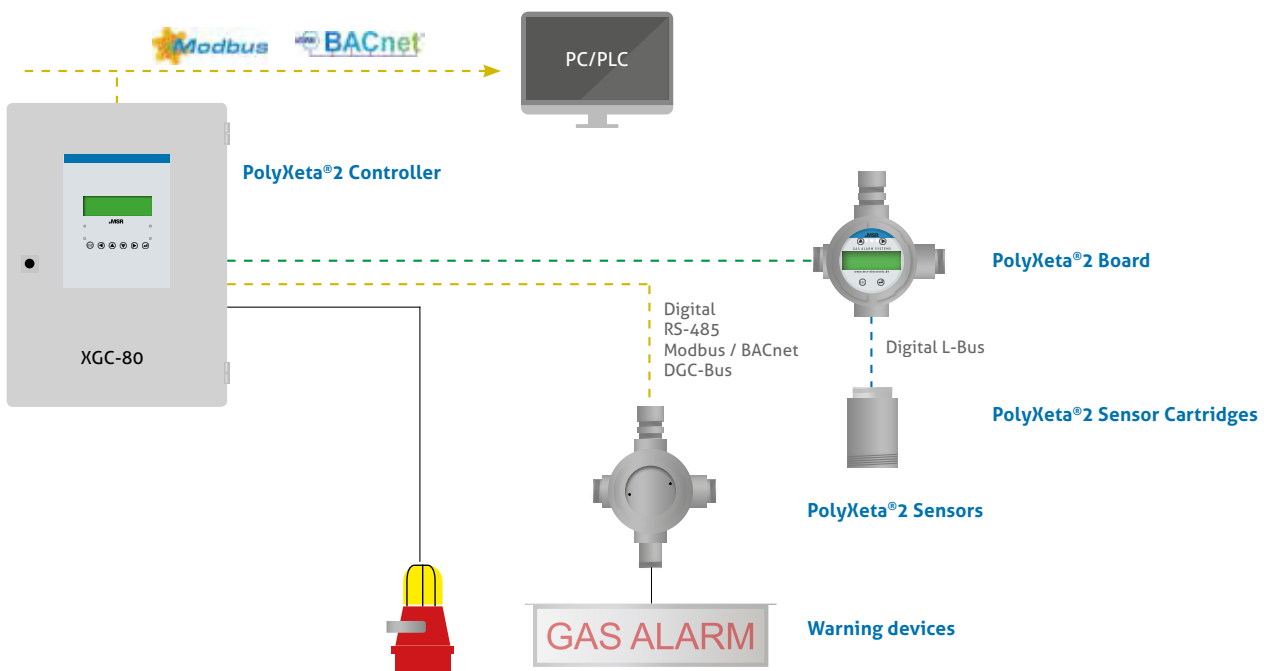
Retrieve all relevant data



Hydrocarbons  
Oxygen  
Hydrogen Sulphide  
Carbon Monoxide / Dioxide  
LPG, LNG, CNG  
Petrol vapors, Ammonia  
Freon



← Digital: RS-485  
Modbus / DGC-Bus





# PolySam<sup>®</sup>

## Fixed Gas Warning Systems for Gas Analysis





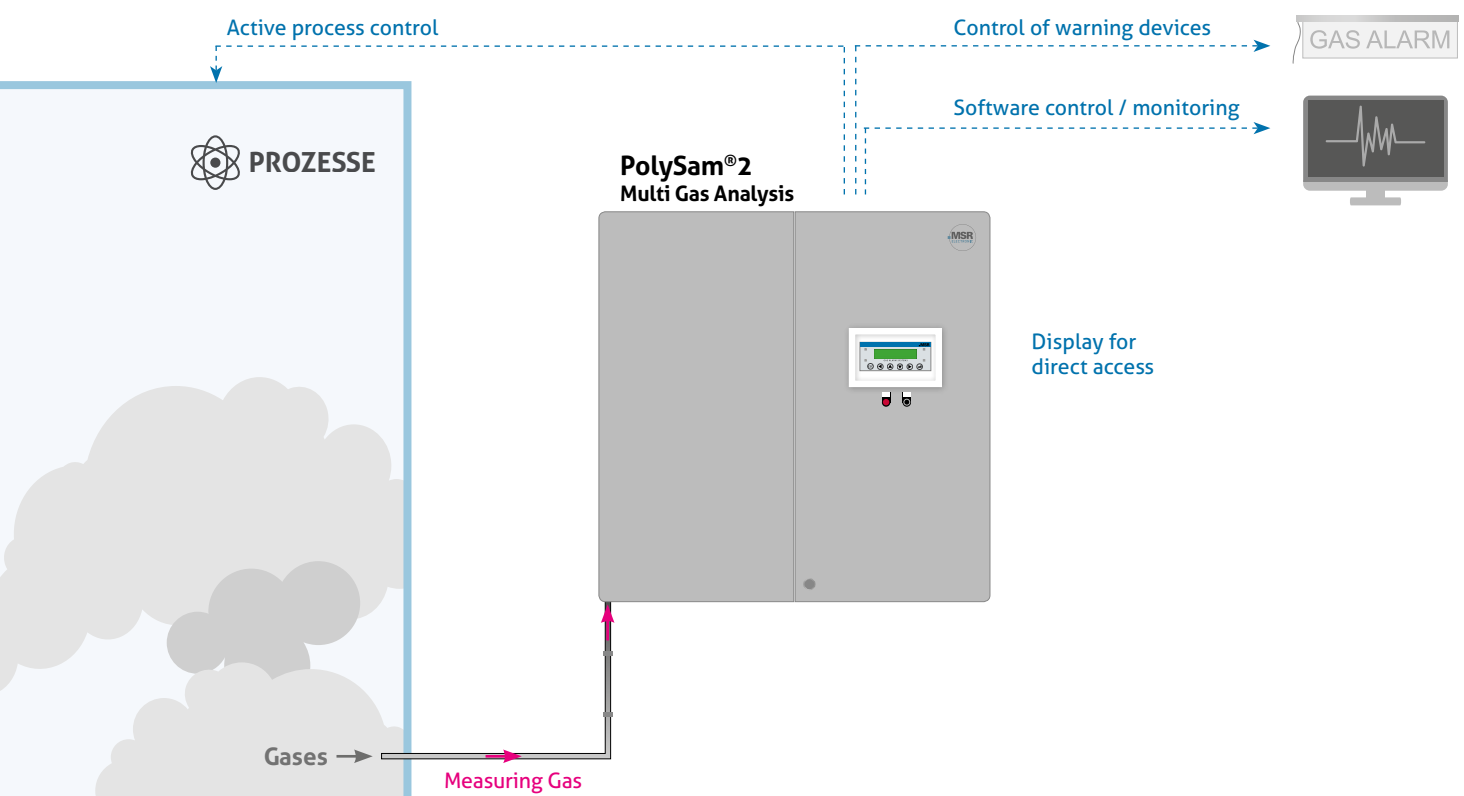
# Optimize the Processes

**Individual solutions for complex applications.**

With MSR-Electronic you profit from comprehensive analyses and thus optimize your yield of energy generation.

## + Your advantages:

- **More safety:**  
More than required by all national standards
- **Exchangeable sensor (X-Change):**  
Significantly lower maintenance costs
- **Better planning with overall lower costs**



# PolySam<sup>®</sup> Process Monitoring

## Optimize the yield of energy generation

**With the complete solutions by MSR-Electronic you are always on the safe side. Your system can be monitored and optimized locally as well as by remote control via computer.**

The evaluations of all gases are temperature, humidity and pressure compensated. Thanks to targeted flushing with fresh air the lifetime of your biogas plant will increase significantly.

### Products:

- PolySam
- PolySam Compact

System for analysis

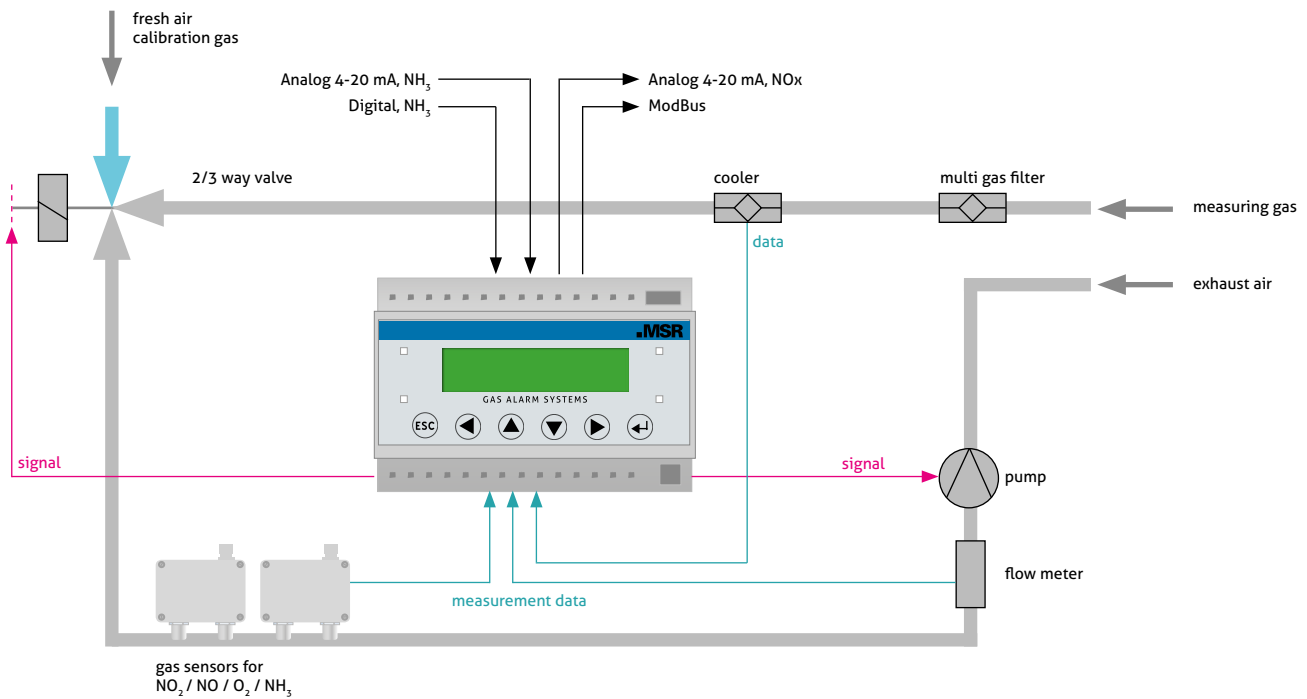
Self-regulating gas intake system with integrated controller for the logical control of complex requirements

Various interfaces for further processing in higher-level monitoring systems

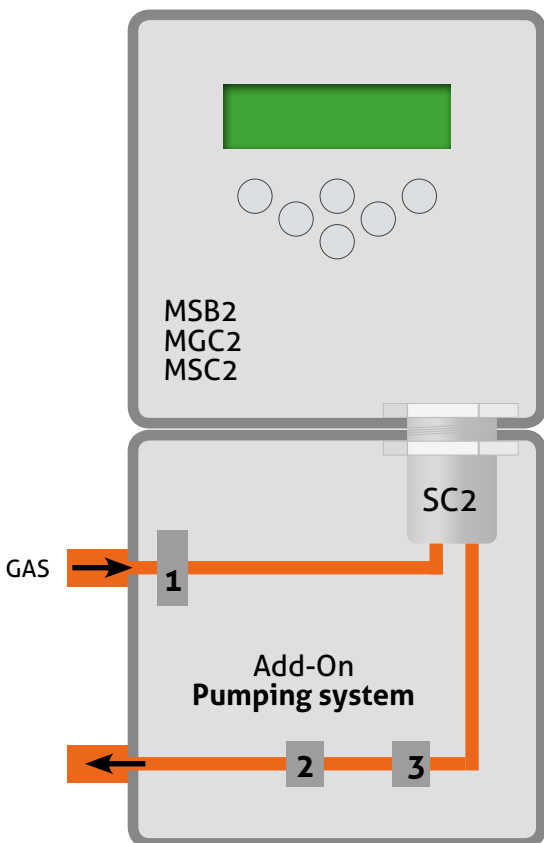
### FEATURES AND BENEFITS:

- Ultra-flexible gas analyzing system
- Up to 4 gas sensors per line can be integrated for evaluation
- Adjustable flow rate of the measuring gas
- Automatic detection of clogged filters
- Space-saving in a solid metal cabinet, you always have the overview
- The integration into process control systems is possible
- Choice of different interfaces
- Also available as compact system for 1 gas

# PolySam<sup>®</sup>2 System Overview



# System Overview Compact System



## BENEFITS AND FEATURES:

- 24 V DC
- Adjustable flow rate
- Flow monitoring
- Compatible with SC2 sensor heads

- |     |                  |
|-----|------------------|
| SC2 | Sensor cartridge |
| 1   | Filter           |
| 2   | Pump             |
| 3   | Pressure switch  |



# Appendix



## Subsidiaries and Support

[MSR Academy](#)

[The MSR Webshop](#)

[All Products](#)

[Housings](#)

[Product Matrix](#)

[Index](#)

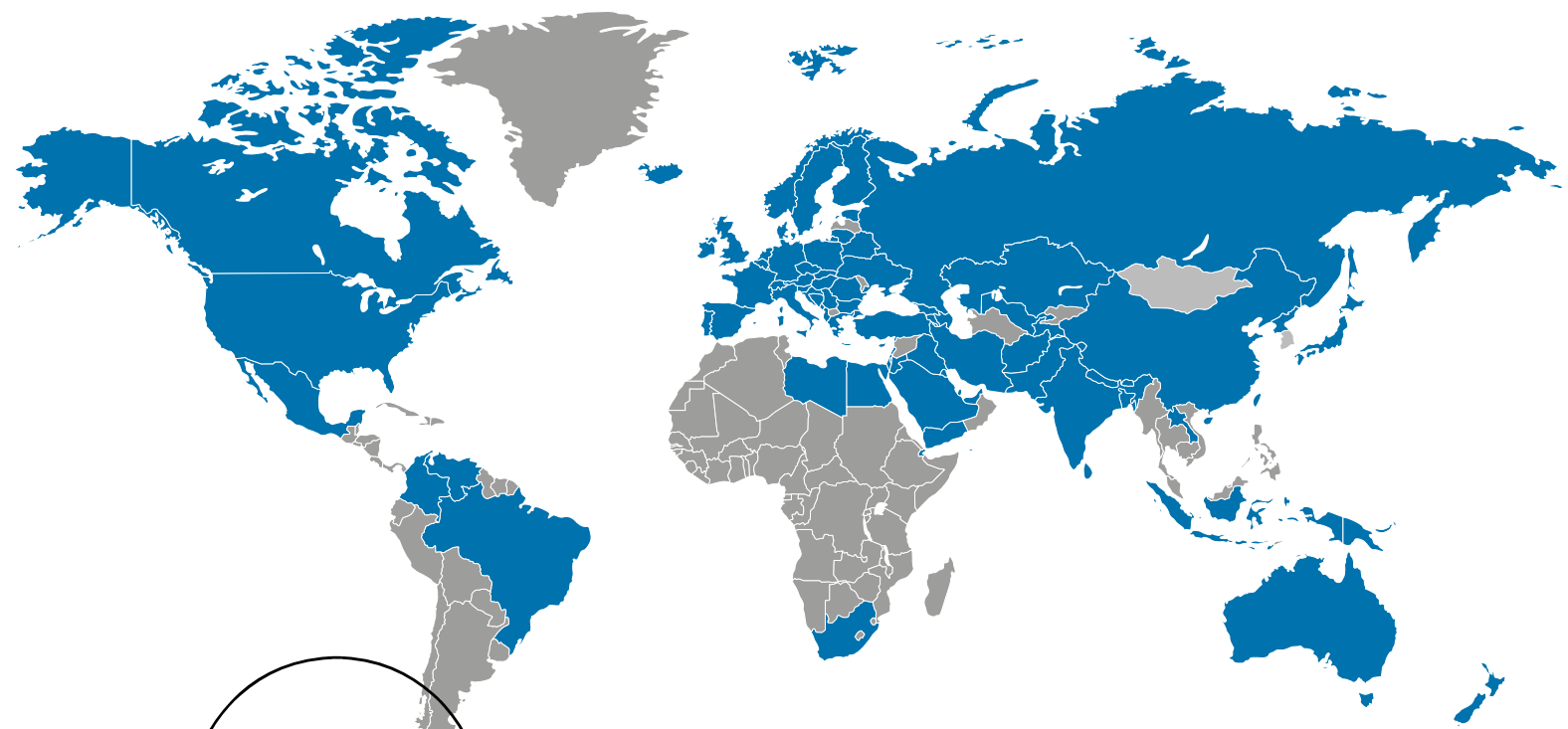


# Branches + Support

Worldwide, across all industries

## Distribution of the products and solutions of MSR-Electronic in more than 50 countries

The reliable employees and partners of MSR-Electronic are operating globally and will always find the best possible solution for your request.





**Office for Middle East  
and Australia**

Würdinger Str. 27 + 27A  
94060 Pocking, Germany  
Fon: +49 8531-9004-0



**Office for Austria, Hungary,  
Slovakia, Czech Republic**

Am Hafen 6/1/23  
2100 Korneuburg, Austria  
Fon: +43 660 683 47 06



**Office for Italy, Switzerland,  
South of France**

Via Cottolengo 11  
20022 Castano Primo (MI), Italy  
Fon: +39 339 11 21 291



**Office for Croatia , Slovenia,  
Bosnia, Herzegovina**

Barbat 86  
51280 Rab, Croatia  
Fon: +49 160 46 97 666

**MSR-Electronic has customers in:**

- |                                |             |                      |
|--------------------------------|-------------|----------------------|
| Australia                      | Iceland     | Republic of Korea    |
| Austria                        | India       | Romania              |
| Belgium                        | Iran        | Russia               |
| Brazil                         | Israel      | Saudi Arabia         |
| Canada                         | Italy       | Serbia               |
| Central America, South America | Jordan      | Singapore            |
| China                          | Kuwait      | Slovakia             |
| Colombia                       | Latvia      | Slovenia             |
| Croatia                        | Lebanon     | South Africa         |
| Czech Republic                 | Lithuania   | Spain                |
| Denmark                        | Luxembourg  | Sweden               |
| Egypt                          | Malta       | Switzerland          |
| Estonia                        | Mexico      | Taiwan               |
| Finland                        | Morocco     | Tunisia              |
| France (France)                | Netherlands | Turkey               |
| Germany (German)               | Norway      | United Arab Emirates |
| Great Britain                  | Pakistan    | USA                  |
| Greece                         | Poland      | Venezuela            |
| Hong Kong                      | Portugal    | Vietnam              |
| Hungary                        | Qatar       |                      |



# MSR-Academy

The latest technology directly  
from the manufacturer

## **Always up-to-date with MSR-Electronic**

Within a 2-day training course we offer the opportunity to experience our technology at first hand and to discover it in detail with our technology and development experts. As a result unnecessary sources of error can be avoided and the quality can be increased.

Our new product series PolyGard®2, PolyXeta®2, the existing series µGard®, PolyGard®, as well as legal amendments such as the European standard EN 50545 for garages and tunnels will be covered.

**We would like to offer you better customer service, an expansion of your product range as well as faster processing of daily operations.**

You can find out the exact times and necessary information on our website or in a personal conversation with your contact person.

**Please note that free support by our technicians can only be guaranteed after regular participation in our training courses. Every trainee receives a premium support code.**

By the way: You receive a 10 % discount per 10,000 € net turnover per year in the online shop for participation in the MSR Academy!



## 2 groups improve effectiveness

### BASIS GROUP

- Free Premium Support
- Basic knowledge and news from the gas detection technology of the MSR product family
- Personal contact to your development and support contacts

### ADVANCED GROUP

- Free Premium Support
- Current knowledge from the MSR product family
- Mediation of complex application examples
- Personal contact to your development and support contacts





**The webshop of MSR-Electronic with more than 1,000 products and our unique configurator**

The variety of application possibilities and specifications does not always make it easy for customers to find the right product. At [www.msr-24.com](http://www.msr-24.com) customers can enter the key data (for example application and room size) of the project in the „product adviser“ and will immediately receive a suggestion with the required products and matching number, in accordance with the currently valid standard. Of course, this can then be adapted to individual requirements.

All products are easy to find and if there are different versions per item, these can also be configured individually. The selected item is then displayed with product photos, a data sheet and the unit price.

**PRODUCT ADVISOR**

**Application**

Application:

Size in m<sup>2</sup>:  m<sup>2</sup>

**Gases**

Active: <input checked="" type="checkbox"/>	Number of sensors: <input type="text" value="22"/>	<p><b>CO</b> For monitoring according to EHS0545 in public underground garages</p> <p><b>NO2</b> If there are many diesel vehicles or in truck loading zones</p> <p><b>LPG</b> If there are many natural gas vehicles (one remote board per sensor included)</p>
Active: <input checked="" type="checkbox"/>	Number of sensors: <input type="text" value="22"/> Remote sensors: <input type="text" value="0"/>	
Active: <input checked="" type="checkbox"/>	Number of sensors: <input type="text" value="22"/>	

**Alarm evaluation**

Number of alarm sections (Dwell, zones, rooms):

Delay for controls (ventilation, visual / acoustical warnings) per section:

**Controllers and modules**

Digital sensors:  Analog sensors:

Number of controllers:  Number of expansion modules:  Controller:

Add to shopping cart





[www.msr-24.com](http://www.msr-24.com)

POLYGARDZ

POLYKETA

POLYMARINE

POLYSAM

# Analog Sensor Cartridge MC2

## Toxic Gases

Item No.	Gas	Range
Sensor El. Chemical		
MC2-A-E1110-B-0	Carbon monoxide CO	0-100 ppm
MC2-A-E1110-C-0	Carbon monoxide CO	0-150 ppm
MC2-A-E1110-E-0	Carbon monoxide CO	0-250 ppm
MC2-A-E1110-F-0	Carbon monoxide CO	0-300 ppm
MC2-A-E1110-H-0	Carbon monoxide CO	0-500 ppm
MC2-A-E1125-A-0	Ammonia NH <sub>3</sub>	0-100 ppm
MC2-A-E1125-B-0	Ammonia NH <sub>3</sub>	0-300 ppm
MC2-A-E1125-C-0	Ammonia NH <sub>3</sub>	0-500 ppm
MC2-A-E1125-D-0	Ammonia NH <sub>3</sub>	0-1000 ppm
MC2-A-E1125-E-0	Ammonia NH <sub>3</sub>	0-5000 ppm
MC2-A-E1130-A-0	Nitrogen dioxide NO <sub>2</sub>	0-10 ppm
MC2-A-E1130-B-0	Nitrogen dioxide NO <sub>2</sub>	0-20 ppm
MC2-A-E1130-C-0	Nitrogen dioxide NO <sub>2</sub>	0-30 ppm
MC2-A-E1130-E-0	Nitrogen dioxide NO <sub>2</sub>	0-100 ppm
MC2-A-E1183-B-0	Hydrogen cyanide HCN	0-50 ppm
MC2-A-E1183-C-0	Hydrogen cyanide HCN	0-100 ppm
MC2-A-E1185-B-0	Formaldehyde CH <sub>2</sub> O	0-10 ppm
MC2-A-E1190-A-0	Ozone O <sub>3</sub>	0-5 ppm
MC2-A-E1190-B-0	Ozone O <sub>3</sub>	0-10 ppm
MC2-A-E1193-B-0	Chlorine Cl <sub>2</sub>	0-5 ppm
MC2-A-E1193-C-0	Chlorine Cl <sub>2</sub>	0-10 ppm
MC2-A-E1193-D-0	Chlorine Cl <sub>2</sub>	0-20 ppm
MC2-A-E1195-A-2	Oxygen, 2 years O <sub>2</sub>	0-25 Vol %
MC2-A-E1195-A-3	Oxygen, 3 years O <sub>2</sub>	0-25 Vol %
MC2-A-E1195-A-5	Oxygen, 5 years O <sub>2</sub>	0-25 Vol %
MC2-A-E1195-A-7	Oxygen, 7 years O <sub>2</sub>	0-25 Vol %
MC2-A-E1196-B-0	Sulphur dioxide SO <sub>2</sub>	0-20 ppm
MC2-A-E1197-A-0	Hydrogen sulphide H <sub>2</sub> S	0-50 ppm
MC2-A-E1197-B-0	Hydrogen sulphide H <sub>2</sub> S	0-100 ppm
MC2-A-E1197-C-0	Hydrogen sulphide H <sub>2</sub> S	0-200 ppm
MC2-A-E1197-D-0	Hydrogen sulphide H <sub>2</sub> S	0-500 ppm
Sensor Infrared		
MC2-A-I1164-A-0	Carbon dioxide CO <sub>2</sub>	0-2000 ppm
MC2-A-I1164-B-0	Carbon dioxide CO <sub>2</sub>	0-5 Vol %
MC2-A-I1164-C-0	Carbon dioxide CO <sub>2</sub>	0-2 Vol %
MC2-A-I1164-X-0	Carbon dioxide / Clairair CO <sub>2</sub>	0-5000 ppm
MC2-A-I3400-X-0	Methane / Clairair CH <sub>4</sub>	0-100 % LEL
MC2-A-I3480-X-0	Propane / Clairair C <sub>3</sub> H <sub>8</sub>	0-100 % LEL
<b>SPECIAL ANALOGSENSOR</b>		
AS2-CO	Analog CO Sensor, Poti cal	

# Analog Sensor Cartridge MC2

## Combustible Gases and Freon

Item No.	Gas	Range
<b>Sensor Pellistor</b>		
MC2-A-P3400-A-0	Methane CH <sub>4</sub>	0-100 % LEL
MC2-A-P3402-A-0	LPG	0-100 % LEL
MC2-A-P3408-A-0	Ammonia NH <sub>3</sub>	0-100 % LEL
MC2-A-P3425-A-0	Ethyl alcohol C <sub>2</sub> H <sub>5</sub> OH	0-100 % LEL
MC2-A-P3427-A-0	Ethyl acetate C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	0-100 % LEL
MC2-A-P3435-A-0	Hexane C <sub>6</sub> H <sub>14</sub>	0-100 % LEL
MC2-A-P3440-A-0	Hydrogen H <sub>2</sub>	0-100 % LEL
MC2-A-P3450-A-0	Methanol CH <sub>3</sub> OH	0-100 % LEL
MC2-A-P3458-A-0	Methyl ethyl ketone C <sub>4</sub> H <sub>8</sub> O	0-100 % LEL
MC2-A-P3460-A-0	Butane C <sub>4</sub> H <sub>10</sub>	0-100 % LEL
MC2-A-P3472-A-0	Cyclopentane C <sub>5</sub> H <sub>10</sub>	0-100 % LEL
MC2-A-P3475-A-0	Pentane C <sub>5</sub> H <sub>12</sub>	0-100 % LEL
MC2-A-P3476-A-0	Isopentane C <sub>5</sub> H <sub>12</sub>	0-100 % LEL
MC2-A-P3480-A-0	Propane C <sub>3</sub> H <sub>8</sub>	0-100 % LEL
MC2-A-P3482-A-0	Isopropyl alcohol C <sub>3</sub> H <sub>8</sub> O	0-100 % LEL
MC2-A-P3484-A-0	Isopropyl alcohol C <sub>3</sub> H <sub>8</sub> O	0-100 % LEL
MC2-A-P3485-A-0	Acetone C <sub>3</sub> H <sub>6</sub> O	0-100 % LEL
MC2-A-P3490-A-0	Toluene C <sub>7</sub> H <sub>8</sub>	0-100 % LEL
MC2-A-P3491-A-0	Heptane C <sub>7</sub> H <sub>16</sub>	0-100 % LEL
MC2-A-P3496-A-0	Gasoline vapors	0-100 % LEL
<b>Freon</b>		
Sensor Semiconductor		
MC2-A-S20XX-A-P-00	Freon R134a, etc.	0-2000 ppm
<b>PID</b>		
MC2-A37XX-X	HydroCarbon and VOC	
<b>HOUSING</b>		
MC2-5-XXXXX-X-X	Stainless Steel Housing	
MC2-D-XXXXX-X-X	"D" Housing 94 x 65 x 57 mm	
MC2-N-XXXXX-X-X	"N" Housing 80 x 82 x 55 mm	
OT-01	Opener for Stainless Steel Housing	
MC2-0-XXXXX-X-X	Without A-Housing	
<b>ACCESSORIES</b>		
C2-Z2	Air duct set	
SP6-00	Sensor Protector, 6 mm guard rail, stainless steel	
C2-Z4	Calibration adapter MC2, SC2, X-Change	
C2-Z4A	Calibration adapter MC2, SC2, X-Change with SplashGuard	
C2-Z5	SplashGuard	
<b>MC2-DISPLAY</b>		
MC2-A-XXXXX-X-1	Display	
MC2-A-XXXXX-X-2	Display + 2 open collector	

# Digital Sensor Cartridge SC2

## Toxic Gases

Item No.	Gas	Range
Sensor El. Chem.		
SC2-E1110-B-X-XX	Carbon monoxide CO	0-150 ppm
SC2-E1110-C-X-XX	Carbon monoxide CO	0-250 ppm
SC2-E1110-E-X-XX	Carbon monoxide CO	0-300 ppm
SC2-E1110-F-X-XX	Carbon monoxide CO	0-500 ppm
SC2-E1110-H-X-XX	Carbon monoxide CO	0-100 ppm
SC2-E1125-A-X-XX	Ammonia NH <sub>3</sub>	0-300 ppm
SC2-E1125-B-X-XX	Ammonia NH <sub>3</sub>	0-500 ppm
SC2-E1125-C-X-XX	Ammonia NH <sub>3</sub>	0-1000 ppm
SC2-E1125-D-X-XX	Ammonia NH <sub>3</sub>	0-10 ppm
SC2-E1125-E-X-XX	Ammonia NH <sub>3</sub>	0-20 ppm
SC2-E1130-A-X-XX	Nitrogen dioxide NO <sub>2</sub>	0-100 ppm
SC2-E1130-B-X-XX	Nitrogen dioxide NO <sub>2</sub>	0-1000 ppm
SC2-E1130-C-X-XX	Nitrogen dioxide NO <sub>2</sub>	0-10 ppm
SC2-E1130-E-X-XX	Nitrogen dioxide NO <sub>2</sub>	0-20 ppm
SC2-E1183-B-X-XX	Hydrogen cyanide HCN	0-30 ppm
SC2-E1183-C-X-XX	Hydrogen cyanide HCN	0-500 ppm
SC2-E1185-B-X-XX	Formaldehyde CH <sub>2</sub> O	0-1 ppm
SC2-E1190-A-X-XX	Ozone O <sub>3</sub>	0-10 ppm
SC2-E1190-B-X-XX	Ozone O <sub>3</sub>	0-100 ppm
SC2-E1193-B-X-XX	Chlorine Cl <sub>2</sub>	0-10 ppm
SC2-E1193-C-X-XX	Chlorine Cl <sub>2</sub>	0-20 ppm
SC2-E1193-D-X-XX	Chlorine Cl <sub>2</sub>	0-200 ppm
SC2-E1195-A-2-X-XX	Oxygen, 2 years O <sub>2</sub>	0-5 ppm
SC2-E1195-A-3-X-XX	Oxygen, 3 years O <sub>2</sub>	0-10 ppm
SC2-E1195-A-5-X-XX	Oxygen, 5 years O <sub>2</sub>	0-25 Vol %
SC2-E1195-A-7-X-XX	Oxygen, 7 years O <sub>2</sub>	0-25 Vol %
SC2-E1196-B-X-XX	Sulphur dioxide SO <sub>2</sub>	0-25 Vol %
SC2-E1197-A-X-XX	Hydrogen sulphide H <sub>2</sub> S	0-25 Vol %
SC2-E1197-B-X-XX	Hydrogen sulphide H <sub>2</sub> S	0-20 ppm
SC2-E1197-C-X-XX	Hydrogen sulphide H <sub>2</sub> S	0-50 ppm
SC2-E1197-D-X-XX	Hydrogen sulphide H <sub>2</sub> S	0-1 ppm
Sensor Infrared		
SC2-I1164-A-X-XX	Carbon dioxide CO <sub>2</sub>	0-2000 ppm
SC2-I1164-B-X-XX	Carbon dioxide CO <sub>2</sub>	0-5 Vol %
SC2-I1164-C-X-XX	Carbon dioxide CO <sub>2</sub>	0-2 Vol %
SC2-I1164-??-X-XX	Carbon dioxide / Clairair CO <sub>2</sub>	0-5000 ppm
SC2-I3400-??-X-XX	Methane / Clairair CH <sub>4</sub>	0-100 % UEG
SC2-I3480-??-X-XX	Propane / Clairair C <sub>3</sub> H <sub>8</sub>	0-100 % UEG
<b>PID</b>		
Sensor PID		
SC2-A37XX-X-XX	HydroCarbon and VOC	

● New Product

# Digital Sensor Cartridge SC2

## Combustible Gases and Freon

Item No.	Gas	Range
<b>Sensor Pellistor</b>		
SC2-P3400-A-X-XX	Methane CH <sub>4</sub>	0-100 % LEL
SC2-P3400-A????-X-XX	Methane / Clairair CH <sub>4</sub>	0-100 % LEL
SC2-P3402-A-X-XX	LPG	0-100 % LEL
SC2-P3405-A-X-XX	Acetylene C <sub>2</sub> H <sub>2</sub>	0-100 % LEL
SC2-P3408-A-X-XX	Ammonia NH <sub>3</sub>	0-100 % LEL
SC2-P3425-A-X-XX	Ethyl alcohol C <sub>2</sub> H <sub>5</sub> OH	0-100 % LEL
SC2-P3427-A-X-XX	Ethyl acetate C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	0-100 % LEL
SC2-P3435-A-X-XX	Hexane C <sub>6</sub> H <sub>14</sub>	0-100 % LEL
SC2-P3440-A-X-XX	Hydrogen H <sub>2</sub>	0-100 % LEL
SC2-P3450-A-X-XX	Methanol CH <sub>3</sub> OH	0-100 % LEL
SC2-P3458-A-X-XX	Methyl ethyl ketone C <sub>4</sub> H <sub>8</sub> O	0-100 % LEL
SC2-P3460-A-X-XX	Butane C <sub>4</sub> H <sub>10</sub>	0-100 % LEL
SC2-P3472-A-X-XX	Cyclopentane C <sub>5</sub> H <sub>10</sub>	0-100 % LEL
SC2-P3475-A-X-XX	Pentane C <sub>5</sub> H <sub>12</sub>	0-100 % LEL
SC2-P3476-A-X-XX	Isopentane C <sub>5</sub> H <sub>12</sub>	0-100 % LEL
SC2-P3480-A-X-XX	Propane C <sub>3</sub> H <sub>8</sub>	0-100 % LEL
SC2-P3480-A????-X-XX	Propane / Clairair C <sub>3</sub> H <sub>8</sub>	0-100 % LEL
SC2-P3482-A-X-XX	Isopropyl alcohol C <sub>3</sub> H <sub>8</sub> O	0-100 % LEL
SC2-P3484-A-X-XX	Isopropyl alcohol C <sub>3</sub> H <sub>8</sub> O	0-100 % LEL
SC2-P3485-A-X-XX	Acetone C <sub>3</sub> H <sub>6</sub> O	0-100 % LEL
SC2-P3490-A-X-XX	Toluene C <sub>7</sub> H <sub>8</sub>	0-100 % LEL
SC2-P3491-A-X-XX	Heptane C <sub>7</sub> H <sub>16</sub>	0-100 % LEL
SC2-P3496-A-X-XX	Gasoline vapors	0-100 % LEL
<b>FREON</b>		
Sensor Semiconductor		
SC2-S20XX-X-XX	Freon R134a, etc.	0-2000 ppm
<b>ACCESSORIES</b>		
C2-Z2	Air duct set	
C2-Z4	Calibration adapter MC2, SC2, X-Change	
C2-Z4A	Calibration adapter MC2, SC2, X-Change with SplashGuard	
C2-Z5	SplashGuard	
<b>OPTIONS</b>		
SC2-XXXXX-X-P-XX	Plastic housing	
SC2-XXXXX-X-S-XX	Stainless steel housing	
SC2-XXXXX-X-X-??	Cable extension / m	

# Analog Relay Board ARB2

Item No.	Description
ARB2-N-2000	Analog Relais Board 24 V
ARB2-A-XXXX	A-Housing
ARB2-C-XXXX	C-Housing
ARB2-X-5XXX	90-240 V AC
ARB2-C-9XXX	USV 90-240 V / 24 V 0.8 Ah
ARB2-X-X1XX	Display and keyboard
ARB2-X-XX1X	WAO (Status-LED and Buzzer)
ARB2-X-XXX1	Supplement for remote sensor (terminal and cable bushing)
ARB2-X-XXXXA	UL/CSA 6101010-1 (only housing type A, C, E)

# Sensor Board Series MSB2

Item No.	Description
MSB2-A-23032300	MSB2 Board 24 V AC/DC, AO, RS-485 / DGC
<b>OPTIONS</b>	
MSB2-C-XXXXXXXX	C-housing
MSB2-X-XXX5XXXX	Modbus
MSB2-X-7XXXXXXXX	Power supply 90-240 V / 15 VA
MSB2-X-XXXXXX2X	With display/keyboard
MSB2-X-XX4XXXXX	Buzzer + LED 3-colour M25 housing IP65
MSB2-X-XXXX4XXX	Key (alarm stop) M25 housing IP65 + digital input ext.
MSB2-5-XXXXX-X	Stainless steel housing
OT-01	Tool for opening the stainless steel housing
MSB2-0-XXXXXXXX	Without A-housing
MSB2-X-XXXXXXXX-A	UL/CSA 6101010-1 (only housing type A, C, E)
<b>ACCESSORIES</b>	
SP6-00	Sensor Protector, 6 mm, stainless steel

# Sensor Board Series SB2

Item No.	Description
SB2-A-20020000	SB2 Master Board 24 V DC, RS-485 with DGC-06 protocol
RB2-A-10000000	RB2 Remote Board 24 V DC L-Bus
RB2-0-10000000	RB2 Remote Board 24 V DC L-Bus, no housing
<b>OPTIONS</b>	
SB2-X-XXX4XXXX	ModBus
SB2-X-XXX8XXXX	D-Bus (3-wire)
TBD	Plug for Warning Unit on PCB
SB2-X-XX3XXXXX	Warning Unit, Buzzer + LED (red) order with SB2
TBD	Warning Unit, Buzzer + LED (red) only as spare
SB2-X-XXXXXX2X	Display, Keyboard
SB2-k-XXXXX-X	ATEX housing
SB2-5-XXXXX-X	Stainless steel housing
OT-01	Tool for opening the stainless steel housing
SB2-X-XXXXXX-A	UL/CSA 61010-1 (only housing, type A, C)
<b>WARNING AND SENSOR BOARD</b>	
WSB2-A-220311000	Warning and Sensor Board WSB2, 2 relay
WSB2-A-200311000	Warning and Sensor Board WSB2, no relay
<b>OPTIONS</b>	
WSB2-x-xxx4xxxx	ModBus
WSB2-x-7xxxxxxxx	Power supply 90-240 V / 15 VA
WSB2-C-xxxxxxxxx	C-housing
WSB2-x-xx3xxxxxx	Buzzer, LED 3-colored M25-housing IP65
WSB2-x-xxxxxx2xx	With display and keypad
WSB2-x-xxxxxxx1x	3x SC2 mounting slot (not in housing type N)
WSB2-x-xxxxxxx2x	2x SC2 mount. & remote (not in housing type N)
WSB2-x-xxxxxxx3x	2x SC2 for same gas & remote (not in housing type N)
WSB2-x-xxxxxxxA	UL/CSA 61010-1 (only housing, type A, C, E)
WSB2-x-xxxx2xxxx	Digital input with acknowledgement button on housing



# Controller Series MSC2

## and Door Entrance Modules

Item No.	Description
<b>MSC2</b>	
MSC2-C-23032200	Multi-Sensor-Controller 24 V
MSC2-C-53032200	Multi-Sensor-Controller 230 V-5 VA
MSC2-C-23032220	Multi-Sensor-Controller 12V / 24 V, display+keyboard
MSC2-C-53032220	Multi-Sensor-Controller 230 V-5 VA, display+keyboard
<b>OPTIONS</b>	
MSC2-E-7XXXXXXX	Power supply 90-240 V / 15 VA
MSC2-E-9XXXXXXX	USV 90-240 V / 24 V 0.8 Ah
MSC2-X-XXX5XXXX	ModBus
MSC2-X-XXXXXX4X	Gas selector
MSC2-X-XXXXXXXX-A	UL/CSA 61010-1 (only housing type A, C, E)
<b>WARNING DEVICES</b>	
MSC2-X-XX4XXXXX	Buzzer + LED 3-colour M25-housing IP65
MSC2-X-XXXX4XXX	Button (alarm acknowledgement) M25-housing IP65 + dig. Input ext.
<b>DEM</b>	
DEM-06-C-S100	Door-Entrance-Module, Display, internal Buzzer, 1 Open-Collector-Output
<b>OPTIONS</b>	
DEM-06-A-xxxx	A-housing, add costs
DEM-06-x-S200	Open collector output (2) with reset input
DEM-06-A-S300	Mounting together in the MSB2 housing
DEM-06-IO-A	Remote display with buzzer, status LEDs, button (alarm acknowledge)
	Ready-made data cable (CAT 5), 10 m
	Ready-made power cable (3x 1.5 mm <sup>2</sup> ), 10 m
	Terminal block instead of RJ45 connector
<b>ACCESSORIES</b>	
SP6-00	Sensor Protector, 6 mm guard rail, Stainless Steel
<b>DISPENSING SYSTEM</b>	
BASIC PACKAGE MSC2-DEM06:	
MSC2-C-53432200	Evaluation unit MSC2-DEM06
SC2-I-S1164-B	Sensor head (for CO <sub>2</sub> ) SC2-CO <sub>2</sub>
DEM-06 I/O standard	1st access (door module) DEM-06_Standard
Options:	
DEM-06 I/O extended	2nd access (door module) DEM-06_Extend
MC2-A-I-S1164-B-0	2nd room (CO <sub>2</sub> sensor)
MC2-A-E1195-A-2-0	2nd room (O <sub>2</sub> deficiency sensor)
WH/BL-24 (without pushbutton)	Horn/flashing light combination without push button
WH/BL-24 (with pushbutton)	Horn/flashing light combination with push button
WT-G1-30-111-RW	Warning transparent 24 V
WT-G1-41-111-RW	Warning transparent 230 V
Sensor protection/protection guard	Sensor protection for 1, 5 and 6

# Controller Series MGC2

Item No.	Description
<b>MGC2</b>	
MGC2-C-23032300	Multi-Gas-Controller 24 V
MGC2-C-53032300	Multi-Gas-Controller 230 V-5 VA
MGC2-C-23032320	Multi-Gas-Controller 24 V, Display
MGC2-C-53032320	Multi-Gas-Controller 230 V-5 VA, Display
<b>OPTIONS</b>	
MGC2-E-7XXXXXXX	Power supply 90-240 V / 15 VA
MGC2-E-9XXXXXXX	USV 90-240 V / 24 V 0.8 Ah
MGC2-X-XXXXX5XX	ModBus
<b>WARNING DEVICES</b>	
MGC2-X-XX4XXXXX	Buzzer + LED 3-colored M25-housing IP65
MGC2-X-XXXX4XXX	Key (alarm stop) M25-housing IP65 + digital Input ext.

# Controller Series AGC

Item No.	Description
<b>AGC-05</b>	
AGC-05-04-024	Incl. Buzzer 24 V / 4 Analog input, single row housing
AGC-05-04-230	230 V / 4 Analog input, single row housing
AGC-05-08-024	24 V / 8 Analog input, double row housing
AGC-05-08-230	230 V / 8 Analog input, double row housing
AGC-05-12-024	24 V / 12 Analog input, double row housing
AGC-05-12-230	230 V / 12 Analog input, double row housing
AGC-EP-05-01	EP-Module
AGC-05-X-USV	UPS 7.2 Ah

# Controller Serie DGC-06

Item No.	Description
<b>DGC-06</b>	
DGC-06-2-0-1-010000000	96+4MP / 230 V, 4 relays, single row housing
DGC-06-2-0-2-010000000	96+4MP / 230 V, 4 relays, double row housing
DGC-06-2-0-3-010000000	96+4MP / 230 V, 4 relays, three-row housing
DGC-06-2-0-4-010000000	96+4MP / 230 V, 4 relays, four-row housing
DGC-06-3-0-X-X1XXXXXXXX	USV with 2,2 Ah battery, incl. charger
DGC-06-4-0-X-X1XXXXXXXX	UPS with 7.2 Ah battery
DGC-06-5-0-X-X1XXXXXXXX	UPS without battery
DGC-06-0-0-X-XXXXXXXXXX	24 V

## Modules / Interfaces / Coupler

Item No.	Description
GC-06-000000-XX	Gas controller module
GC-06-020000-XX	Gas Controller Module Door Mounting
GC-06-100000-XX	Mains failure indicator light
EP-06-X00	Extension module Address 1-7, incl. repeater
DGC-REP-06-000-1	1 pc. DGC-06 Amplifier
DGC-REP-06-100-1	Repeater with 24 V (plastic housing)
DGC-REP-06-010-1	Repeater with 230 V (plastic housing)
C-06-BAC-XX-BXXX.X	RS-485/BacNet
DGC-06-2-0-1-XXX1XXXXX	RS-485/ModBus output
DGC-06-2-0-1-XX1XXXXXX	Integrated data logger with USB stick
DGC-06-2-0-1-XXXXX1XXX	Control of external warning devices
<b>OPTIONS</b>	
DGC-06-X-X-X-XXXXXX1XX	Cable entry from below
DGC-06-X-X-X-XXXXXX2XX	Cable entry from above and below
DGC-06-X-X-X-XXXXXX1X	Lockable housing
DGC-06-2-0-1-100000000	Mains failure indicator light

# PolyGard Control Box and Tools

Item No.	Description
<b>PGCB</b>	
PGCB-GC06-07-0	PolyGard Control Box, 7", no powersupply, no housing
PGCB-GC06-15-0	PolyGard Control Box, 15", no powersupply, no housing
PGCB-GC06-07-A	PolyGard Control Box, 7", with powersupply and wallmount housing
PGCB-GC06-15-A	PolyGard Control Box, 15", with powersupply and wallmount housing
<b>PGCC-Gas</b>	
PGCC-Gas	Software to visualize GC-06 data, Adapter required
<b>TCP/IP Coupler</b>	
	ModBus-TCP/IP Koppler
<b>SERVICE TOOLS</b>	
STL06-PGX2-P7	Partner-Tool for display, calibration, addressing and parameter changes incl. adapter cable (STA06-PX2)
STL06-PGX2-A7	Plant-Tool for display, calibration, addressing and parameter changes incl. adapter cable (STA06-PX2)
STL06-MC2-A1	Tool for product line $\mu$ Gard2 (MC2) for display and calibration
<b>PC-EASYCONFIG</b>	
PCE06-PGX2-PF	Partner-Tool for display, calibration, addressing and parameter changes incl. adapter cable (STA06-PX2)
PCE06-PGX2-AF	Plant-Tool for display, calibration, addressing and parameter changes incl. adapter cable (STA06-PX2)
PCE06-MC2-A1	Tool for product line $\mu$ Gard2 (MC2) for display and calibration
<b>CONVERTER AND ADAPTER FOR STL06 + PCE06</b>	
STA06-MC2	Converter for STL06-PGX2, PCE06-PGX2 tools for communication with the MC2 series, blue housing
STA06-PX2	Adapter cable for STL06-PG2, PCE06-PG2 tool for communication with PX2, Software update required
<b>CREDITS</b>	
DGC-06-K	Credits (100 pieces) for PCE06-xxx, STL06-xxx
<b>VISUALISATION</b>	
PGC-06	Visualization software
<b>CALIBRATION ADAPTER</b>	
C2-Z4	Calibration adapter MC2, SC2, X-Change

# Warning Devices Series

Item No.	Description
BL-24	Flash light
WH-24	Warning horn, 24 V DC
WH-230	Warning horn, 230 V AC
WH/BL-24	Combination warning horn / flash light, 24 V DC
WH/BL-24-Tast	Combination warning horn / flash light, 24 V DC + button
WH/BL-230	Combination warning horn / flash light, 230 V AC
WT-D3-30-222-GW	LED warning sign D3 - EN 50545
WT-G1-30-111-RW	LED warning sign G1 - VDI 2053 gas alarm
WT-A1-30-127-RR	LED warning sign A1 - entrance
WT-A2-30-214-RR	LED warning sign A2 - motor
WT-A3-30-122-RR	LED warning sign A3 - entry
WT-C1-30-213-RR	LED warning sign C1
WT-E1-30-214-RR	LED warning sign E1
WT-F1-30-214-RR	LED warning sign F1
WT-N1-30-215-RR	LED warning sign N30
WT-ST-40-226-XX	LED warning sign extended special text
WT-ES-Version	LED warning sign
<b>OPTIONS</b>	
WT-xx-xx-xxx-xx	Warning sign in IP54
WT-ST-xx-xxx-xx	Text according to customer's request, in capital letters
WT-xx-31-xxx-xx	Power supply 24 V AC/DC, with buzzer
WT-xx-40-xxx-xx	Power supply 230 V AC
WT-xx-41-xxx-xx	Power supply 230 V AC, with buzzer
WT-xx-xx-xxx-xx-ES	Extended safety, necessary for ES function monitoring

# Controller Series DGC-06-ES

Item No.	Description
<b>DGC-06-ES</b>	
DGC-06-ES-2-0-3-XXXXXXXXXX	96 + 4MP / 230 V, 4 relays, 3-line housing
DGC-06-ES-3-X-X-XXXXXXXXXX	UPS with 2.2 Ah battery, incl. charger
DGC-06-ES-4-X-X-XXXXXXXXXX	UPS with 7.2 Ah battery, incl. charger
DGC-06-ES-5-X-X-XXXXXXXXXX	UPS without battery, incl. battery charger 24 V DC 8.4 A
<b>OPTIONS</b>	
DGC-06-X-X-X-XXXXXX1XX	Cable entry from the bottom
DGC-06-X-X-X-XXXXXX2XX	Cable entry from above and below
DGC-06-X-X-X-XXXXXX1X	Housing can be locked

## Modules Extended Safety Series

Item No.	Description
<b>GC-06-ES and EP-06-ES</b>	
MSB2-ES	Warning module
EP-06-ES_MOT	Motor module
EP-06-ES_MCM	Plant module
GC-06-ES	Gas controller
EP-06-ES_FCM	Tableau module
EP-06-ES_FDM	Fire alarm module
EP-06-ES_MG	Motor-Guard for decentralised motor starters
EP-06-ES_PI	Phase insulation module
DEM-06-ES	Display modules

# Parking Guidance Systems Indoors

Item No.	Description
<b>PC SYSTEMS</b>	
PC	Server with interface > 500 sensors
PC-Mini	Server for small systems < 500 sensors
PGCB-0	ParkGard® Control Box < 500 sensors, with touchscreen (ext. controller needed)
PGCB-1	ParkGard® Control Box < 500 sensors, with touchscreen (incl. 1 module for 32 sensors)
PGCB-2	ParkGard® Control Box < 500 sensors, with touchscreen (incl. 2 module for 64 sensors)
PGCB-3	ParkGard® Control Box < 500 sensors, with touchscreen (incl. 3 module for 96 sensors)
PGCB-4	ParkGard® Control Box < 500 sensors, with touchscreen (incl. 4 module for 128 sensors)
PG-CC	ParkGard® Control Center - SCADA Software
<b>SENSORS</b>	
PU-02-1	Ultrasonic Indoor Sensor (quad)
PU-02-2	Ultrasonic Indoor Sensor (design)
PU-02-4	Ultrasonic Indoor Sensor (cross)
PU-02-PK	USS with pot.-free contact
PU-02-5	Status LED Parking Space Indicator, with extension
PU-02-8	Status-LED Parking Space Indicator, in plastic housing
PU-02-3	Ultrasonic Indoor Counting Sensor, 1900 x 65 x 90 mm (L x W x D)
<b>CONTROLLER</b>	
PCL-U-1 1101	Stand-alone Controller 1, for 32 single spaces detectors
PCL-U-1 1102	Stand-alone Controller 2, for 64 single spaces detectors
PCL-U-1 1103	Stand-alone Controller 3, for 96 single spaces detectors
PCZ-U-1 1100	Controller for counting sensors
PCL-MU-1	MSR Level Controller 1, can manage up to 32 ultrasonic sensors
PCL-MU-2	MSR Level Controller 2, can manage up to 64 ultrasonic sensors
PCL-MU-3	MSR Level Controller 3, can manage up to 96 ultrasonic sensors
PCL-MU-4	MSR Level Controller 4, can manage up to 128 ultrasonic sensors
<b>ACCESSORIES</b>	
PES	Interface (PCL-U Controller) for display
PREL	Relay Module for PCL-U Controller
<b>DISPLAYS</b>	
ParkGard® centi	LED Display, double-row, 5x 1 digit, 450 x 450 x 32 mm
ParkGard® milli	LED Display, single-row, 1x 4 digits, 560 x 269 x 32 mm
ParkGard® micro	LED Display, single-row, 1x 3 digits, 450 x 269 x 32 mm
ParkGard® nano	LED Display, single-row, 1x 2 digits, 340 x 269 x 32 mm
ParkGard® pico	LED Arrow, green, IP43, 269 x 269 x 32 mm
ParkGard® micro-o	LED Display, single-row, 1x 3 digits, 374 x 249 x 185 mm
Display Exit	Single-row, 642 x 203 x 22 mm Alu



 POLYGARDZ

 POLYXETA 2

 POLYMARINE

 POLYSAM

# Sensor PolyXeta<sup>®</sup> 2

## Combustible Gases and Freon in Zone 1 and Zone 2

Item No.			Gas	Range
<b>Zone 1, v</b>	<b>Zone 1</b>	<b>Zone 2</b>		
Sensor Pellistor	Sensor Pellistor	Sensor Pellistor		
PX2-5-0-P3400-A	PX2-1-0-P3400-A	PX2-2-0-P3400-A	Methane CH <sub>4</sub>	0-100 % LEL
PX2-5-0-P3402-A	PX2-1-0-P3402-A	PX2-2-0-P3402-A	LPG liquid gas	0-100 % LEL
PX2-5-0-P3408-A	PX2-1-0-P3408-A	PX2-2-0-P3408-A	Ammonia NH <sub>3</sub>	0-100 % LEL
PX2-5-0-P3425-A	PX2-1-0-P3425-A	PX2-2-0-P3425-A	Ethyl alcohol C <sub>2</sub> H <sub>5</sub> OH	0-100 % LEL
PX2-5-0-P3427-A	PX2-1-0-P3427-A	PX2-2-0-P3427-A	Ethyl acetate C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	0-100 % LEL
PX2-5-0-P3435-A	PX2-1-0-P3435-A	PX2-2-0-P3435-A	N-hexane C <sub>6</sub> H <sub>14</sub>	0-100 % LEL
PX2-5-0-P3440-A	PX2-1-0-P3440-A	PX2-2-0-P3440-A	Hydrogen H <sub>2</sub>	0-100 % LEL
PX2-5-0-P3450-A	PX2-1-0-P3450-A	PX2-2-0-P3450-A	Methanol CH <sub>3</sub> OH	0-100 % LEL
PX2-5-0-P3458-A	PX2-1-0-P3458-A	PX2-2-0-P3458-A	Methyl ethyl ketone C <sub>4</sub> H <sub>8</sub> O	0-100 % LEL
PX2-5-0-P3460-A	PX2-1-0-P3460-A	PX2-2-0-P3460-A	N-butane C <sub>4</sub> H <sub>10</sub>	0-100 % LEL
PX2-5-0-P3472-A	PX2-1-0-P3472-A	PX2-2-0-P3472-A	Cyclopentane C <sub>5</sub> H <sub>10</sub>	0-100 % LEL
PX2-5-0-P3475-A	PX2-1-0-P3475-A	PX2-2-0-P3475-A	N-pentane C <sub>5</sub> H <sub>12</sub>	0-100 % LEL
PX2-5-0-P3476-A	PX2-1-0-P3476-A	PX2-2-0-P3476-A	Iso-pentane C <sub>5</sub> H <sub>12</sub>	0-100 % LEL
PX2-5-0-P3480-A	PX2-1-0-P3480-A	PX2-2-0-P3480-A	Propane C <sub>3</sub> H <sub>8</sub>	0-100 % LEL
PX2-5-0-P3482-A	PX2-1-0-P3482-A	PX2-2-0-P3482-A	Isopropyl alcohol C <sub>3</sub> H <sub>8</sub> O	0-100 % LEL
PX2-5-0-P3484-A	PX2-1-0-P3484-A	PX2-2-0-P3484-A	Propyl alcohol C <sub>3</sub> H <sub>8</sub> O	0-100 % LEL
PX2-5-0-P3485-A	PX2-1-0-P3485-A	PX2-2-0-P3485-A	Acetone C <sub>3</sub> H <sub>6</sub> O	0-100 % LEL
PX2-5-0-P3490-A	PX2-1-0-P3490-A	PX2-2-0-P3490-A	Toluene C <sub>7</sub> H <sub>8</sub>	0-100 % LEL
PX2-5-0-P3491-A	PX2-1-0-P3491-A	PX2-2-0-P3491-A	N-heptane C <sub>7</sub> H <sub>16</sub>	0-100 % LEL
PX2-5-0-P3496-A	PX2-1-0-P3496-A	PX2-2-0-P3496-A	Petrol vapours	0-100 % LEL
Sensor Infrared	Sensor Infrared	Sensor Infrared		
PX2-X-X-I3400-A	PX2-1-0-I3400-A	PX2-2-0-I3400-A	Methane CH <sub>4</sub>	0-100 % LEL
PX2-X-X-I480-A	PX2-1-0-I3480-A	PX2-2-0-I3480-A	Propane C <sub>3</sub> H <sub>8</sub>	0-100 % LEL
<b>FREON</b>				
Sensor Semi				
PX2-X-X-Sxxxx			Freon Rxxx	

# Sensor PolyXeta® 2

## Toxic Gases in Zone 1 and Zone 2

Item No.			Gas	Range
<b>Zone 1, v</b>	<b>Zone 1</b>	<b>Zone 2</b>		
Sensor El. Chem.	Sensor El. Chem.	Sensor El. Chem.		
PX2-5-0-E1110-B	PX2-1-0-E1110-B	PX2-2-0-E1110-B	Carbon monoxide CO	0-100 ppm
PX2-5-0-E1110-C	PX2-1-0-E1110-C	PX2-2-0-E1110-C	Carbon monoxide CO	0-150 ppm
PX2-5-0-E1110-E	PX2-1-0-E1110-E	PX2-2-0-E1110-E	Carbon monoxide CO	0-250 ppm
PX2-5-0-E1110-F	PX2-1-0-E1110-F	PX2-2-0-E1110-F	Carbon monoxide CO	0-300 ppm
PX2-5-0-E1110-H	PX2-1-0-E1110-H	PX2-2-0-E1110-H	Carbon monoxide CO	0-500 ppm
PX2-5-0-E1125-A	PX2-1-0-E1125-A	PX2-2-0-E1125-A	Ammonia NH3	0-100 ppm
PX2-5-0-E1125-B	PX2-1-0-E1125-B	PX2-2-0-E1125-B	Ammonia NH3	0-300 ppm
PX2-5-0-E1125-C	PX2-1-0-E1125-C	PX2-2-0-E1125-C	Ammonia NH3	0-500 ppm
PX2-5-0-E1125-D	PX2-1-0-E1125-D	PX2-2-0-E1125-D	Ammonia NH3	0-1000 ppm
PX2-5-0-E1130-E	PX2-1-0-E1130-E	PX2-2-0-E1130-E	Nitrogen dioxide NO2	0-100 ppm
PX2-5-0-E1195-A2	PX2-1-0-E1195-A2	PX2-2-0-E1195-A2	Oxygen, 2 years O2	0-25 Vol %
PX2-5-0-E1195-A3	PX2-1-0-E1195-A3	PX2-2-0-E1195-A3	Oxygen, 3 years O2	0-25 Vol %
PX2-5-0-E1195-A5	PX2-1-0-E1195-A5	PX2-2-0-E1195-A5	Oxygen, 5 years O2	0-25 Vol %
PX2-5-0-E1195-A7	PX2-1-0-E1195-A7	PX2-2-0-E1195-A7	Oxygen, 7 years O2	0-25 Vol %
PX2-5-0-E1196-B	PX2-1-0-E1196-B	PX2-2-0-E1196-B	Sulphur dioxide SO2	0-20 ppm
PX2-5-0-E1197-A	PX2-1-0-E1197-A	PX2-2-0-E1197-A	Hydrogen sulphide H2S	0-50 ppm
PX2-5-0-E1197-B	PX2-1-0-E1197-B	PX2-2-0-E1197-B	Hydrogen sulphide H2S	0-100 ppm
PX2-5-0-E1197-C	PX2-1-0-E1197-C	PX2-2-0-E1197-C	Hydrogen sulphide H2S	0-200 ppm
PX2-5-0-E1197-D	PX2-1-0-E1197-D	PX2-2-0-E1197-D	Hydrogen sulphide H2S	0-500 ppm
Sensor Infrared	Sensor Infrared	Sensor Infrared		
PX2-5-0-I1164-A	PX2-1-0-I1164-A	PX2-2-0-I1164-A	Carbon dioxide CO2	
<b>OPTIONS</b>				
PX2-X-1-XXXXX	2 relays			
PX2-X-2-XXXXX	Display			
PX2-X-3-XXXXX	3 cable entries			
MSR_Pen_PX2	Magnetic pin to config the PX2 with the display			
PX2-xxxx	SplashGuard, stainless steel			

# X-Change SX1

## Combustible Gases and Freon in Zone 1

Item No.	Gas	Range
<b>Zone 1</b>		
Sensor Pellistor		
SX1-X-P3400-A	Methane CH <sub>4</sub>	0-100 % LEL
SX1-X-P3402-A	LPG Liquid Petrol Gas	0-100 % LEL
SX1-X-P3405-A	Acetylene C <sub>2</sub> H <sub>2</sub>	0-100 % LEL
SX1-X-P3408-A	Ammonia NH <sub>3</sub>	0-100 % LEL
SX1-X-P3425-A	Ethyl alcohol C <sub>2</sub> H <sub>5</sub> OH	0-100 % LEL
SX1-X-P3427-A	Ethyl acetate C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	0-100 % LEL
SX1-X-P3435-A	n-Hexane C <sub>6</sub> H <sub>14</sub>	0-100 % LEL
SX1-X-P3440-A	Hydrogen H <sub>2</sub>	0-100 % LEL
SX1-X-P3450-A	Methanol CH <sub>3</sub> OH	0-100 % LEL
SX1-X-P3458-A	Methyl ethyl ketone C <sub>4</sub> H <sub>8</sub> O	0-100 % LEL
SX1-X-P3460-A	n-Butane C <sub>4</sub> H <sub>10</sub>	0-100 % LEL
SX1-X-P3472-A	Cyclopentane C <sub>5</sub> H <sub>10</sub>	0-100 % LEL
SX1-X-P3475-A	n-Pentane C <sub>5</sub> H <sub>12</sub>	0-100 % LEL
SX1-X-P3476-A	Iso pentane C <sub>5</sub> H <sub>12</sub>	0-100 % LEL
SX1-X-P3480-A	Propane C <sub>3</sub> H <sub>8</sub>	0-100 % LEL
SX1-X-P3482-A	Iso propyl alcohol C <sub>3</sub> H <sub>8</sub> O	0-100 % LEL
SX1-X-P3484-A	Propyl alcohol C <sub>3</sub> H <sub>8</sub> O	0-100 % LEL
SX1-X-P3485-A	Acetone C <sub>3</sub> H <sub>6</sub> O	0-100 % LEL
SX1-X-P3490-A	Toluene C <sub>7</sub> H <sub>8</sub>	0-100 % LEL
SX1-X-P3491-A	n-Heptane C <sub>7</sub> H <sub>16</sub>	0-100 % LEL
SX1-X-P3496-A	Petrol vapours	0-100 % LEL
Sensor Infrared		
SX1-X-I3400-A	Methane CH <sub>4</sub>	0-100 % LEL
SX1-X-I3480-A	Propane C <sub>3</sub> H <sub>8</sub>	0-100 % LEL
<b>FREON</b>		
Sensor Semi		
SX1-X-Sxxxx	Freon Rxxx	

# X-Change SX1

## Toxic Gases in Zone 1

Item No.	Gas	Range
<b>Zone 1</b>		
Sensor El. Chem.		
SX1-X-E1110-B	Carbon monoxide CO	0-100 ppm
SX1-X-E1110-C	Carbon monoxide CO	0-150 ppm
SX1-X-E1110-E	Carbon monoxide CO	0-250 ppm
SX1-X-E1110-F	Carbon monoxide CO	0-300 ppm
SX1-X-E1110-H	Carbon monoxide CO	0-500 ppm
SX1-X-E1125-A	Ammonia NH <sub>3</sub>	0-100 ppm
SX1-X-E1125-B	Ammonia NH <sub>3</sub>	0-300 ppm
SX1-X-E1125-C	Ammonia NH <sub>3</sub>	0-500 ppm
SX1-X-E1125-D	Ammonia NH <sub>3</sub>	0-1000 ppm
SX1-X-E1130-B	Nitrogen dioxide NO <sub>2</sub>	0-100 ppm
SX1-X-E1195-A	Oxygen, 2 years O <sub>2</sub>	0-25 Vol %
SX1-X-E1196-B	Sulphur dioxide SO <sub>2</sub>	0-20 ppm
SX1-X-E1197-A	Hydrogen sulphide H <sub>2</sub> S	0-50 ppm
SX1-X-E1197-B	Hydrogen sulphide H <sub>2</sub> S	0-100 ppm
SX1-X-E1197-C	Hydrogen sulphide H <sub>2</sub> S	0-200 ppm
SX1-X-E1197-D	Hydrogen sulphide H <sub>2</sub> S	0-500 ppm
Sensor Infrared:		
SX1-1-I1164-A	Carbon dioxide CO <sub>2</sub>	0-5 Vol %

# PolyXeta<sup>®</sup>2 Controller and Modules

## XGC-80, GC-80 and EP-80

Item No.	Description
<b>CONTROLLER / MODULE</b>	
XGC-80-X-X-3-XXXXXXXXXX	96+4MP / 230 V, 4 relays, 3-line, steel housing
GC-80-X-X-X-XXXXXXXXXX	Gas Controller Module
EP-80-X00	Extension Module addresses 1-7, incl. Repeater
<b>OPTIONS</b>	
XGC-80-X-X-X-X11XXXXXX	Data Logger incl. USB stick
XGC-80-X-X-X-X1X1XXXXXX	Interface ModBus RTU RS-485
<b>HOUSING VERSIONS</b>	
XGC-80-X-X-3-XXXXXXXXX1	3-line, steel housing with window
<b>CALIBRATION-SET</b>	
CaI PX	Gas apply set for PolyXeta <sup>®</sup> 2 Sensors, stainless steel
C2-XXX	SplashGuard
<b>SERVICE TOOLS</b>	
STL06-PGX2-P7	Partner-Tool for display, calibration, addressing and parameter changes incl. adapter cable (PolyGard <sup>®</sup> 2 and PolyXeta <sup>®</sup> 2)
STL06-PGX2-A7	Plant-Tool for display, calibration, addressing and parameter changes incl. adapter cable (PolyGard <sup>®</sup> 2 and PolyXeta <sup>®</sup> 2)
PCE06-PGX2-PF	Partner-Tool for display, calibration, addressing and parameter changes incl. adapter cable (PolyGard <sup>®</sup> 2 and PolyXeta <sup>®</sup> 2)
PCE06-PGX2-AF	Plant-Tool for display, calibration, addressing and parameter changes incl. adapter cable (PolyGard <sup>®</sup> 2 and PolyXeta <sup>®</sup> 2)
<b>CABLE GLANT</b>	
ZU-PX2-CG-SS	Stainless Steel, ATEX Certified
ZU-PX2-CG-PL	Plastic, ATEX Certified
<b>CONTROL PEN</b>	
MSR_Pen_PX2	Magnetic pen to config the PX2 with the display

# Warning Devices

For ATEX-Zone

Item No.	Description
BL-X	Flashing light
WH-24-X	Warning horn, 24 V DC, Zone 1 & 2
WH-230-X	Warning horn, 230 V AC, Zone 1 & 2
WH/BL 24-X	Combination warning horn / flashing light, 24 V DC
WH/BL 230-X	Combination warning horn / flashing light, 230 V AC



# PolyMarine<sup>®</sup> 2 Products

For combustible und toxic gases

Item No.	Description
<b>CONTROLLER</b>	
PMGC2-C-13132300	Multi gas controller with attached warning unit (buzzer, status LED, 12 V, reset button and 5 m cable) surface mounting
PMGC2-Q-XXXXXXXXX	Separate display with reset button, 15 m cable, installation type
<b>SENSORS</b>	
PMC2-0-E1110-F-0	Carbon monoxide (CO), 0-300 ppm, installation
PMC2-0-P3496-A-0	Petrol vapors, 0-100 % LEL, installation
PMC2-0-P3480-A-0	Propane (C3H8), 0-100 % LEL, installation
<b>OPTIONS</b>	
PMC2-A-XXXXX-X-X	A-Housing for surface mounting
PMC2-R-XXXXX-X-X	R-Housing for flush mounting
<b>ACCESSORIES</b>	
PWH-BL-24-Tast	Warning horn / flashing light combination, 12 V / 24 V, button
PRMS-PM-001	Smoke detector, 12 V / 24 V, digital output
PVAR-PM-001	Magnetic valve, IP65, ATEX, normally open, manual reset
PM-CAB-PMGC-S	Cable for connecting the sensors (if not directly in the housing of PMGC)

 POLYSAM

 POLYMARINE

 POLYXETA 2

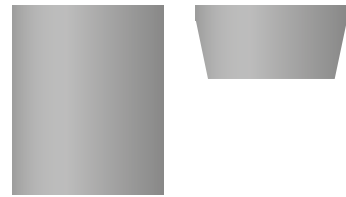
 POLYGARD 2

# Housings

## Sensors

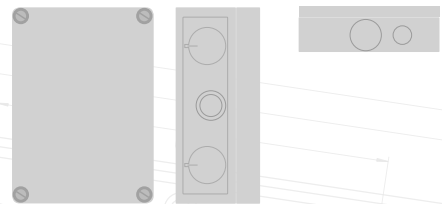
5 = Stainless steel:

113 x 135 x 45 mm



A = Plastic:

130 x 99 x 57 mm

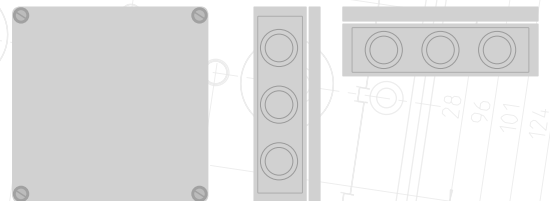


B = Plastic air duct:



C = Plastic:

130 x 130 x 75 mm



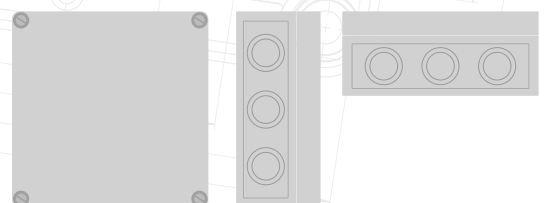
D = Plastic:

65 x 96 x 56 mm



E = Plastic:

130 x 130 x 99 mm



Illustrations similar, not in scale

F = Plastic round:

Ø 87 x 45 mm



G = Plastic:

130 x 96 x 81 mm



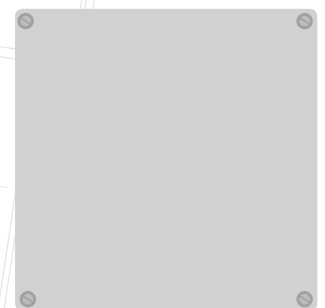
H = Plastic:

110 x 180 x 57 mm



I = Plastic:

180 x 180 x 84 mm



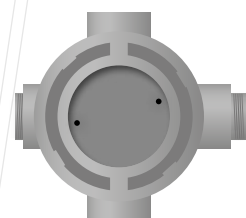
J = Plastic:

180 x 180 x 137 mm



K = Die-cast aluminum (PX2):

Ø 95 x 82 mm



N = Plastic:

80 x 82 x 55 mm

U = Plastic:

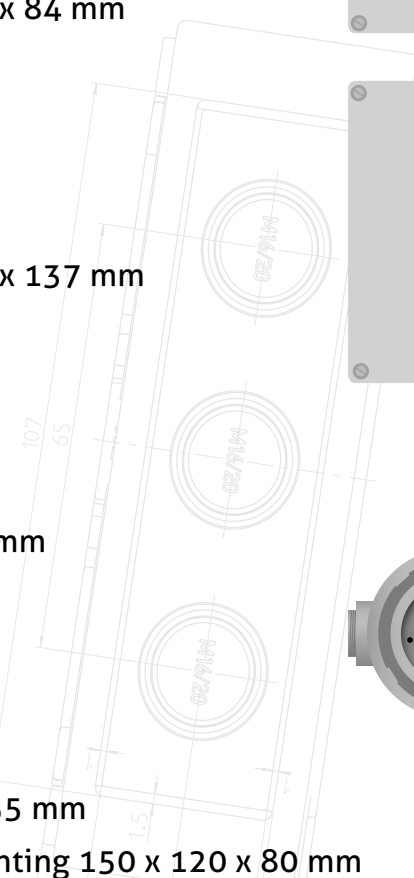
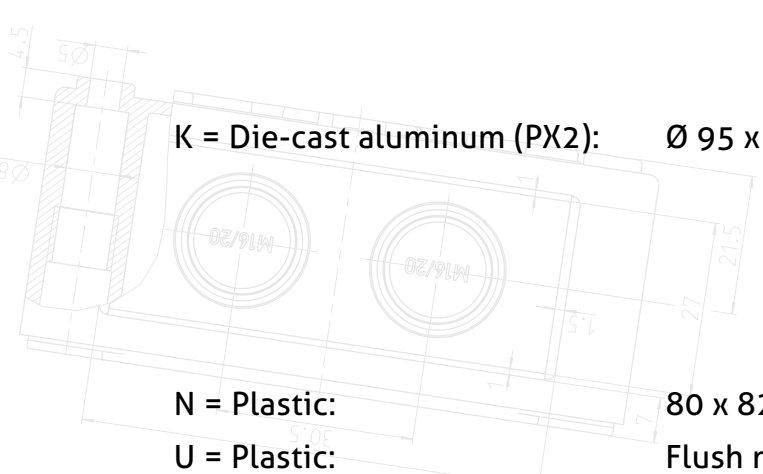
Flush mounting 150 x 120 x 80 mm

V = Plastic:

Flush mounting 145 x 90 x 70 mm

P = Plastic:

Flush mounting 110 x 90 x 70 mm



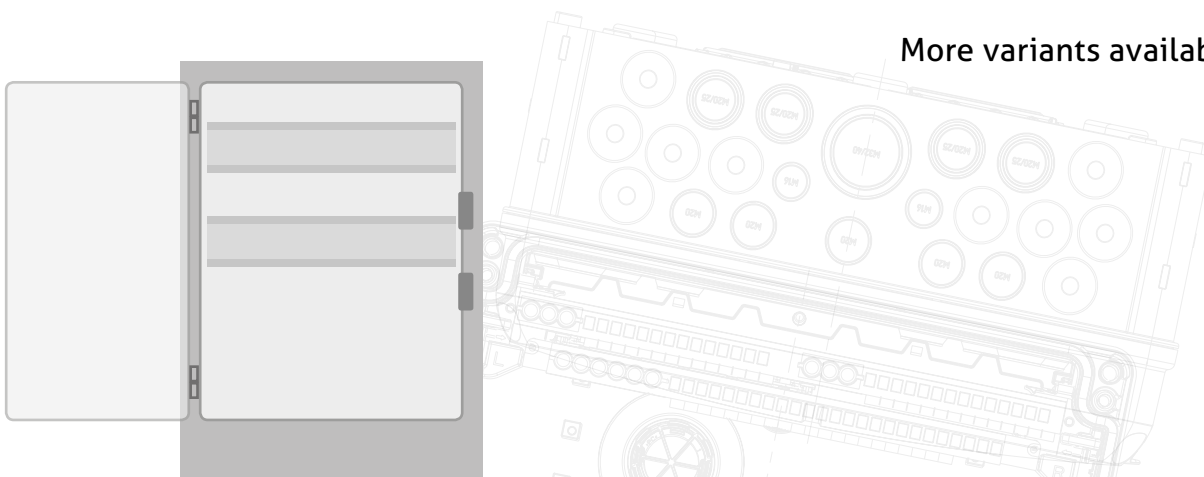
# Housings

## Controller

**Small-scale distributors AK 28**

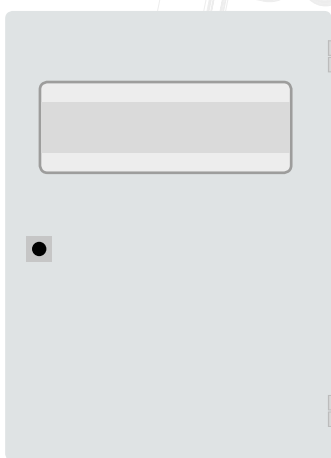
**315 x 54 x 155 mm**

More variants available



**Controller in stainless steel housing**

**315 x 54 x 155 mm**



Illustrations similar, not in scale



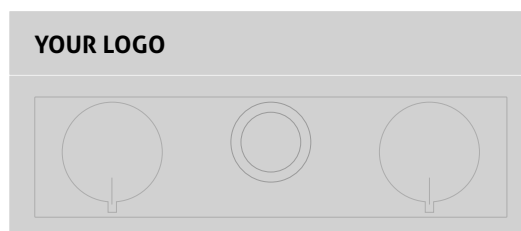
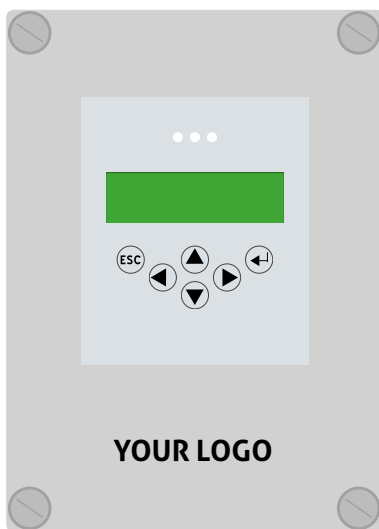
# OEM Area

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With "quantities" a customizing of the sensors and controllers is possible.

This starts with individual lasering and labeling and extends to special requests for configuration and extensions.

Contact us and learn more about this possibility of personalization.



# Product Matrix

## Combinations

	<b>MC2 Analog</b>	<b>SC2 Digital</b>	<b>Housing</b>	<b>230V AC</b>	<b>WAO Warning device</b>	<b>Display</b>
<b>ARB2</b>	1	0	A, C, N	1	1	with MC2
<b>SB2</b>	0	3*	A, C, 5	1	1	1
<b>WSB2</b>	1	2	A, C, E, N	1	1	1
<b>MSB2</b>	3*	2*	A*, C, E	1	1	1
<b>MGC2</b>	3*	2*	A*, C, E	1	1	1
<b>MSC2</b>	2*	2*	A*, C, E	1	1	1
<b>DGC-06</b>	32**	96 (+ SB2)	1, 2, 3, 4	1	0	1

\*with restriction, see data sheet

\*\* on Controller with 7 EP-06 Modules



Analog Input	Analog Output	Digital Input	Relays	UPS	Standalone	
1	1	0	2	0	1	<b>ARB2</b>
0	0	0	0	1	0	<b>SB2</b>
1	1	1	2	1	1	<b>WSB2</b>
3	1	2	3	1	0	<b>MSB2</b>
3	1	2	3	1	1	<b>MGC2</b>
2	1	2	3	1	1	<b>MSC2</b>
32**	16**	16**	32**	1	1	<b>DGC-06</b>

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Catalog 2019, Version 12.1 Pocking, January 2019  
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