

# MGMS-200

## Multi-Gas Monitoring System



# Features

- Supports up to 256 electrochemical, PID, NDIR and pellistor sensors
- Interchangeable smart calibrated sensing modules
- Plug-and-play smart sensors
- Auto-addressable and self-configurable sensors
- Analog voltage and current output module
- Dry contact relay output module
- Modbus or BACnet communication protocol
- Intuitive web-based graphic user interface
- Visual and audible alarm with mute button
- Fully programmable alarm levels
- Fan override timers
- Sequential, time-based ventilation controls
- Automatic diagnostic and maintenance modes
- Unlimited datalogger
- Low power consumption

# Applications

- Parking garages and loading docks
- Warehouses
- Fire stations
- Indoor sports complexes and arenas
- Car dealerships and maintenance facilities
- Airports, schools and hospitals
- Farms and greenhouses
- Battery and boiler rooms
- Chemical storage
- Indoor air quality
- Laboratory contaminant monitoring
- Welding shops
- HVAC-R mechanical rooms

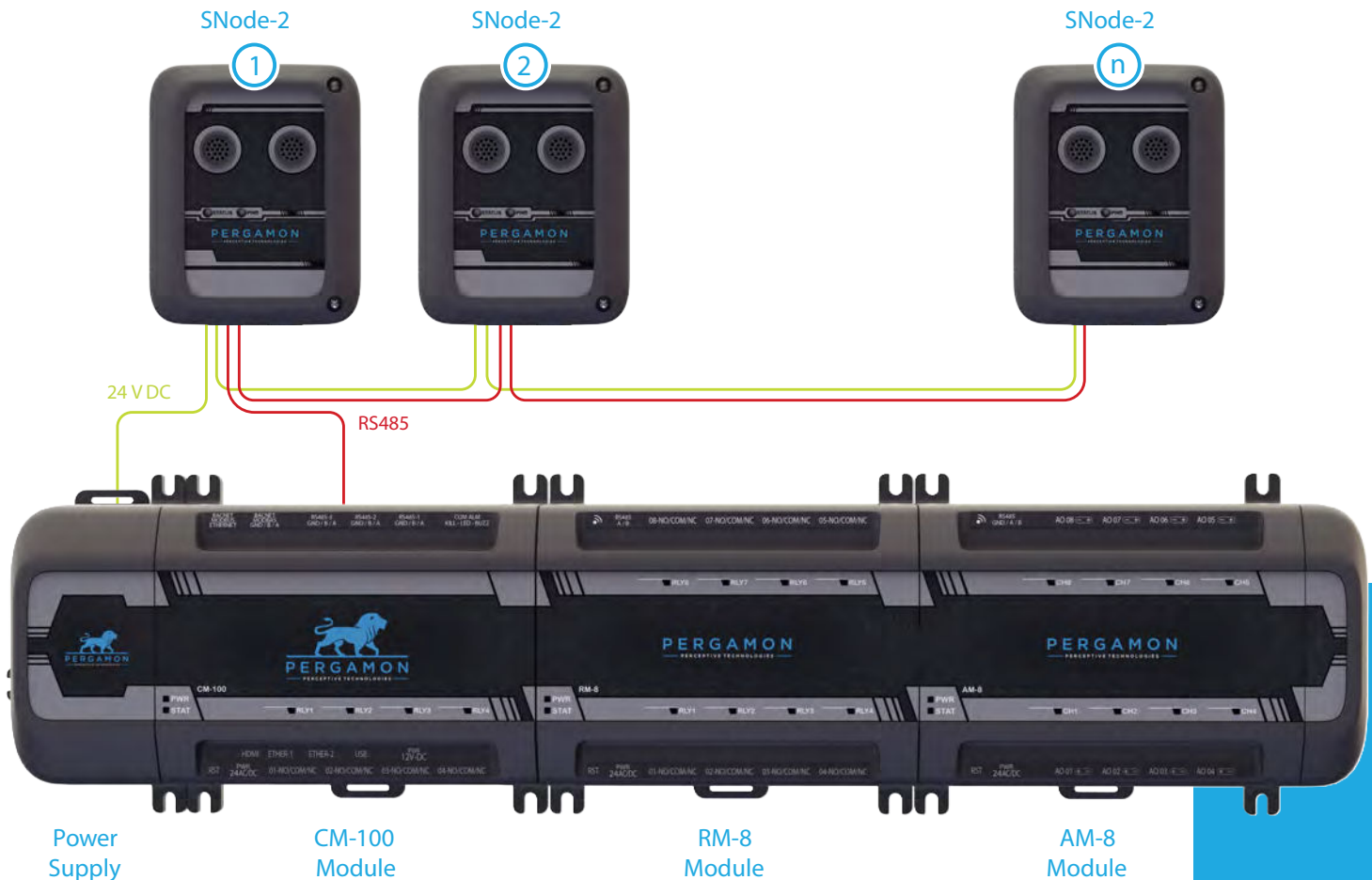


# General Description

The MGMS-S200 is a multi-gas monitoring system designed to ensure occupant safety in enclosed areas, maintain indoor air quality at satisfactory levels and reduce energy costs through a demand-controlled ventilation system.

It is a scalable-architecture, low-maintenance, cost-effective system that uses remote hardwired sensors to communicate with a central control module, remote relay modules and remote analog modules and operate ventilation equipment and activate remote alarms.

The MGMS-S200 controls gas levels suitable for different applications, notably combustible and toxic gases. The controller can monitor up to 256 sensors, including assorted sensor technologies such as electrochemical, infrared, pellistor and PID, or any combination thereof. The system contains four main modules: the "CM-100" control module, "AM-8" analog module, "RM-8" relay module and "SNode-2" node module. For each module, competitive features offer an unmatched combination of accuracy, reliability, robustness and ease of use.



# General Specifications

## Controller Module (CM-100 Module)

Dimensions	8.5 in. x 5.5 in. x 3 in. (216 mm x 140 mm x 76 mm)
Weight	0.44 lb. (200 g)
Power Supply	120 V–240 V and +24 V DC/AC
Power Consumption	280 mA max.
Communication	<ul style="list-style-type: none"> <li>• 3 x RS485, Modbus RTU, Modbus TCP, BACnet MS/TP, BACnet IP</li> <li>• 2 x Ethernet, HDMI, 2 x USB3</li> <li>• LoRa gateway</li> </ul>
Number of Supported RM-8 Modules	12 (96 relay outputs)
Number of Supported AM-8 Modules	12 (96 universal analog outputs)
Number of Supported SNode Modules	12 (96 SNodes)
Number of Supported Sensors	256 sensors
Relay Outputs	4 dry contact relays, 2 A @ 240 V each
Alarm	Audible and visual alarm with mute switch (rated 85 dB @ 2 ft.)
Data Loggers	15 GB storage



## Relay Output Module (RM-8 Module)

Dimensions	8.5 in. x 5.5 in. x 3 in. (216 mm x 140 mm x 76 mm)
Weight	0.44 lb. (200 g)
Power Supply	+24 V DC/AC
Power Consumption	190 mA max.
Outputs	8 dry contact relays, 8 A @ 240 V each
Communication	Shielded RS485 or LoRa wireless
Indication	2 power and status LEDs



## Analog Output Module (AM-8 Module)

Dimensions	8.5 in. x 5.5 in. x 3 in. (216 mm x 140 mm x 76 mm)
Weight	0.44 lb. (200 g)
Power Supply	+24 V DC/AC
Power Consumption	340 mA max.
Outputs	8 current and voltage universal outputs Voltage: 0–2 V, 0–5 V, 0–10 V Current: 0–20 mA, 4–20 mA
Communication	Shielded RS485 or LoRa wireless
Indication	2 power and status LEDs



## Gas Transmitter Sensor (SNode-2 Module)

Dimensions	6 in. x 5 in. x 2 in. (152 mm x 127 mm x 51 mm)
Weight	0.44 lb. (200 g)
Power Supply	+24 V DC
Power Consumption	18 mA max.
Sensors	<ul style="list-style-type: none"> <li>• Plug &amp; play dual sensors</li> <li>• Temperature &amp; humidity sensors built in</li> </ul>
Supported Technology	Electrochemical, PID, NDIR & pellistor
Communication	Shielded RS485 or LoRa wireless
Indication	2 power and status LEDs





## Operating Conditions

Operating Temperature	0 °C to 50 °C (32 °F to 122 °F)
Operating Humidity	0 to 90% RH non-condensing
Total Current Consumption	830 mA max.

# Web-based Software

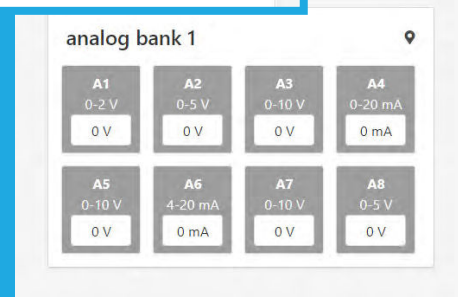
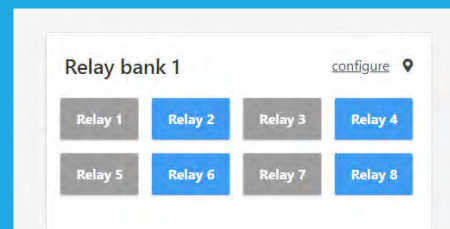
Multi-platform web-based HMI live-monitoring software provides real-time alerts for hazardous conditions and alarms, allowing you to see what is happening and respond to incidents as they occur. With this software interface, you can be confident that operators are kept informed of site conditions even when they are miles away.

The web-based MGMS-200 system with a strong communication backbone can continuously monitor and transmit sensor data and events, as well as look for issues and generate alerts when required. With immediate notification, operators can ensure that problems are quickly addressed.

Because the web-based MGMS-200 system is connected to the internet behind a password-protected interface, operators can remotely access information via tablets and PCs.

Additionally, the software has the following features:

- Automatic sensor plug-in/pull-out detection
- Alarm and gas concentration indications
- Monitoring, configuration and control from a standard web browser via the local network and the Cloud
- User management
- Sensing node, relay module and analog module management
- Data logging
- Recovery, auto-diagnostic and maintenance modes
- Remote forced relay start, sequencer



# Supported Gas Sensors

Gas		Sensor Technology	Range	Sensor Lifespan	Coverage Radius
Combustible					
Butane	C <sub>4</sub> H <sub>10</sub>	Catalytic bead	0 – 60% LEL	>3 years	20 ft. (6 m)
Hydrogen	H <sub>2</sub>	Catalytic bead	0 – 60% LEL	>3 years	20 ft. (6 m)
Methane	CH <sub>4</sub>	Catalytic bead	0 – 60% LEL	>3 years	20 ft. (6 m)
Propane	C <sub>3</sub> H <sub>8</sub>	Catalytic bead	0 – 60% LEL	>3 years	20 ft. (6 m)
Oxygen Deficiency					
Oxygen	O <sub>2</sub>	Electrochemical	0 – 25%	5 years	20 ft. (6 m)
Refrigerant					
Refrigerant	R-407C	Infrared	0 – 1,000 ppm	>10 years	20 ft. (6 m)
Refrigerant	R-134A	Infrared	0 – 1,000 ppm	>10 years	20 ft. (6 m)
Refrigerant	R-410A	Infrared	0 – 1,000 ppm	>10 years	20 ft. (6 m)
Refrigerant	R-404A	Infrared	0 – 1,000 ppm	>10 years	20 ft. (6 m)
Refrigerant	R-22	Infrared	0 – 1,000 ppm	>10 years	20 ft. (6 m)
Toxic					
Ammonia	NH <sub>3</sub>	Electrochemical	0 – 100 ppm	>2 years	20 ft. (6 m)
Carbon dioxide	CO <sub>2</sub>	Infrared	0 – 5,000 ppm	>10 years	50 ft. (15 m)
Carbon monoxide	CO	Electrochemical	0 – 200 ppm	10 years	50 ft. (15 m)
Hydrogen sulfide	H <sub>2</sub> S	Electrochemical	0 – 20 ppm	>3 years	20 ft. (6 m)
Nitrogen dioxide	NO <sub>2</sub>	Electrochemical	0 – 10 ppm	>2 years	50 ft. (15 m)
Formaldehyde	CH <sub>2</sub> O	Electrochemical	0 – 10 ppm	>2 years	20 ft. (6 m)
Chlorine	CL <sub>2</sub>	Electrochemical	0 – 10 ppm	>2 years	20 ft. (6 m)
Nitric oxide	NO	Electrochemical	0–250 ppm	>2 years	20 ft. (6 m)
Sulfur dioxide	SO <sub>2</sub>	Electrochemical	0–2,000 ppm	>2 years	20 ft. (6 m)

Other GASES and RANGES are available

## For more information

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