



# PGEM23 Compact Monitoring System

**Turnkey solution for measuring one or more gases**

The PGEM23 Compact Monitoring System is an all-inclusive economical and versatile solution for a variety of applications, including continuous emissions and process monitoring of one or more gases simultaneously.

Designed with flexibility in mind, the modular design allows us to quickly and cost-effectively select the optimal measurement and sampling techniques, creating a customized solution for each application.

A wide selection of enclosure options and sample line lengths allow for indoor, outdoor, and hazardous area installation locations.

The integrated IntelliCEMS™ control and data acquisition software completes the turnkey solution and provides a simple and intuitive user interface with the most up to date features.

## Key Features

- Durable and reliable design
- Can be installed on stack or other locations
- Low number of wear items for improved reliability
- Compact and lightweight
- Remote access capabilities
- Economical solution, Low acquisition cost  
Inexpensive to operate
- Innovative software platform across all analyzers for consistent, simple, and user-friendly interface, operability, and data display
- Modbus TCP/IP communication and analog outputs (0-10V or 4-20mA)
- Designed for process control and/or emissions monitoring
- Easy to service and maintain



Enclosure size shown: 24" x 30"

## System Components

- Enclosure
- Sampling System
- Analytical Module(s)
- Software with integrated Data Acquisition System

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## Enclosure

- Standard size: 24" x 30" x 10"
  - Other sizes available depending on application
- Materials:
  - Fiberglass
  - Stainless Steel
  - Painted Steel
- Indoor and outdoor applications:
  - NEMA 4X/IP66 rating standard Heated and/or air conditioned
- Hazardous area applications:
  - Type Z purge system
  - Type X purge system
  - LEL Sensor



## Sampling System

- Stinger
  - Stainless steel standard, other materials available depending on application
  - Optional heated stinger available
- Heated Sample Probe
  - Includes heated filter element to remove dust particles from sample
  - Available for general purpose and hazardous area applications
- Heated Sample Line
  - Sample transport at elevated temperature to avoid condensation
  - Depending on application, includes sample, calibration, back-purge, electrical, and communication lines
- Sample Chiller
- Moisture Sensor
- Acid Filter
- Sample Pump
- Flow Meters
- Calibration Manifold
- Optional hazardous area sampling components available



## Analytical Module(s)

- Flexibility to use optimal measurement technology depending on application:
  - Non-Dispersive Infrared (NDIR)
  - Ultraviolet Absorption Spectrometry (UVA)
  - Chemiluminescence (CLD)
  - Tunable Diode Laser (TDL)
  - Electrochemical
  - Optical Sensor
- Capability to utilize multiple analytical modules in one monitoring system
- Wide variety of measurements and ranges
- Automatic high-frequency zero correction eliminates drift
- High sensitivity
- Automatic calibration and correction for interferences
- Adaptive signal filtration allows for low noise while maintaining fast response time
- Automatic temperature and pressure compensation



Analytical Module

Available	Measurements and Ranges	
Gas	Minimum	Maximum
Ammonia (NH <sub>3</sub> )	0-100 ppb	0-100%
Carbon Monoxide (CO)	0-25 ppm	0-100%
Carbon Dioxide (CO <sub>2</sub> )	0-200 ppm	0-100%
Hydrogen Sulfide (H <sub>2</sub> S)	0-50 ppm	0-1,000 ppm
Methane (CH <sub>4</sub> )	0-500 ppm	0-100%
Nitrogen Monoxide (NO)	0-100 ppb	0-1,000 ppm
Nitrogen Dioxide (NO <sub>2</sub> )	0-100 ppb	0-1,000 ppm
Nitrogen Oxides (NO <sub>x</sub> )	0-100 ppb	0-1,000 ppm
Oxygen (O <sub>2</sub> )	0.1%	0-100%
Ozone (O <sub>3</sub> )	0-10 ppb	0-100%
Sulfur Dioxide (SO <sub>2</sub> )	0-500 ppb	0-100%

Additional measurements and ranges may be available upon request

## Software and Data Acquisition System (DAS)

- Modern, user-friendly interface
- Simple set-up and operation
- Selectable units (ppm, mg/m<sup>3</sup>, or %)
- Customizable graphical data display
- Instrument Alarms
- Data logging
- Error logging
- Zero and span logging
- "Dark Mode" option



## Applications

- Continuous Emissions Monitoring (CEMS)
- Process Monitoring
- Engine Testing
- Air Quality and Industrial Hygiene
- Safety
- Gas Purity
- Vehicle Emissions
- Greenhouse Gases
- Fuel Cell Analysis
- Combustion Efficiency
- Others

## Industries

- Power
- Cement
- Biomass
- Fertilizer
- Sugar
- Biodiesel
- Ethanol
- Mining
- Metals
- Iron and Steel
- Refineries
- Pulp and Paper
- Gas Turbines
- Petrochemical
- Waste Incinerators

