

Ei3100 Compact Monitoring System

Biogas and RNG

The Ei3100 Compact Biogas Monitoring System is a cost-effective, all inclusive integrated monitoring system with online data logging that has been optimized for continuous biogas measurements. It is compact, wall-mountable, and easy to operate and maintain, whether used by experienced engineers or non-technical users.

Designed with flexibility in mind, the system is modular and capable of utilizing an assortment of gas analyzers with proven measurement principles to ensure optimal system configuration. The integrated IntelliSense™ control and data acquisition software completes the turnkey solution and provides a simple and intuitive user interface, along with a comprehensive communications package and full remote access.

Optimized to continuously monitor the following key biogas components:

- Methane (CH₄)
- Carbon Dioxide (CO₂)
- Oxygen (O₂)
- Hydrogen Sulfide (H₂S)
- Moisture (H₂O) - optional
- Hydrogen (H₂) - Coming Soon!

Applications

- Landfills
- Wastewater Treatment Plants
- Food Waste Digesters (co-digestion)
- Dairy Farms
- Hog and Pig Farms
- Raw Biogas and Product Gas (RNG)
- Process Control
- Truck Offloading
- Interconnection Compliance

Ei3100 Base Model



Ei3100-EXP



Key Features

Compact, cost-effective, and reliable

- Remarkably small footprint
 - General purpose enclosure: 13.25 x 11.25 x 7.75 in
 - Explosion proof enclosure: 17.5 x 14.25 x 8.63 in
- No air conditioning required
- No cabinet purge system needed in C1D2 areas
- Integrated cabinet heater
- Vacuum eductor technology eliminates need for unreliable sample pump

Excellent accuracy with fast response

- Measurement every second

Multiple technologies for optimal gas measurement:

- Nondispersive infrared (NDIR)
- Optical (LED)
- Electrochemical gas sensor

Raw biogas, process control and RNG applications:

- Integrated moisture control technology
 - Removes moisture from saturated raw biogas
 - Adds moisture to dry RNG
 - Protects internal components from moisture damage
 - Improves sensor performance
- Sensor purge system
 - Extends life of sensor
 - Improves accuracy
 - Protects sensor from damage
 - Programmable timing with factory default settings
- Integrated dilution system: allows measurement of high H₂S in raw biogas

Easy to operate

- No analytical specialist required
- Automatic or manual calibration (zero and span)
- Automatic correction for interferences

Communications package

- MODBUS TCP/IP
- LAN or remote access

Options

Enclosures

- Wall-mount NEMA-4X enclosure suitable for general purpose areas
- Wall-mount explosion-proof enclosure suitable for hazardous areas

Multi-sampling point switching system

- Up to 4 sample streams
- Assign custom names to each stream
- Bypass flow for fast response times
- Automatic or manual switching

Sampling system

- Eductor (for low pressure applications)
- Sample probe (fixed or retractable)
- Pressure regulator (heated or unheated)
- Particulate and liquids knockout membrane
- Flow controller
- Sample line (heated or unheated)

Communications

- Analog (4 to 20 mA)

