



SAFETY. EFFICIENCY. RISK MITIGATION.

E/One Product Family



H₂ Monitoring and
Auxiliary Systems that:

➔ **KNOW MORE**

➔ **SEE MORE**

➔ **TELL MORE**



Analyze Hydrogen **PURITY**

DHCP

Dual Hydrogen Control Panel

The DHCP is engineered for precise monitoring of scavenging seal oil generators. It features two independent analyzers to monitor the turbine-end and collector-end seal oil drain enlargement tanks. The system includes valving for both manual and remote operation, enabling checks on generator casing purity. The DHCP automatically increases the amount of hydrogen gas scavenged from the generator.



GGA

Generator Gas Analyzer

The GGA is a triple-range sensor/analyzer designed for continuous gas purity monitoring through all phases of generator operation. It offers accuracy, robustness, and stability, effectively minimizing drift and the need for frequent recalibration common in other thermal conductivity systems. Available in various configurations that meet diverse operational needs.



PGA

Portable Hydrogen Gas Analyzer

E/One's standard Generator Gas Analyzer (GGA) is also available in a portable configuration and features the same hydrogen gas sensor/analyzer and system electronics as our other hydrogen gas purity systems. The PGA is designed for use in non-hazardous environments and serves as an emergency backup if a power plant's primary purity monitoring system is compromised.

Monitor **MOISTURE**



GGD II

Generator Gas Dryer ReGenex™

Water, oil, and other contaminants lead to corrosion in the generator, reducing efficiency and increasing the risk of forced outages. Elevated dew point levels further decrease generator efficiency by increasing windage losses. E/One's GGD II is a dual-chamber system that continuously dries and recirculates generator cooling gas, even when the generator is on turning gear, a critical period for maintaining a low dew point.

Contact E/One to arrange a dew point site evaluation by our field technicians.

We'll sample your hydrogen cooling gas with NIST traceable portable dew point and hydrogen purity analyzers and then issue a report to site engineering.

GHM

Generator Humidity Monitor

High moisture content (dew point) in hydrogen cooling gas is problematic, potentially causing insulation breakdown or stress corrosion cracking in retaining rings. Monitoring dew point is crucial. E/One's GHM is a reliable, self-contained, panel-mounted system designed for continuous moisture content measurement.



Detect **OVERHEATING**



GCM-X

Generator Condition Monitor Explosion-Proof Design

The GCM-X, engineered with an ion chamber, provides real-time detection of localized overheating, or "hot-spots," in hydrogen-cooled generators. It delivers significantly earlier warnings of potential failures compared to traditional sensors like RTDs or thermocouples. By identifying high concentrations of submicron particles, which are produced when materials within the generator's hydrogen gas path thermally decompose, the GCM-X enables early intervention. These hot-spots can lead to catastrophic failures, making prompt detection and response critical.

GCM-A₃

Generator Condition Monitor Air-Cooled

Designed with a cloud chamber to detect overheating in air-cooled generators, the GCM-A₃ offers superior early warning capabilities for impending failures compared to RTDs or thermocouples. The GCM-A₃ detects particles that are generated when materials - anywhere in the generator cooling path - undergo thermal decomposition. This early detection helps prevent the development of significantly larger and potentially catastrophic failures.



Gen-Tags and E/One Collector Analysis services complement the capabilities of the GCM-X, providing even greater value and functionality.



GEN-TAGS HOT-SPOT DETECTION

Gen-Tags facilitate the identification of generator hot-spot locations. These specially synthesized, chemically, and thermally stable compounds are applied to critical generator areas that detect locations of overheating during sample analysis. Gen-Tags can be applied during the manufacturing of new generators or at power plants during scheduled maintenance outages.



COLLECTOR ANALYSIS SERVICES

E/One's Collector Analysis program provides additional verification of GCM-X alarms and identifies the nature and source of the issue. We recommend analyzing an initial collector sample to establish a baseline for your generator, with subsequent samples collected yearly to monitor deviations from the baseline.

Customized **SAFETY**

GGM

Generator Gas Manifold

The GGM can monitor H_2 and CO_2 supply pressures and regulate the hydrogen supply to the appropriate machine gas pressure. It is designed for easy access to enable operators to control the purge process at the manifold or from the control room. The GGM can also be configured with manual or automatic valves and features a spool piece to prevent dangerous mixtures of H_2 and air.

ROI

Remote Operator Initiated Purge

The ROI Purge system, designed to protect the plant's assets and ensure operator safety, allows operators to start the purge process from the control room during normal maintenance operations or emergencies. Safety is enhanced by removing the need for operators to go to the generator manifold during hazardous conditions.

GAS STATION®

Generator Auxiliary Systems

E/One's GAS Stations offer a customizable modular monitoring and control skid designed to meet specific plant needs. This modular system enables the monitoring of hydrogen purity, generator core conditions, generator gas manifold, auxiliary panels for stator cooling water, seal oil, annunciation display, dew point, and H_2 and CO_2 supply pressures.

Customization Options

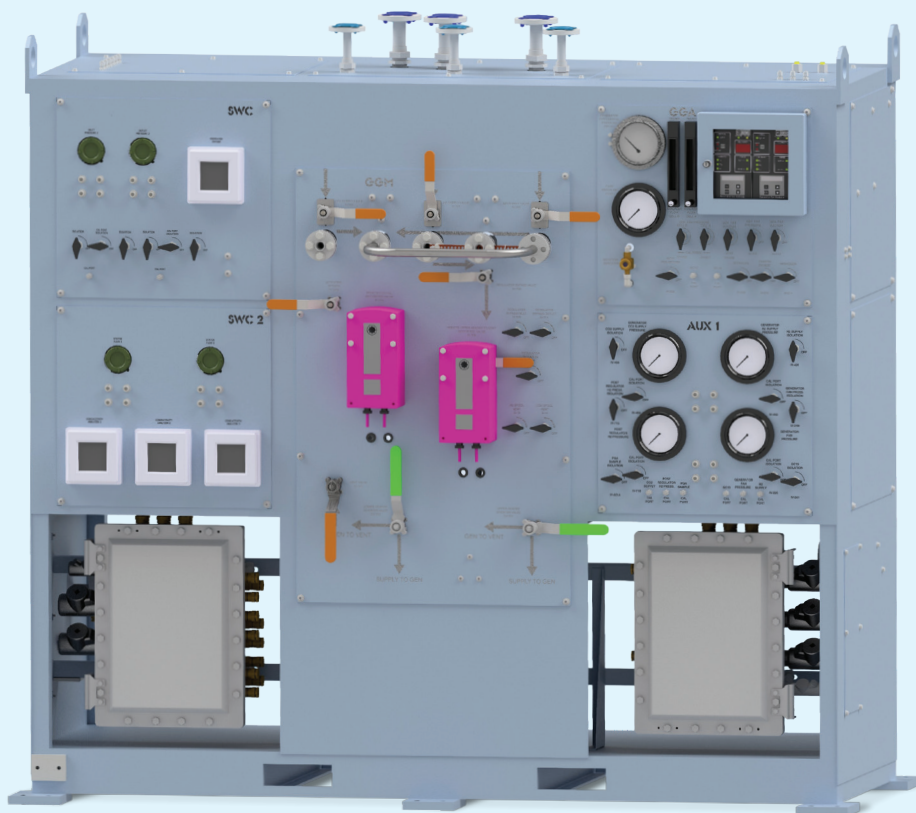
GCM-X

GGA

GGM

AUX PANEL

GHM



To View Complete **PRODUCT SPECIFICATIONS**

Please visit eone.com/hydrogen-systems or scan the QR code at right



Reliable **SERVICE**

Continuous Support

At E/One, we offer comprehensive support services for our hydrogen systems to ensure optimal performance and longevity. Our team of experts provides end-to-end solutions, from initial consultation and system design to installation support and commissioning. We understand the critical nature of hydrogen equipment in your operations, which is why we offer tailored preventative maintenance, regular system check-ups, and prompt field service support to minimize downtime. Our services also include upgrades to meet evolving safety standards and retrofits to enhance system efficiency, ensuring your hydrogen systems remain at the forefront of technology.

Turnkey Installation

In addition to our robust support services, E/One excels in the installation of hydrogen equipment. Our experienced installation team ensures seamless integration of our systems into your existing infrastructure, adhering to the highest safety and quality standards. We provide thorough training for your personnel, empowering them with the knowledge to operate and maintain the equipment effectively. Whether it's a new installation or an upgrade, our commitment to excellence ensures that your hydrogen systems are installed correctly and efficiently, maximizing their performance and reliability.



Protecting Your **HYDROGEN-COOLED GENERATOR**

Since the early 1970s, E/One's Utility Systems Business has been a pioneer in power generation monitoring. Our Utility Systems Business, ISO 9001 registered, has a proven field record and a strong commitment to customer service.

E/One has refined and innovated predictive maintenance technology across all gas auxiliary systems for hydrogen-cooled and air-cooled generators.

Generator Lifecycle Management

E/One's involvement begins with the OEM's initial supply scope, providing critical gas auxiliary systems for both hydrogen and air-cooled generators throughout the life cycle of the generator. Recognized as a primary source by leading manufacturers, our focus is on safety, efficiency, and risk mitigation.

Services Support

E/One provides comprehensive application and field service support, guiding the user through every stage — from installation and startup to commissioning and training.

Extending Asset Life and Efficiency

Maximizing the life and efficiency of generating assets requires a comprehensive approach. E/One provides hazardous area product upgrades to meet evolving safety standards and obsolescence of OEM-installed gas auxiliary products while integrating technologies into cost-effective offerings.



A PCC Company

Environment One Corporation
2773 Balltown Road
Niskayuna, NY USA 12309-1090
Voice (01) 518.346.6161
www.eone.com

LM000404 Rev B