

# G3600/G3601 Inert Gas Oxygen Analyzing System

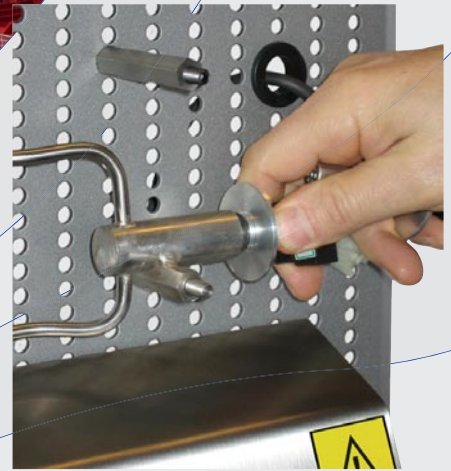
With Durable Zirconia Sensors

Perfecting Sensible Technology

Monitor the content of oxygen in inert gas and satisfy vetting inspectors. The G3600/G3601 Inert Gas Oxygen Analyzing System is a user friendly and robust unit for accurate and reliable measurements in safety critical applications. The core of the system, the G<sub>36</sub> Oxygen Analyzer, is type approved under the MED as well as by various class societies.



# Highest Quality at Lowest Maintenance



Easy replacement of the zirconia cell

## The New G36 Oxygen Analyzer Family

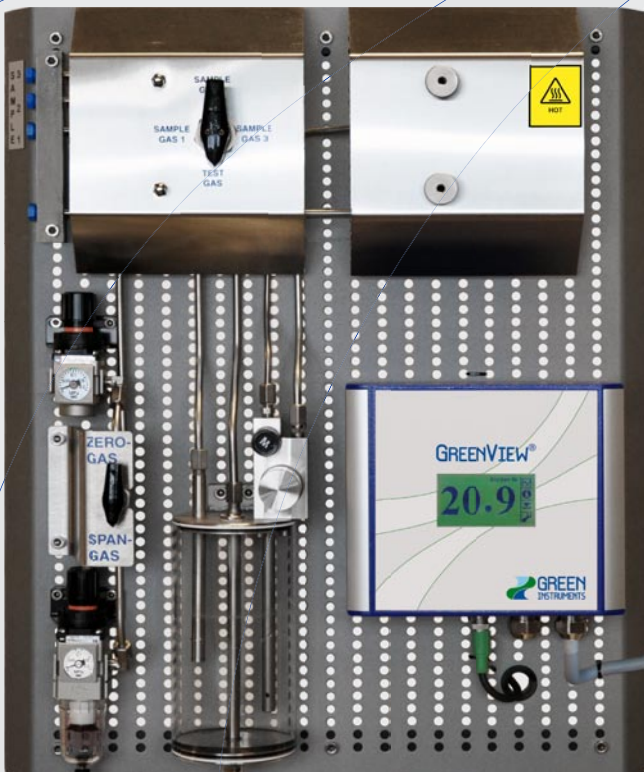
Green Instruments has with its G3500 Oxygen Analyzer convinced the marine market since 2003. Now the successor model, the new G36 Oxygen Analyzer Family, is taking over. These new analyzers provide extra advantages such as: touch screen, galvanically separated and stronger analog signal, compatibility with a new improved sensor, trend graph display, and data logging.

The G36 is approved under the European Marine Equipment Directive (MED), becoming the first system to be certified under the new heading A 1/3.54 for fixed oxygen analyzers. Since the end of July 2009, fixed oxygen analyzers have to have MED type approval on European flagged ships – this includes most EU flags plus Norway.

## Cost-Effective and Flexible

Whether you require a simple and compact system such as the G3600 (see picture to the left) or whether you prefer the redundancy of the double board version G3601 (see picture to the right), Green Instruments offers high quality, cost-effective systems in many variations.

The single board fulfills all requirements and tasks at minimum cost. The double board on the other hand, offers redundancy for uninterrupted operation. If one sensor or analyzer fails, just switch to the other within seconds.



G3600 Inert Gas Oxygen Analyzing System—single board

# Cost-Effective Redundancy with Double Board



G3601 Inert Gas Oxygen Analyzing System—double board

## Key Features

- ✔ Certified under the M.E.D.
- ✔ Type Approved by DNV, BV, and Lloyd's Register



- ✔ Avoid delays
- ✔ Protect cargo, ship, and crew
- ✔ Easy to install, easy to maintain, easy to use
- ✔ Easy calibration by crew
- ✔ Option for simplified artificial calibration
- ✔ Configurable measuring range
- ✔ Configurable signal outputs
- ✔ Configurable alarms
- ✔ Long time sensor stability – easy replacement
- ✔ Inexpensive spare parts
- ✔ Graphic display – interface via touch screen
- ✔ Worldwide customer support via service partners

## Durable and User-Friendly Zirconia Sensor

The G36 Oxygen Analyzers provide accurate, real-time measurements based on a new type of zirconia cell suitable for the harsh and stressful marine environment. Zirconia sensors have long been established as industrial standard due to their cost-effectiveness and reliability. They are easily stored and have unlimited shelf-life.

## Easy Configuration

The G36 Oxygen Analyzers are easily set up to work seamlessly together with the inert gas generator. The interface allows you to freely configure both the analog output signal as well as the alarm levels via the touch screen.

## Optional Sample Flow Control

The G36 Oxygen Analyzers allow the integration of additional sensors for customizing the G3600 System to your needs. For example, it is possible to add a flow sensor to monitor the flow of the inert gas sample.

## Panel Mounted Oxygen Analyzer



Both the G3600 single board and the G3601 double board can be combined with the G36p Oxygen Analyzer that is mounted into a panel. This is especially useful where an existing panel-mounted oxygen analyzer is replaced.

# Specifications - G3600/G3601 IGOA System

## G3600/G3601 Board Specifications

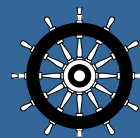
G3600 single board	H×W×D: 600 × 500 × 134 mm - Weight: approx. 12 kg without water and packaging
G3601 double board	H×W×D: 610 × 790 × 134 mm - Weight: approx. 20 kg without water and packaging
Sample quality	Pressure: 0.05 to 1 bar - Flow: 2 to 8 l/min - Temperature: 0°C to 70°C
Sample manifold	3 ports - 1/8" BSP connection
Zero test gas	E.g. 2% O <sub>2</sub> in N <sub>2</sub> supplied by owner - max. 10 bar - Reduction station - 1/8" BSP connection
Span test gas	Instrument air according to ISO 8573-1.3.3.2 - max. 10 bar - Reduction station incl. filter - 1/8" BSP connection
Filter retention	95% of 1 µm particles

## G36 Oxygen Analyzer + Sensor Specifications

Certificates & approvals	MED by DNV - DNV Type Approval - Lloyd's Register Type Approval - Bureau Veritas Type Approval - CE
Sensor technology	Heated zirconia type sensor
Measurement range	0.0 ... 21.0%
Repeatability	+/- 0.1 % of the measurement range
Accuracy	+/- 0.5 % of the measurement range
Response time	90% of F.S. in less than 10 sec. at sample flow 2 l/min
Power supply	G36a: 100...230 VAC / 50...60 Hz, G36d: 24 VDC. Consumption max. 40 VA
Output signal	2 × 4...20 mA - range selectable. Default: A-out1: 0.0...25.0 % O <sub>2</sub> / A-out2 not in use
Max. load	600 Ω / 24 VDC
Alarm functions	O <sub>2</sub> low or high - O <sub>2</sub> high-high - System Fail
Alarm relays	4 relays, volt free, 5A 24 VAC/VAC
Interface	Touch screen 71 × 39 mm with trend graph display
Alarm log	History and alarm logs on SD cards
Ambient temperature	0°C to 55°C
Location	Safe area e.g. engine room
Analyzer casing	Aluminum casing IP67



BUREAU  
VERITAS



Lloyd's  
Register  
TYPE  
APPROVAL



DNV

## Optional Equipment

Extension board for additional analyzer	Analyzer as specified above Dimension: H×W×D: 610 × 290 × 130 mm - Weight: Approx. 7 kg without packaging
Sample flow control	Additional flow transmitter mounted on the board and integrated into the G36
Remote digital display	22...250 VAC/DC with 2 configurable alarm relays - Ambient temp.: -20°C to 60°C - Panel cut-out: 44.5 × 91.5 mm
G36p instead of G36a/G36d	Power: 24 VDC - Ambient Temperature 0°C to 70°C - Enclosure IP55 if panel mounted Panel cut: 154 × 73 mm (W×H) - Front: 178 × 95 mm (W×H) - Depth: 71 mm + cables other specifications as above
Other optional equipment	Pre-filter for sample gas, signal amplifier, and signal amplifier for logarithmic output

Specifications subject to change without notice



GREEN INSTRUMENTS A/S • [www.greeninstruments.com](http://www.greeninstruments.com)  
Erhvervsparken 29 • DK-9700 Brønderslev • Denmark  
Tel.: +45 96 45 45 00 • Fax: +45 96 45 45 01

ISO 9001  
BUREAU VERITAS  
Certification

