

TGA - 3436

3436 SERIES TRI-GAS ANALYZER FOR PURITY AND
PURGING OF HYDROGEN COOLED GENERATORS



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Analytical Technologies Limited

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►► APPLICATIONS

For continuous analysis of hydrogen (H₂) purity and for purge monitoring of hydrogen-cooled generators and synchronous converters.

FEATURES

- One analyzer monitors all 3 gases for purity (Range 1)
 - or purging (Ranges 2 and 3):
 - Range 1: 0-100% H₂ in Air
 - Range 2: 0-100% H₂ in CO₂
 - Range 3: 0-100% Air in CO₂
- Bright digital readout
- 4-20mA non-isolated output for 85-100% of H₂ in Air
- Thermal-conductivity cell with high accuracy and repeatability, not consumed through use
- Explosion-proof gas detector enclosure suitable for Class 1 Division 1 Group BCD rated areas
- Fast response (T₉₀ -10 to 15sec)
- Fast calibration
- Built-in pressure regulator and line pressure indication
- 2 levels of low H₂ purity alarms & Low Flow alarm

OPTIONS

- Isolated 4-20mA output for any range selected
- MODBUS output of gas measurements
- Oil vapor filter assembly (recommended)

CALIBRATION

- Channel 1 - Air for Zero, 100% H₂ for Span
- Channel 2 - 100% CO₂ for Zero, 100% H₂ for Span
- Channel 3 - 100% CO₂ for Zero, Air for Span



Important accessory:

Oil Vapor Filter Assembly
 - protects analyzer from sensor fouling caused by oil-vapors from power generator



►► DESCRIPTION

The TGA 3436 Series Tri-gas analyzer is designed specifically for monitoring H₂ purity in a power generator and to monitor the purging procedure during shut down. The analyzer can measure the following gases by switch selection: Range 1: 0-100.0% H₂ in Air; Range 2: 0-100.0% H₂ in CO₂; Range 3: 0-100.0% Air in CO₂. An isolated 4-20mA recorder output is provided for the range of 85-100% H₂ in Air.

The Model TGA 3436 analyzer is typically available in a single ex-proof cabinet with all capabilities built-in. Or, it may be divided into 2 sections that are electrically connected. The control section contains the main microprocessor boards as well as the touch-screen display, alarm contacts, and calibration & function switches. The gas detector section contains the temperature controlled thermal-conductivity (TC) cell, solenoid valves, gas pressure regulator, flow meter, and 2 flame arrestors.

Either the gas detector section on its own or both gas detector and control sections may be purchased in explosion-proof cabinets. The explosion-proof cabinets are UL listed and CSA certified for use in Class 1, Division 1, Groups BCD hazardous areas. If the gas detector section only is explosion-proof, the control section is typically enclosed in a 19" rack mount cabinet for use in a general purpose, non-hazardous area. The control section can also be mounted in a NEMA 4 wall mount cabinet.

SPECIFICATIONS

Method of Detection	Temperature controlled thermal conductivity (T/C) cell, cannot be burned out due to loss of flow or changing gases
Ranges Available	Range 1: 0-100% H ₂ in Air; Range 2: 0-100% H ₂ in CO ₂ ; Range 3: 0-100% Air in CO ₂
Resolution	± 0.1% of gas measured
Accuracy and Repeatability	± 1% F.S except in 85-100% H ₂ in Air output range which is within 0.2% absolute H ₂
Drift	H ₂ in CO ₂ or Air in CO ₂ , 1% F.S. per week maximum drift, 0-100% H ₂ in Air range is ± 0.2% per week
Response Time (T-90)	10-15 seconds to 90% step change - not including sample transport time
Ambient Temperature Range	32-120°F (0-50°C)
Linearity	± 0.4% of F.S. on H ₂ in Air range, ± 1% of F.S. in H ₂ or Air in CO ₂ ranges
Size and Weight	Dimensions will vary depending on enclosure style and options required
Power	115VAC 60Hz (220VAC 50Hz available)
Output Options	4-20mA into 500 ohms isolated - standard for 85-100% H ₂ in Air range Optional - Isolated 4-20mA for any range selected, Ethernet
Alarms	Optional dual alarms for low H ₂ purity. Alarms have local display indication and SPDT(normally energized) relay with 5A rating at 250VAC non-inductive load.

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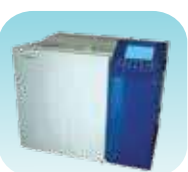
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