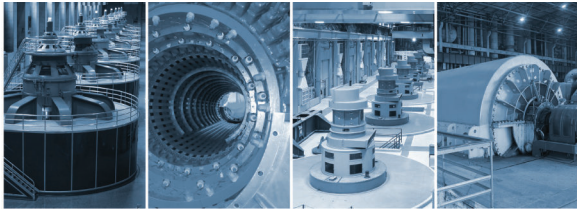


NOVA

Dependable Gas Analysis Solutions



436 SERIES

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

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 isolated output for 85-100% of H₂ in Air
- Thermal-conductivity cell with high accuracy and repeatability, cannot be burned out
- Explosion-proof gas detector enclosure suitable for Class 1 Division 1 Group BCD rated areas
- Fast response (T₉₀ -10 to 15sec)
- Fast 'one-touch' automated calibration
- Built-in pressure regulator and line pressure indication
- 2 levels of low H₂ purity alarms

OPTIONS

- Isolated 4-20mA output for any range selected
- Ethernet 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

NOVA ANALYTICAL SYSTEMS

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Standard Configuration:
Standalone NEMA 7 Cabinet



Optional Configurations:

NEMA 7 Gas Detector Cabinet



With Choice of Control Cabinet as follows:

NEMA 4 Control Cabinet



or:

19" Rack Mount Control Cabinet



Important accessory:

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



DESCRIPTION

The Nova 436 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 436 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.

MODELS

- **436N7MC** - gas detector and controls located in single explosion-proof cabinet; no need to open cabinet to use controls
- **436RMN7** - gas detector in explosion-proof cabinet; control section in general purpose 19" rack mount cabinet
- **436N4N7** - gas detector in explosion-proof cabinet; control section in general purpose NEMA 4 cabinet

SPECIFICATIONS

Nova reserves the right to specification changes which may occur with advances in design without prior notice.

Description	
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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