

# NOVA MODEL 430

## PROCESS HYDROGEN ANALYZER

### APPLICATIONS

*For continuous analysis of hydrogen in a process gas stream such as in electrolysis units, ammonia synthesis, refinery gas, heat treating atmospheres and blast furnace gas, etc.*



430PM



430N12

### FEATURES

- High accuracy
- Digital readout
- Fast response
- Easy to operate
- Linear output
- Long life thermal conductivity detector cell which cannot be burned out due to loss of sample flow
- Built in sample pump or pressure regulator
- Voltage and current outputs
- O<sub>2</sub> alarms, low flow alarm and isolated outputs available
- Sample conditioning systems available for most applications
- Available in panel mount, wall mount, rack mount and explosionproof versions
- Cabinet purge system available for use in hazardous areas
- Special low range version available (430L) using electrochemical sensor
- Optional automatic calibration

**NOVA ANALYTICAL SYSTEMS INC.**

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# DESCRIPTION

The heart of the 430 analyzer is the Nova thermalconductivity cell, which consists of two chambers. In one chamber, sample gas is allowed to flow through while the other chamber is usually sealed in air. In each chamber, a very sensitive glass coated thermister is installed which is in turn connected to a wheatstone bridge measuring circuit and amplifier mounted on top of the cell. When the cell is energized, each

thermister heats up and radiates its heat into the surrounding gas.

Hydrogen conducts heat away from a heated object at a rate much greater than air. As soon as a gas with a thermalconductivity greater than air enters the sample chamber, the wheatstone bridge will immediately sense the temperature change on the sample chamber thermister.

This will result in an output change which will be an indication of the amount of the hydrogen in the sample gas.

After the sample gas has been detected, it is amplified and displayed on a digital meter and is provided as a voltage or current output for recording.

Alarms, a sample pump or pressure regulator can all be provided when requested.

# SPECIFICATIONS

DESCRIPTION	
<b>Method of Detection:</b>	Temperature controlled thermalconductivity cell. Low range model has replaceable electrochemical sensor.
<b>Ranges:</b>	0-1, 0-5, 0-10, 0-20, 0-50 and 0-100% Hydrogen. Model 430L is low range model with 0-2000 PPM range.
<b>Readout:</b>	LED digital
<b>Accuracy:</b>	± 1% of F.S.
<b>Resolution:</b>	0.1%
<b>Maximum Drift:</b>	Zero and Span ± 1% of F.S. per week
<b>Temperature Range:</b>	0-50°C (32°F - 122°F)
<b>Power:</b>	115VAC 60Hz ± 10 VAC or 220VAC 50Hz ± 20 VAC
<b>Sample Flowrate:</b>	1-2 SCFH (0.45 to 0.90 L/min)
<b>Linearity:</b>	Within 2% F.S.
<b>Output:</b>	Non isolated 4-20ma standard. Voltage output and isolated 4-20ma output available.
<b>Enclosures:</b>	NEMA 4 (Model 430N4) NEMA 12 (Model 430N12) Panel Mounted (Model 430PM) Explosionproof (Model 430N7MC) Rack Mounted (Model 430RM)
<b>Size:</b>	NEMA 4 or 12: 12"H x 10"W x 7"D (30 x 26 x 7.5 cm) Panel Mounted: 17"W x 5-1/2"H x 10"D (43 x 13 x 25.4 cm) Rack Mounted: 19"W x 10"H x 16"D (48 x 26 x 41 cm)

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

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