

# HY-OPTIMA<sup>®</sup> 5330 Series

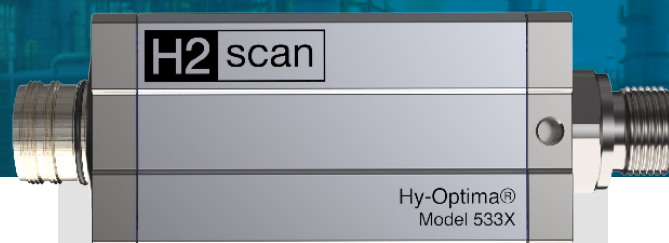
## INTRINSICALLY SAFE HYDROGEN IN-LINE PROCESS ANALYZER

### Revolutionary Self-Calibrating Hydrogen Measurement for Industrial Applications

The intrinsically safe HY-OPTIMA<sup>®</sup> 5330 series delivers unparalleled reliability, robustness, and durability to hydrogen in-line monitoring across various industrial applications, from chemical facilities and refineries to the burgeoning green hydrogen economy. Built on H2scan's zero maintenance and patented solid-state hydrogen sensing technology, it is the only hydrogen sensor capable of providing ten plus years of drift-correcting auto-calibration operation. The sensor's real-time, hydrogen-specific measurements enhance process efficiencies, improve yields, reduce maintenance costs, and support the green hydrogen economy.

### Intrinsically Safe HY-OPTIMA Analyzer Enhances H2scan's Patented Hydrogen Sensing Technology

The new Intrinsically safe HY-OPTIMA 5330 series provides continuous, hydrogen-specific monitoring without cross-sensitivity to other gases. Its compact design allows for easy installation, whether standalone or integrated into existing analyzer systems. The unit's self-calibrating capability does not require any consumables, and delivers long-term accuracy for 10-plus years, significantly reducing the total cost of ownership as well as enhancing the reliability of the hydrogen monitoring solution.



#### Long-Term Reliability:

Enjoy 10 plus years of maintenance-free operation from H2scan's hydrogen process analyzer

**Versatile Integration:** Easily installed as a stand-alone hydrogen measurement device or integrates seamlessly into existing OEM systems

#### Broad Applicability:

Ideal for a wide range of industries, including refineries, petrochemical facilities, gas manufacturing, hydrogen-based process lines, hydrogen production and distribution, fuel cells, electrolyzers, and many more hydrogen economy applications

#### Cost-Effective:

Achieve comprehensive coverage while reducing the total cost of ownership by more than 40% over its 10+ year lifespan

**Improved Safety:** Enhance safety during hydrogen production or use with accurate hydrogen measurement

**Easy In-line Integration:** Compact form factor fits seamlessly into processing gas streams

**Green Operations:** No consumables required, supporting environmentally friendly operations & maintenance practices



### Key Features and Benefits

- Auto-calibration eliminates drift and maintains accuracy
- No consumables such as calibration gases are needed
- Zero reference or carrier gases are required
- Reliable lifespan of over 10 years
- No cross-sensitivity to other gases preventing false H<sub>2</sub> issues
- Continuous, real-time, accurate monitoring without process downtimes
- Tolerance of various harsh background contaminants
- Accessible serial communication via integrated digital and analog capabilities
- Relays to trigger alarms in any safety system
- Compact design allows for versatile installation options

### Accuracy/Repeatability Specifications

Model	Hydrogen Range	Accuracy	Repeatability
5331	LDL-0.5%	0.06%	0.06%
	0.5%-2%	0.15%	0.15%
	2%-5%	0.25%	0.25%
	5%-10%	0.5%	0.5%
Model	Hydrogen Range	Accuracy	Repeatability
5332	LDL-5%	0.3%	0.3%
Model	Hydrogen Range	Accuracy	Repeatability
5333 <sup>1</sup> 5334 <sup>1</sup>	LDL-10%	0.4%	0.2%
	10%-30%	0.7%	0.3%
	30%-70%	1.0%	0.4%
	70%-100%	1.2%	0.5%

### Product Selection

Model	Hydrogen Range		CO Limit	H <sub>2</sub> S Limit	T90 Response Time (sec)	Process Gas Temperature
	Low	High				
5331	0.03%	10%	100 ppm	0	<90	-20°C to 60°C (-4°F to 140°F)
5332	0.4%	5%	0	0	<60	-20°C to 60°C (-4°F to 176°F)
5333 <sup>1</sup>	0.5%	100%	100 ppm	1000 ppm	<60	-20°C to 60°C (-4°F to 140°F)
5334 <sup>1</sup>	0.5%	100%	20%	3%	<90	-20°C to 50°C (-4°F to 122°F)

<sup>1</sup> Release pending. Specifications subject to change

### Product Specifications

#### Operating Conditions

Operating Pressure (Hazardous Location)	0.95 - 1.1 ATM Absolute
Survival Pressure	0.1 to 10 ATM Absolute
Process Gas Temperature	See Product Selection Table Below
Flow Rate	0.1 to 10 slpm (1/4" Tube)
Operating Humidity	< 95% RH (non-condensing)

#### Input/Output Signal

Digital Communication	Modbus over RS-485, three-wire, half-duplex
Relays	2 optically isolated open-collector switch circuits
Analog	4-20 mA

#### Power

Input Voltage	10 to 15.6 VDC
Input Power	2W

#### Physical

Dimensions	144.4 x 50 x 50 mm (5.68 x 1.97 x 1.97 in)
Weight	748.43 g (1.65 lbs)
Electrical Fitting	Twelve-Pin, M23
Sensor Fitting	M20 face seal, ISO 9974-1

#### Environmental

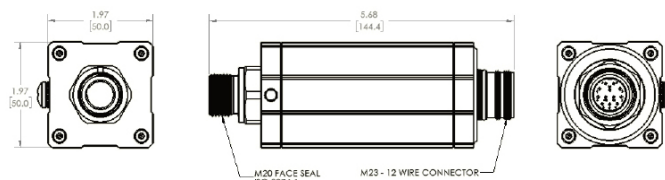
Ingress Protection	IP66
Operating Temperature	-20°C to 70°C (-4°F to 158°F)
Storage Temperature	-20°C to 105°C (-4°F to 221°F)

#### Certifications

US/CAN	Class I, Div. 1 & Class I, Div. 2, Groups B, C, D
ATEX	Ex II 1G + H <sub>2</sub> Ga
IECEx	Ex ia (H <sub>2</sub> ) Ga

\*Note: Analyzers are factory calibrated at 1 ATM Absolute

### HY-OPTIMA 5330 IS Gen 5 Sensor Series Dimensions



Specifications subject to change without notice  
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