General Purpose In-line Hydrogen Process Analyzer

The HY-OPTIMA® 5030 Series is a robust, compact hydrogen specific in-line process analyzer providing accurate real-time hydrogen measurements. The novel sensor design stands up to harsh gas streams and its self-calibrating technology eliminates periodic calibration to provide maintenance free operation. This improves process efficiencies, increase yields, reduces maintenance costs, and supports the hydrogen economy. The compact design allows for use as a stand-alone device or easily integrated into OEM analytical instruments.

Robust Design

The solid-state design has no moving parts and does not degrade over time, ensuring high reliability. Once installed and field calibrated, H2scan's patented self-calibrating feature eliminates drift and the need for periodic calibrations, requiring no further maintenance. The unit communicates via Modbus over RS485, or analog 4-20 mA with optional accessories available.

Performance and Safety

The HY-OPTIMA 5030 series analyzers are CE approved for safe general purpose operation. Model 5031, 5033, and 5034 analyzers are intended for use in dry gas streams where hydrogen is always present. The model 5032 is for use in processes where hydrogen is occasionally or intermittently present, such as in the event of a leak or an upset condition. For hazardous location applications, H2scan recently announced its intrinsically safe HY-OPTIMA 5330 series analyzers with added interfaces to simplify application.

Applications

Refining:

- Catalytic reforming
- Hydrodesulfurization
- Tail gas treating units
- Flare Monitoring Fuel gas

Natural Gas:

- Wobbe index or calorific value
- Blending and injection points
- Compressor stations

Hydrogen Economy:

■ Fuel cells and electrolyzers

Petrochemical:

 Polymer feeds and flare gas process streams

Industrial Gas Supply and Hydrogen Production:

 Air separation stream methane reforming



HY-OPTIMA® 5030 Series IN-LINE HYDROGEN PROCESS ANALYZER

Operating Conditions

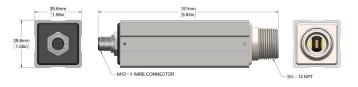
Ingress Protection IP68 Operating Temperature (Ambient) -20°C to 70°C (-4°F to 158°F) Storage Temperature -20°C to 105°C (-4°F to 221°F) Mechanical Dimensions H x W x D	operating conditions				
Operating Temperature (Ambient) \$1-20 °C to 70 °C (-4 °F to 158 °F) \$1-20 °C to 105 °C (-4 °F to 221 °F) Mechanical Dimensions H x W x D \$149.8 x 40.64 x 40.64 mm (5.89 x 1.6 x 1.6 in) Weight \$0.4 kg (0.8 lbs) Fittings \$12-30 VDC Input Voltage \$12-30 VDC Input Power \$10 W Communication Digital \$85485, 2-wire; 19200 baud, 8 bit data, 2 stop bits, no parity; Modbus protocol Analog \$4-20 mA available via optional accessory Performance Recommended Operating Pressure \$0.95-1.1 ATM Absolute (14.0-16.1 psia) Maximum Operating Pressure \$0.1 to 10 slpm (V-4" tube) Operating Humidity \$2-20 °C to 105 °C (-4 °F to 158 °F) \$4-20 °C to 105 °C (-4 °F to 221 °F) ### MAXIMUM Operating Pressure \$10 ATM Absolute Periodic calibration not required	Environmental				
Storage Temperature -20°C to 105°C (-4°F to 221°F) Mechanical Dimensions H x W x D 149.8 x 40.64 x 40.64 mm (5.89 x 1.6 x 1.6 in) Weight 0.4 kg (0.8 lbs) Fittings M12 4-wire. Fitting ³/4° - 14 MNPT Electrical Input Voltage 12-30 VDC Input Power 10 W Communication Digital RS485, 2-wire, 19200 baud, 8 bit data, 2 stop bits, no parity, Modbus protocol Analog 4-20 mA available via optional accessory Performance Recommended Operating Pressure 0.95-1.1 ATM Absolute (14.0-16.1 psia) Maximum Operating Pressure 0.1 to 10 slpm (¹/4° tube) Operating Humidity 95% RH (non-condensing) Calibration Periodic calibration not required	Ingress Protection	IP68			
Mechanical Dimensions H x W x D 149.8 x 40.64 x 40.64 mm (5.89 x 1.6 x 1.6 in) Weight 0.4 kg (0.8 lbs) Fittings M12 4-wire. Fitting 3/4" - 14 MNPT Electrical Input Voltage 12-30 VDC Input Power 10 W Communication Digital RS485, 2-wire; 19200 baud, 8 bit data, 2 stop bits, no parity; Modbus protocol Analog 4-20 mA available via optional accessory Performance Recommended Operating Pressure 0.95-1.1 ATM Absolute (14.0-16.1 psia) Maximum Operating Pressure 0.1 to 10 slpm ('\4" tube) Operating Humidity 95% RH (non-condensing) Calibration Periodic calibration not required	Operating Temperature (Ambient)	-20°C to 70°C (-4°F to 158°F)			
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Analog 4-20 mA available via optional accessory Performance Recommended Operating Pressure 0.95-1.1 ATM Absolute (14.0-16.1 psia) Maximum Operating Pressure 10 ATM Absolute Flow Rate 0.1 to 10 slpm (¹/₄² tube) Operating Humidity 95% RH (non-condensing) Calibration Periodic calibration not required	Communication				
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Operating Humidity 95% RH (non-condensing) Calibration Periodic calibration not required	Maximum Operating Pressure	10 ATM Absolute			
Calibration Periodic calibration not required	Flow Rate	0.1 to 10 slpm (1/4" tube)			
The state of the s	Operating Humidity	95% RH (non-condensing)			
Performance	Calibration	Periodic calibration not required			
	Performance				

CE, FCC, RoHS, WEE, Conflict Minerals

Accuracy/Repeatability Specifications

Model	Hydrogen Range	Hydrogen Range Accuracy	
5031	LDL-0.5%	0.05%	0.05%
	0.5%-2%	0.1%	0.1%
	2%-5%	0.15%	0.15%
	5%-10%	0.2%	0.2%
Model	Hydrogen Range	Accuracy	Repeatability
5032	LDL-5%	0.3%	0.3%
Model	Hydrogen Range	Accuracy	Repeatability
	LDL-10%	0.4%	0.2%
5033 5034	10%-30%	0.7%	0.3%
	30%-70%	1.0%	0.4%
	70%-100%	1.2%	0.5%

HY-OPTIMA 5030 Dimensions



Product Selection

	Hydroge	n Range		Т90		
Model	Low	High	CO Limit	H2S Limit	Response Time (sec)	Process Gas Temperature
5031	0.03%	10%	<100 ppm	<20 ppm	<90	-20°C to 60°C (-4°F to 140°F)
5032	0.4%	5%	0	0	<60	-20°C to 60°C (-4°F to 140°F)
5033	0.5%	100%	<100 ppm	<1000 ppm	<60	-20°C to 60°C (-4°F to 140°F)
5034	0.5%	100%	20%	3%	<90	-20°C to 50°C (-4°F to 122°F)

Specifications subject to change without notice 09.25 © 2022-2025 H2scan