

## Explosion Proof In-line Hydrogen Process Analyzer

The HY-OPTIMA™ 2700 Series uses a solid-state, non consumable sensor that is configured to operate in process gas streams. The H2scan thin film technology provides a direct hydrogen measurement that is not cross sensitive to other gases. The HY-OPTIMA™ 2700 Series is ideal for applications where real-time, hydrogen specific measurements can enhance process plant efficiencies, diagnostics and maintenance management.

### Common applications include:

- **Refinery:** Reforming, cracking, recycle, tail gas, fuel gas, flare gas and other multi-component process streams
- **Natural Gas:** H2 supplement to hydrocarbon measurement for complete natural gas or biomethane analysis
- **Industrial Gas Supply:** Air separation, syngas, steam methane reforming, and electrolysis process streams
- **Petrochemical:** H2 measurement in polymer feeds and flare gas process streams
- **Manufacturing:** Metals annealing, semiconductor, oil hydrogenation and fertilizer manufacturing process streams

## Configuration Details

Verification Interval	90 days
Product Life Expectancy	10 Years
Field Calibration	Yes
Pressure Compensation	Yes
Operating Humidity	< 95% RH (non condensing)
Flow Rate	0.1 to 10 slpm
Process Gas Temperature	-20°C to 60°C
Operating Temperature	-20°C to 55°C
Storage Temperature	-30°C to 80°C
Output Signals	
Analog	4 to 20mA (or user specific mA)
Serial	RS232 or RS422
Relay Contacts <sup>2</sup>	5A/240 VAC or 5A/30 VDC
Input Voltage	90 - 240 VAC
Input Power	15W
Dimensions	7.5in (L) x 5.4in (W) x 5.7in (D)
Adapter Fitting	3/4 in Union Tee Compression

1. ATEX versions are limited to 1.1ATM max process gas pressure
2. Two programmable relays and one fault relay

## Product Selection

The HY-OPTIMA™ 2700 Series product family includes sensor types that are designed for specific hydrogen ranges, corrosive gas tolerances and operation when no hydrogen is present. See the guide below for more details.

Product	Hydrogen Range		H2 Must be Present	CO Limit	H2S Limit	Max Pressure		Response Time (T90) (sec)	Accuracy <sup>5</sup> (absolute)		Drift / week <sup>5</sup> (absolute)		Repeatability <sup>5</sup> (absolute)		Linearity <sup>5</sup> (absolute)		Calibration Background Gas
	Low	High				bar (g)	psig		Low to 10% H2	10% to 100% H2	Low to 10% H2	10% to 100% H2	Low to 10% H2	10% to 100% H2	Low to 10% H2	10% to 100% H2	
2700	0.5% to	100%	Yes	0	0	2	30	< 60	0.3%	1.0%	0.2%	0.4%	0.2%	0.4%	0.2%	0.4%	N2
2710	0.1% to	20%	Yes	<100ppm	<20ppm	1 <sup>3</sup>	15 <sup>3</sup>	< 90	0.15%	0.3%	0.15%	0.3%	0.15%	0.3%	0.15%	0.3%	N2
2720	0.4% to	5%	No <sup>4</sup>	0	0	2	30	< 60	0.3%	NA	0.3%	NA	0.3%	NA	0.3%	NA	O2, N2
2730	0.5% to	100%	Yes	<100ppm	<1000ppm	2	30	< 60	0.3%	1.0%	0.2%	0.4%	0.2%	0.4%	0.2%	0.4%	N2
2740	0.5% to	100%	Yes	20%	3% <sup>5</sup>	2	30	< 90	0.3%	1.0%	0.2%	0.4%	0.2%	0.4%	0.2%	0.4%	N2

3. 2710 products operated at 15 psig will have a reduced H2 range of 0.1% - 10% H2
4. 2720 products may be operated in an Air, O2 or N2 backgrounds (see manual)
5. Sensor performance specifications assume a dry process stream, an ambient temperature of 25°C, pressure compensation and are in addition to any errors in the calibration gases used. The accuracy is specified for the serial port and digital display output only.
6. Up to 10% H2S resistant product available with special conditioning charge on request.

## HY-OPTIMA 2700 Series and Remote Control



### Safety Certifications



	2700 Series	Remote Control
UL	Class 1, Division 1, Groups B, C, D UL 508, 1203	Class 1, Division 1, Groups A, B, C, D UL 913
ATEX	DEMKO_11_ATEX1107270X <b>Ex II 2 G Ex d IIB + H2 T4 Gb</b> Max Gas Pressure: 1.1 ATM Max Ambient Temperature: 55°C	DEMKO_11_ATEX8175718 <b>Ex II 1 G EX ia IIC T4</b>
CSA	CSA-22.2 No. 30-M1986 (R2012)	CAN/CSA C22.2 No. 157-92