HALO H2

Trace-Level Hydrogen Analyzer

GASES & CHEMICALS | CEMS | ENERGY | ATMOSPHERIC | SEMI & HB LED | SYNGAS | LAB & LIFE SCIENCE

Designed for trace-level hydrogen analysis, the HALO H2 offers:

- Low parts-per-billion (ppb) detection capability
- Extremely fast speed of response
- Wide dynamic range
- Absolute measurement (freedom from need for calibration gases)
- Low maintenance and cost of ownership
- Compact, portable package, ideal for both fixed and mobile cart installation
- Direct measurement in many matrices, including oxygen

Leading Choice for Ultra-high Purity Gas Users

Detect gas quality upsets before they damage your process. Using Tiger Optics' HALO H2 hydrogen analyzer, you can verify H_2 impurity levels with part-per-billion accuracy, drift-free stability and instantaneous response. You will find our system exceptionally easy and fast to install, and effortless to maintain, with built-in zero verification. Its robust design—free of moving parts—results in an analyzer that has a high Mean Time Between Failure (MTBF) rate and a very low Cost of Ownership (CoO).

With its patented catalytic conversion technique, utilizing a minute amount of oxygen to cleanly and safely convert hydrogen to moisture, the HALO H2 offers a fully laser-based solution for continuous quality control of your process.

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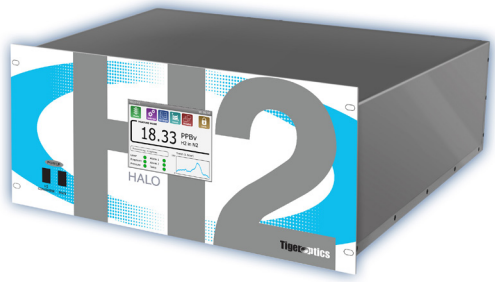

Performance	
Operating range	See table below
Detection limit (LDL, 3σ/24h)	See table below
Precision (1σ, greater of)	± 0.75% or 1/3 of LDL
Accuracy (greater of)	± 4% or LDL
Speed of response	< 3 minutes to 95%
Environmental conditions	10°C to 40°C
	30% to 80% RH (non-condensing)
Storage temperature	-10°C to 50°C

Gas Handling System and Conditions	
Wetted materials	316L stainless steel
	10 Ra surface finish
Leak tested to	1 x 10^{-9} mbar l / sec
Gas connections	1/4" male VCR
Sample inlet pressure	10 – 125 psig (1.7 – 9.6 bara)
Sample flow rate	0.5 slpm (± 20%)
Sample gases	Most inert matrices
Gas temperature	Up to 60°C
Utility gas supply*	Mixture of 1% O_2, 99% N_2
	~15 sccm, 20 – 125 psig

Dimensions	H x W x D [in (mm)]
Standard sensor	8.73 x 19.0 x 23.6 (222 x 483 x 599)
Weight	
Standard sensor	45 lbs (20.4 kg)

Electrical	
Alarm indicators	2 user programmable
	1 system fault
	Form C relays
Power requirements	90 – 240 VAC, 50/60 Hz
Power consumption	200 Watts max.
Signal output	Isolated 4–20 mA
User interfaces	5.7" LCD touchscreen
	10/100 Base-T Ethernet
	802.11g Wireless (optional)
	RS-232
	Modbus TCP (optional)

Performance, H_2:	Range	LDL (3σ)	Precision (1σ) @ zero
In Nitrogen	0 – 500 ppm	8 ppb	3 ppb
In Argon	0 – 200 ppm	6 ppb	2.0 ppb
In Helium	0 – 125 ppm	4 ppb	1.5 ppb
In Oxygen	0 – 250 ppm	50 ppb†	1.5 ppb
In Clean Dry Air (CDA)	0 – 450 ppm	50 ppb†	2.5 ppb

*O_2/N_2 supply (maximum 10 ppm H_2O and H_2 impurity) is required for sample conditioning via catalytic conversion (except for use in O_2 and CDA).
†LDL limited by dry-down

Contact us for additional analytes and matrices.
U.S. Patent # 7,277,177 • U.S. Patent # 7,255,836

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11/2017