



GRIDSCAN™ 5000

Hydrogen sensors for transformer dissolved gas monitoring using our proven DGA platform



GRIDSCAN™ 5000 sensors use a thin metal film with an advanced proprietary coating to protect the sensor, enabling it to measure hydrogen in oil or gas phase of power transformers and ancillary equipment.

This solid-state sensing element is hydrogen specific, insensitive to other transformer gases and can be immersed directly in the transformer oil during normal operation to measure hydrogen levels continuously.

The GRIDSCAN™ 5000 platform has no consumable components or any degradation of the sensor, does not require carrier or calibration gases to maintain accuracy and has a theoretically unlimited useful life.

- **Auto-calibration for Maximizing Uptime**
- **Widely used by Major OEM Partners Worldwide***
- **Small Form-factor for Ease of Installation**

** Powered by H2scan*

GRIDSCAN™ 5000

Hydrogen Sensor Specifications

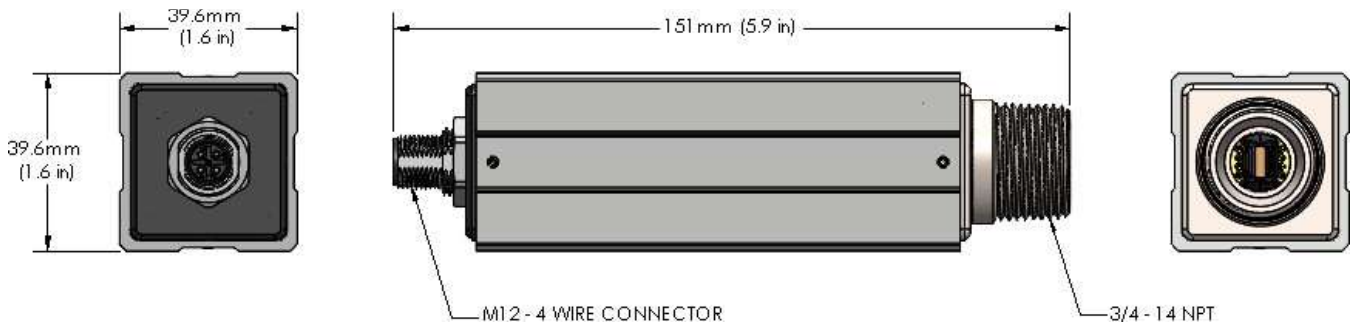
Parameter	Oil Phase	Gas Phase
Measurement Range	25 - 5,000 ppm	25 - 5,000 ppm in oil equivalent
Accuracy ¹	20% of reading or 25 ppm [†]	
Repeatability ²	10% of reading or 15 ppm [†]	
Response Time	< 60 minutes (location on Xfmr)	
Operating Temperature (Ambient)	-40°C to +70°C	
Storage Temperature	-40°C to +85°C	
Oil Temperature Range ³	-40°C to +105°C	n/a
Data Log Storage	1 Year	
Cross-sensitivity to H ₂ O, CO ₂ , C ₂ H ₂ , C ₂ H ₄ , CO, etc.	<2%	
Serial Communications	2-Wire RS485, MODBUS RTU, DNP3.0	
Power Supply	12-48VDC, 10 Watt	
Environment	IP68 (7.62m [25ft] water for 14 days) – Marine rated Assembly (C5M equiv)	
Insulating Liquid Supported	Mineral Oil, Silicone, Natural Ester, Synthetic Ester	
Designed life Expectancy	10+ years	

† whichever is greater

¹ Accuracy of the sensor in the FIELD

² For consecutive measurements to an identical hydrogen concentration

³ Main tank bulk oil temperature



Physical Specifications

Wetted Materials and Internal Sealing:

316SS, 40% mineral filled Nylon, polyimide, Viton (fluoropolymer elastomer), hermetic glass-to-metal feedthrough

External Housing and Sealing:

Hard Anodized 6061 Aluminum, 40% mineral filled Nylon, Viton (fluoropolymer elastomer), nickel-plated zinc (4-wire connector)

Humidity and Corrosion Resistance:

Class C5M Marine equivalent; salt-water condensing (IEC 60068-2-11 & DIN EN ISO 12944)

Ingress Protection: IP68; 7.62m [25ft] water for 14 days (IEC 60529)

Ratings:

- FM Approved - FM 6520:2022 (In Oil Phase)
- CE Mark
- ROHS 2011/65/EU compliant
- EMC/RFI and Other Electrical Certification
- IEC 55022 IFCC Part 15
- IEC 55011
- IEC 61000-4-2 through 61000-4-4, 61000-4-6, and 61000-4-8
- IEC 61010-1
- IEC 61326

Vibration: 3-axis Sinusoidal, Wideband and Random [Simulated Long-Life] (IEC 60068-2-6 table C.2, IEC 60068-2-64 paragraph A.2, category no. 2)

Shock: 30g, shock duration 18ms (IEC 60068-2-27)