

HY-VAULT™



Continuous dissolved gas monitoring that turns early warning into protected uptime inside network vault's

HY-VAULT a next-generation transformer monitoring solution designed to enhance the safety, reliability, and efficiency of underground network transformers. By combining H2scan's proven GRIDSCAN® 5000 hydrogen monitoring technology with the AVO-1 module, HY-VAULT delivers real-time hydrogen insights across your transformer fleet, empowering power utilities to make smarter, data-driven maintenance decisions and improve overall safety.

ALWAYS
ALERT



CONTINUOUS DISSOLVED GAS MONITORING

Continuously monitors dissolved hydrogen across the fleet to catch the first signs of a developing fault.

PRECISE
MEASUREMENTS



PATENTED SELF- CALIBRATION

No need for periodic recalibration, giving maintenance teams true set-and-forget monitoring.

NO CROSS-
SENSITIVITY



ABNORMAL STATE DETECTION

Alerts owners to an abnormal operation or state of their asset, giving maintenance teams time to act while the problem is still manageable.

WORKS WITH
YOUR SETUP



FULL SYSTEM INTEGRATION

Modbus and DNP3 connectivity integrate directly into SCADA, IoT platforms and OEM transformer monitoring or multi-gas DGA systems, and aggregates data through H2cloud.

BUILT FOR
THE FIELD



RUGGED AND RELIABLE

Rated for hot, cold, salt water and submersible conditions; built to operate reliably wherever the fleet is deployed.

MADE WITH LONG
LIFESPAN



LONG OPERATING LIFE & LOWER OPEX

Built for the full operating life of the assets it protects, cutting the ongoing cost of fleet-wide monitoring.



POWER & COMMUNICATION

- 12-48 VDC power supply
- 4-20 mA analog output (optional)
- 2-wire RS-485 (Modbus, DNP3)

RATED FOR HARSH ENVIRONMENTS

- IP68, marine-rated (C5M equivalent)
- Rated for hot, cold, salt water and submersible conditions
- M12 4-wire connector, 3/4-14 NPT fitting

H2scan brings situational intelligence to hydrogen-critical environments. Continuous monitoring, self-calibration and zero false alarms turn hydrogen data into operational confidence with fewer interruptions, less downtime, and more momentum.

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AVO-1 SPECIFICATIONS

Voltage Input	120-125 VAC
Operating Temperature	-40°C to 125°C (-40°F to 257°F)
Storage Temperature	-40°C to 125°C (-40°F to 257°F)
Analog Output	0.5 to 5 VDC
Voltage Output (For Sensor)	24 VDC

GRIDSCAN® 5000 HYDROGEN SENSOR SPECIFICATIONS

Response Time	<60 minutes
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Temperature Range	Oil Phase: -40°C to 105°C (-40°F to 221°F) Gas Phase: -40°C to 80°C (-40°F to 176°F)
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 RS-485, Modbus, DNP3
Power Supply	12-48 VDC
Max Power Consumption	10 W
Environment	IP68 (7.62 m [25 ft.] water for 14 days) – Marine rated assembly (C5M equivalent)
Insulating Liquid Supported	Mineral oil, silicone, natural ester, synthetic ester

GRIDSCAN® 5000/5010 SPECIFICATIONS

H ₂ Measurement Range	Oil Phase: 25-5,000 ppm Gas Phase: 25-5,000 ppm in-oil equivalent
Accuracy	±20%
Repeatability	±10%
Operating Temperature (Ambient)	-40°C to 70°C (-40°F to 158°F)
Sensor Temperature	Oil Phase: -40°C to 105°C (-40°F to 221°F) Gas Phase: -40°C to 80°C (-40°F to 176°F)

GRIDSCAN 50XX PHYSICAL SPECIFICATIONS

Wetted Materials and Internal Sealing	316SS, 40% mineral filled nylon, polyimide, Viton (fluoropolymer elastomer), hermetic glass-to-metal feed-through
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 ⁶ (Ambient)	Class C5M marine equivalent; salt-water condensing (IEC 60068-2-11 & DIN EN ISO 12944)
Ingress Protection	IP68; 7.62 m [25 ft.] water for 14 days (IEC 60529)
Certifications	FM Approved – FM 6520:2022 (In Liquid Phase); CE Mark; RoHS 2011/65/EU compliant; EMC/RFI and other. Electrical certification: IEC 55022, FCC Part 15, IEC 55011, IEC 61000-4-2 through 61000-4-4, 61000-4-6 and 61000-4-8, IEC 61010-1, IEC 61326, IEC 60068-2-30.
Vibration	3-axis Sinusoidal, Wide-band and Random [Simulated Long-Life] (IEC 60068-2-6 table C.2, IEC 60068-2-64 paragraph A.2, category no. 2), Class 4M6 per IEC 60721-3-4
Shock	30 g, shock duration 18 ms (IEC 60068-2-27)

GRIDSCAN 5000 HP SPECIFICATIONS

H ₂ Measurement Range	Oil Phase: 25-5,000 ppm Gas Phase: 25-5,000 ppm in-oil equivalent
Accuracy	±10%
Repeatability	±10%
Operating Temperature (Ambient)	-40°C to 70°C (-40°F to 158°F)
Sensor Temperature	Oil Phase: -40°C to 105°C (-40°F to 221°F)

GRIDSCAN 5015 SPECIFICATIONS

H ₂ Measurement Range	Gas Phase: 250-50,000 ppm in-oil equivalent
Accuracy	±20%
Repeatability	±10%
Operating Temperature (Ambient)	-20°C to 70°C (-4°F to 158°F)
Sensor Temperature	Gas Phase: -40°C to 80°C (-40°F to 176°F)

GRIDSCAN SERIES DIMENSIONS

