

Welcome to the June 2021 issue of H2scan Sensor News. In this issue we present:

- Did you know...?
- H2scan Transformer H2 Development Kits now available!
- IEEE PES Transformer Standards
- Interview with H2scan Mechanical Engineering Manager & Technical Transformer Product Manager
- Hydrogen economy news bytes

Thanks for taking a look. Please reach out with any [questions](#).

Did you know...?

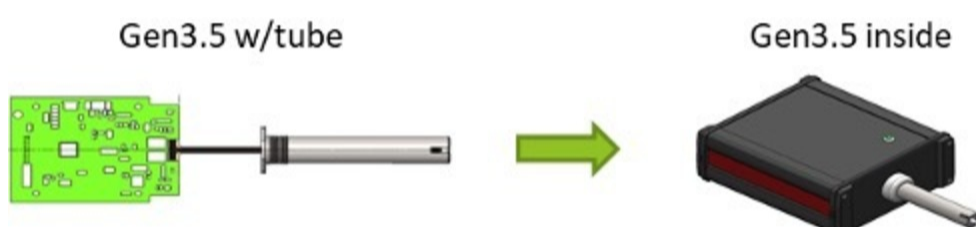
H2scan's hydrogen specific safety monitors won't give false alarms from commonly used solvents and cleaning compounds, unlike catalytic bead-type sensors?

H2scan Transformer H2 Development Kits Now Available

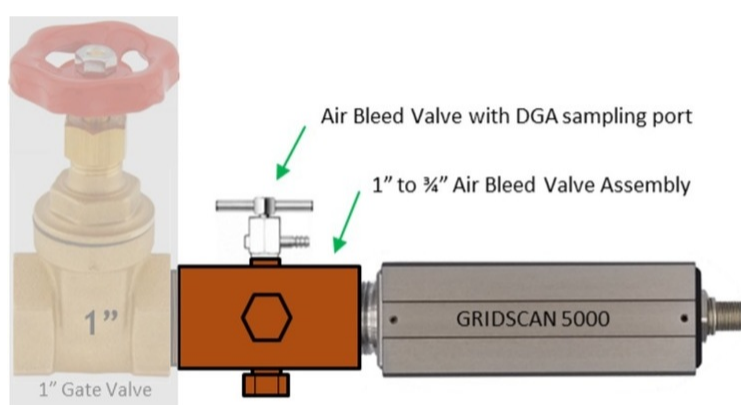
Each country/region around the world have their own unique list or agreed upon list of certification requirements and feature options that must be met in order to satisfy their customer's power grid system installation requirements for monitoring hydrogen in oil-filled transformers. In order to support both the certification and feature scenarios, H2scan has put together two transformer H2 development kits for OEM/VAR partners to test, evaluate, and create or integrate their own online oil-filled transformer DGA fault monitor/detector to offer to their customers.

The two available transformer H2 development kit options are:

- **Build your own kit** - H2scan provides the H2 sensor in an indoor enclosure, power & communication cables, and 40 hours remote support to enable **your team to build a system** that meets/exceeds your specific certification and feature needs for your customer's new or existing transformers. (Designed for immediate testing on oil loop and communication testing via Modbus or CLI [command line interface])



- **Ready to install and connect kit** - H2scan provides the H2 sensor in outdoor ready enclosure, mounting adapter for 1" valve, 4-meter power & communication cable, optional 4-20mA analog output module, and 20 hours remote support to enable **your team to integrate a solution** onto your customer's new or existing transformers. (Designed for immediate field installation/integration with Modbus communications).



Contact sales@h2scan.com for more details.

IEEE PES Transformer Standards

For decades, hydrocarbon-based insulating fluids have been one of the main components of electrical power grid equipment and will continue to be for centuries to come. During overheating or electrical fault events, hydrogen is produced from the breakdown of the hydrocarbon-based fluids. Hydrogen is one of the key gases that can be used as an indicator to determine when oil-filled electrical equipment is to be de-energized, use is to be limited/reduced or continued while further lab dissolved gas analysis (DGA) is performed. Trending hydrogen over time is an effective first indicator to begin the process of determining if the electrical apparatus is to be replaced, repaired, or decommissioned.

The importance of hydrocarbon insulating fluids in electrical equipment is evident and is mentioned in multiple IEEE PES Transformer standards and guides. In fact, 10 of the main sections of the IEEE PES Transformer standards mentions hydrocarbon-based insulating fluids and/or DGA analysis.

To learn more, H2scan recommends that you [become an IEEE member](#) and [begin your review](#) of the IEEE PES Transformer standards and guides.

Interview with Matthew Phillipps, Mechanical Engineering Manager & Technical Transformer Product Manager

What is a typical day like for you?

Production at H2scan is currently making the transition to higher volume production, which has led to our team encountering many exciting new challenges and opportunities. As the manager of the mechanical engineering group, my time is currently split between the development of automated calibration/production tooling, development of accessories for existing products (such as the Gen5 Analog Output module), ongoing manufacturing product support, and assisting with customer technical inquiries. The variety and quantity of projects keep us busy, but also keep things interesting.

What are your predictions for the rest of 2021?

Somewhere between Covid-19 and the report from the Pentagon on UFOs, I have found it difficult to predict future events. Given this, I will refrain from making any predictions about global events. However, I do expect that our hydrogen sensing technology will continue to find its way into a wider range of applications and industries. We also will likely finish some of our major automation efforts this year, which will greatly expand our production capacities, which will be scalable to meet the expected demand for our sensors in the years to come.

What excites you about the future of H2scan and / or the hydrogen economy?

It seems that on an almost daily basis we read about advancements in hydrogen technologies. From advancements in energy generation to energy storage, hydrogen takes a starring role. H2scan is in a unique, strategic position to meet the needs of many of these major developments with our reliable and cost-effective technology. It is awesome that our team's efforts are making a difference in the green economy.

Thanks Matthew!

Hydrogen Economy News Bytes

Green Catamaran Floats into Bay Area

The Energy Observer, a 100-foot catamaran powered by hydrogen, wind turbines and solar panels, made its way into the San Francisco Bay Area last month. The catamaran generates hydrogen from seawater and is a one-of-a-kind vessel aimed at promoting zero-emission technology. [Learn more](#).

Green Hydrogen to Power Trucks, Buses by Next Decade

By 2030, a study commissioned by Clean Energy Finance Corp., predicts that green hydrogen will reach cost competitiveness for large trucks and buses. The report says the cost of delivered green hydrogen will be just \$2.70 a kilogram at that time. [Keep reading](#).

Solar to Hydrogen Update

Researchers at Shinshu University made progress recently in identifying a more efficient way to convert solar to hydrogen, which can then be used to power fuel-cell systems and be used in the electrical grid. The result of the study is a 100 times more efficient process of conversion. [Find out more](#).



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