

Sentinel™

IoT MONITOR

Sentinel™: Integrated DGA, Moisture and Pressure Monitoring

H2scan's Sentinel™ provides comprehensive grid intelligence for transformer monitoring and protection. It combines multiple key parameters including dissolved gas analysis (DGA), moisture, and pressure into a single integrated solution. Sentinel enables predictive maintenance strategies by detecting active internal transformer gassing and other developing issues before catastrophic failures occur.

Sentinel delivers exceptional value for distribution transformer monitoring applications. H2scan's more advanced Sentinel PRO™ combines granular power quality data like voltage, current and harmonic distortion with additional information like hydrogen, moisture and pressure. This data set allows utility asset managers to determine the root cause of an issue and take corrective actions to mitigate potential equipment and collateral damage.

Sentinel allows convenient cloud-based data visibility and analytics for the entire transformer network. Its rugged, weatherproof design enables rapid deployment in outdoor environments. With simple installation and integration with common SCADA systems, Sentinel provides utilities and asset-intensive industries with powerful yet cost-effective transformer health monitoring.

- Online DGA monitoring integrated with moisture and pressure to detect active internal transformer gassing
- Enables fault detection for predictive maintenance
- Cloud-based software for convenient data visibility across transformer fleet
- Rugged IP67 design for harsh outdoor environments



Comprehensive Transformer Intelligence

Fleet Health Awareness:

Monitor transformer conditions across network

Integrated DGA Visibility:

Diagnose internally gassing units

Predictive Maintenance: Detect developing faults before failures

Rapid Deployment: Plug-and-play installation in less than 30 minutes

Harsh Environment Rated: IP67 rating for protection outdoors

For utilities facing transformer failures from harmonics, lack of visibility, overloading, etc., Sentinel delivers the grid intelligence utilities need. Manage power quality and transformer health with predictive, real-time data delivered seamlessly to optimize operations with a complete, integrated solution.

**H2scan Sentinel™ pairs with
GRIDSCAN™ 5000 or 6000**



Specifications

Product Details	
Dimensions	240 mm x 134 mm x 55 mm
Communications	Global availability on cellular: 3G, 4G, LTE, NB-IoT Optional - Modbus RTU/TCP, "Last Gasp" alert in case of interruption, internal secure storage 60+ days data
IP Rating	IP 67, for both indoor and outdoor applications
Installation	Neodymium magnetic attachment, wall/pole mount bracket, Din-rail
Voltage Measurement	
Nominal Voltage	240 VAC @ 50 Hz/110 VAC @ 60 Hz
Operating Limits	87 VAC to 264 VAC: 50 Hz/ 99 VAC to 121 VAC @ 60 Hz
Device Burden	10 VA (without accessories) 30 VA (with accessories)
External PSU	Not required
Nominal Voltage	U1, U2, U3, UNE/4
Measurement Range Limits	0 VA to 400 VAC
Voltage Connections	Ground mount: G clamp, voltage test lead, fused carrier, etc.; pole mount: fused insulation piercing clamp (IPC)
Current Measurement	
DGA Compatibility	H2scan GRIDSCAN™ 5000 or 6000
Safety Category	1000 V CATIII, 600 V CATIV
Product Standards	CE, IP66, RoHS 2.0

Monitoring

Transformer Health Monitoring

Low cost IoT enabled Hydrogen Dissolved Gas Analysis (DGA) for scalable Transformer protection and fault avoidance

Transformer health and asset maintenance management via IoT sensing of tank pressure, oil temperature, oil level and manufacturer approved modeling

Ambient transformer surface temperature and weather API for advanced transformer load and reinforcement modeling

IoT sensing for asset re-rating through manufacturer approved re-rating and asset protection models

Standards

ENA TS 48-5, EN 55011, EN 60529, EN 61000, EN 61010, 2014/30/EU, 2014/35/EU, 2014/53/EU