



BROCHURE

Serial-Gateway

Dynamic Ratings

Distributed by AKRIBIS



Reliable and Accurate Monitoring

Applications

Instantly monitor hydrogen gas in oil or the head-space of oil filled equipment such as transformers and immediately gain early indication of faults. By simply connecting the sensor to a valve and wiring the power, hydrogen gas values will immediately appear on-screen.

Hydrogen is a key gas, formed in most thermal faults ranging from overheating insulation to partial discharge and insulation breakdown. Hydrogen is commonly used as an indicator gas of incipient problems, and is a good trigger for further investigation such as laboratory oil analysis.

By using wireless communication and automatically sending the data back to a central location, the system can provide warning alerts, emails and periodic reports. Trend the data and correlate with load and temperature data easily on a web-based interface accessible on PC or mobile devices.



**SERIAL GATEWAY
+ HYDROGEN SENSING**

Communications

Using the latest IoT focused Low-Power Wide-Area Network (LPWAN) communication technologies enables the sensor to be rapidly installed and minimise communication infrastructure cost. All sensors are available with a selection of cellular or LoRaWAN communications, providing flexible, secure and low cost options to get data back.

Connections and Installation

- The package is provided with the hydrogen sensor connected to the wireless interface.
- The sensor has a 3/4" NPT threaded fitting, ready to be connected to a transformer drain or fill valve. Other connection options are available - please contact your local office or representative for more information.
- The system requires power connection, and offers a wide-range AC or DC input and uses very little power. The wireless interface can be provided with bolted or magnetic fixing options.



The Dynamic Ratings Tool-kit for Condition Monitoring

The hydrogen wireless sensor is part of our suite of IoT based sensors for distributed monitoring applications that embodies key design elements to ensure success:

- Driven by data security, privacy and reliability for a long operational life
- Support device management and remote firmware updates for a large fleet
- Use an enterprise architecture that can be hosted on or off premises
- Seamless integration with back-end systems such as analytics and SCADA (e.g.

Real-Time Measurements

- Hydrogen (PPM)
- Sensor Temperature
- Device Temperature

Physical Specifications

Dimensions:	Sensor: 150mm x 40mm x 40mm (5.94in x 1.56in x 1.56in)
	Outdoor-Rated Gateway: 180mm x 120mm x 80mm (7.09in x 4.72in x 3.15in)
	Indoor-Rated Gateway: 63.5mm x 110mm x 39.5mm (2.5in x 4.33in x 1.56in)
Communications:	Cellular: LTE Cat M1 / Cat NB1 (NB-IoT) LoRaWAN: 1.0.2
Voltage Input (nominal):	120-370 VDC / 80-260 VAC (24VDC option available upon request)
Power Consumption:	15W
Ingress Protection:	Sensor: IP68 (submergible to 7.6m / 25ft) Wireless Interface: IP66 / NEMA-4
Measurement Period:	Configurable Measurement Period (default 1 minute) Configurable Transmission Period (default 5 minutes)
Sensor Thread:	3/4" - 14 NPT (adapters available upon request)

Hydrogen Sensor Specifications

Parameter	Dissolved Hydrogen In-Oil	Hydrogen in Headspace
Measurement Range:	25-5000 ppm	25-5000 ppm *in liquid equivalent
Accuracy¹:	20% of reading or 25 ppm, whichever is greater	500 ppm to 25 ppm
Repeatability²:	10% of reading or 15 ppm, whichever is greater	300 ppm to 15ppm
Operating Temp:	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)
Storage Temp:	-40°C to 85°C (-40°F to 185°F)	-40°C to 85°C (-40°F to 185°F)
Oil Temp Range³:	-40°C to 105°C (-40°F to 221°F)	N/A
Cross Sensitivity:	< 1%	< 2%

¹Errors are in addition to any introduced by the measurement standard.

²For consecutive measurements to an identical hydrogen concentration.

³Main tank bulk oil temperature.

How to Order

Part Number	Description
DMS-001-O	Wireless Hydrogen Sensor for Gas in Oil Measurement ¹
DMS-001-H	Wireless Hydrogen Sensor for Gas in Headspace Measurement

¹For use in mineral oil. Sensors for other oil types available upon request.



An ISO 9001, ISO 14001, ISO 27001, ISO 45001 Certified Company.

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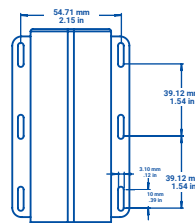
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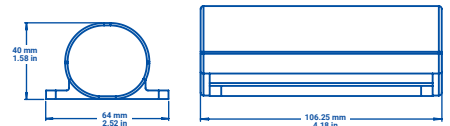
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Serial Gateway (Internal)



Request a quote from your regional office.



BR-HWS-EN-240613 Hydrogen Wireless Sensor