



BROCHURE

Serial-Gateway

Dynamic Ratings

Distributed by AKRIBIS



Gain Instant Insight Of Your Transformer

Applications

Instantly monitor the moisture content of oil filled equipment such as transformers and gain insight into insulation system health. Leverage our powerful analytics to determine the moisture in paper insulation - a clear indicator as to the health and load-ability of transformers. By simply connecting the sensor to a valve and wiring the power, data will immediately appear on-screen.

Oil-insulated equipment is supposed to be dry (low water content) to provide the optimum electrical insulating properties. As paper ages and sealing systems fail, moisture is introduced to the oil. This moisture resides primarily in the paper insulation system, and our analytics can determine this moisture percentage - a useful indicator as to 'how wet' the transformer is. This value can be used to evaluate the condition of a transformer, and manage loading on transformers with higher than normal water content.

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 minimizes 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 moisture sensor connected to the wireless interface.
- The sensor has a threaded fitting, ready to be connected to a transformer drain or fill valve. Various 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 moisture 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. DNP3)



Real-Time Measurements

- Moisture in Oil (Relative Saturation %RS)
- Moisture in Paper (calculated in analytics dashboard)

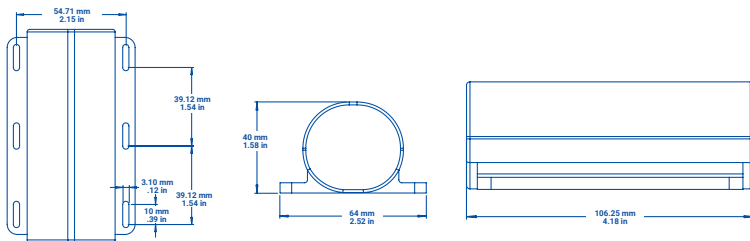
How to Order

Part Number	Description
DMS-002	Wireless Moisture Sensor for Moisture in Oil Measurement and Moisture in Paper Calculation

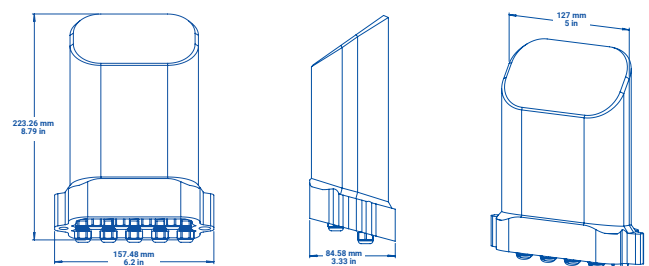
Product Specifications

Measurement Range:	0 to 1 AW
Oil Temp Range:	-40 to 180 °C (-40 to 356 °F)
Operating Temp:	-40 to 70 °C (-40 to 158 °F)
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)
Moisture Measurement Accuracy:	±1% Relative Saturation
Communications:	Cellular: LTE Cat M1 / Cat NB1 (NB-IoT) LoRaWAN: 1.0.2
Voltage Input (nominal):	120-370 VDC / 80-260 VAC (24 VDC option available on request)
Power Consumption:	15W
Ingress Protection:	Wireless Interface: IP66 / NEMA-4 Sensor: IP68 (submersible to 7.6 m / 25 feet)
Measurement Period:	Configurable Measurement Period (default 1 minutes) Configurable Transmission Period (default 5 minutes)

Serial Gateway (Internal)



Serial Gateway (External)



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

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