

USENS-G: UHF PARTIAL DISCHARGE SENSOR



- Wide band, Highly Sensitive, UHF PD Sensors for GIS
- High Dielectric, Rugged, and Reliable design
- Built-in overvoltage (transient) protection
- Shielded to avoid electromagnetic interface
- 100% Leak proof and pressure tested for 10 bar (Helium)
- Suitable for extreme environment, Outdoor Substation
- Customized according to GIS flange design & voltage level

Highly sensitive and accurate Partial Discharge sensor for measuring ultra high frequency signals emitted by partial discharge activity inside Gas Insulated Switchgears (GIS).

Product Summary

Monitoring partial discharge (PD) activity into the GIS (Gas Insulated Switchgear) is very important in determining the condition of the GIS and decide on condition based maintenance. All major power utilities and industrial customers are demanding for built-in PD sensors in their new GIS installations. Rugged Monitoring has developed the most advanced UHF PD sensor for GIS, capable of detecting smallest PD signals.

USENS-G is an Ultra High Frequency (UHF) antenna that is capable of detecting smallest UHF frequencies emitted by the partial discharge (PD) activity. The sensors are suitable for all types of GIS, and easy installation on the GIS flange. The sensors can easily be bolted on GIS flange. The IP65 rated ingress protection allows sensor to be installed at Outdoor GIS installations. Their wide band (200 - 3000 MHz) frequency response and high sensitivity (up to -90dBm) enables lower cost of PD monitoring system and higher ROI (Return on Investment).

Rugged Monitoring USENS-G is designed to fit into most of the GIS at all voltage levels. The sensors can also be customized according to GIS design and customer technical requirements. The sensors comes with built-in overvoltage protections and N-type connection. The sensors can be connected with any UHF based PD monitoring system regardless of manufacturers.

Applications

- Continuous Online Partial Discharge Monitoring
- Periodic Partial Discharge Testing and Measurements
- High Voltage Testing during Commissioning
- GIS PD Testing and Monitoring
- MV Switchgear PD Testing and Monitoring
- Circuit Breaker PD Testing and Monitoring

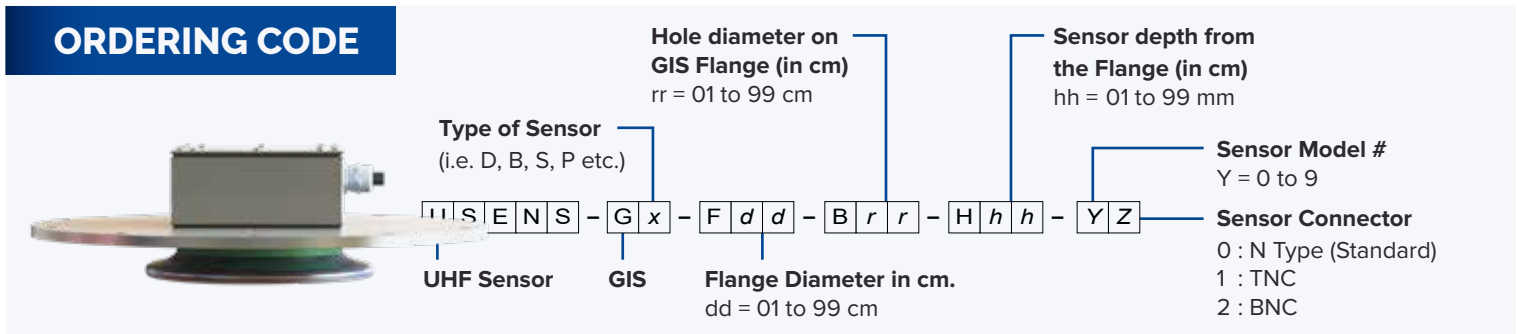
Benefits

- Higher sensitivity (-90dBm) ensure higher ROI of monitoring
- Wide frequency response, compatible with all PDM systems
- Easy installable, and High Dielectric strength, Safest Sensors
- Shielded Sensor, Noise Immunity
- Built-in overvoltage protection keeps the PDM electronics safer
- IP65 protection and rugged design, suitable for outdoor installations
- Leak proof sensors enables safety and 0% SF6 leakage
- Customizable according to GIS design and customer requirements

TECHNICAL SPECIFICATIONS

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| UHF Frequency Response | 200 - 3000 MHz |
| Sensitivity | up to -90 dBm |
| Average Effective Height over 500MHz – 1500MHz | 25mm+ |
| Min. Effective Height over 500MHz – 1500MHz | 16mm+ |
| Withstand Voltage | up to 1500 kV |
| Output | N-Type connector; Customized option available |
| Connector Circuit Impedance | 50 Ω |
| Pressure Testing | up to 10bar (with Helium Gas) |
| Vibration Testing | Suitable for HV - GIS and Transformer applications |
| Ingress Protection (IP) | IP-65 |
| Ambient (Operating Temperature) | -60 °C to +100 °C |
| Storage Temperature | -60 °C to +100 °C |
| Operating Humidity | 95% humidity at 50 °C |
| Dimensions | Customized as per GIS design |
| Weight | app. 2.0 KG; Customized as per customer requirements |
| Install Position | GIS Enclosure |
| Signal Cable | Very low attenuation UHF (Coax) cable |

ORDERING CODE



Rugged Monitoring Services

Rugged Monitoring provides customization of sensors, monitors & software. In addition we offer on-site commissioning services, maintenance contracts and technical support to all customers worldwide.



About Rugged Monitoring

Industry leading team of fiber optic experts with 100+ years of combined experience committed to delivering customizable solutions for challenging applications. We offer a range of reliable, high performance, customizable sensors and monitoring solutions that are immune to external influence.