

USENS-T: UHF PARTIAL DISCHARGE SENSOR



- Highly Sensitive, Wide band, UHF PD Sensors for Transformers
- Rugged design, 100% Leak proof
- Easy to Install, Integrated Transient (Over-voltage) Protection
- High Dielectric, shielded to avoid electromagnetic interface
- Suitable for extreme environment, Outdoor Substation
- Customized according to Transformer tank size & inspection covers

Rugged design, highly sensitive and accurate Partial Discharge sensor for detecting and monitoring partial discharge activity inside Oil Filled and Dry Type Transformers/Reactors.

Product Summary

CIGRE, TB662 and TB 343 recommends to install UHF PD sensors on transformer tank wall for Partial Discharge (PD) activity detection and real time monitoring. Rugged Monitoring has developed the most advanced UHF PD sensor for Transformers, capable of detecting smallest PD activities inside transformer tank.

USENS-T is an Ultra High Frequency (UHF) antenna that is capable of measuring Electromagnetic PD signals from the inside of transformer. The sensors are IP68 rated, easy to install on transformer tank and suitable for all types of Transformers. The sensors can easily be bolted on transformer tank (or inspection cover) directly touching the oil or with dielectric window in-between the sensor and oil. Higher sensitivity (up to -90dBm) over wide range of frequencies (200 - 3000 MHz) helps in reducing the cost of PD monitoring, hence higher ROI (Return on Investment).

Rugged Monitoring USENS-T is designed to fit on the transformer tank (or inspection cover) of different types of transformers at all voltage levels. The sensors can also be customized according to customer technical requirements. Sensor's built-in overvoltage protections and N-type connection allows them to be connected with any UHF based PD monitoring system, regardless of manufacturers.

Applications

- Power Transformer PD Testing and Monitoring
- Reactor PD Testing and Monitoring
- Distribution Transformer PD Testing and Monitoring
- Continuous Online Partial Discharge Monitoring
- Periodic Partial Discharge Testing and Measurements
- High Voltage Testing during Commissioning

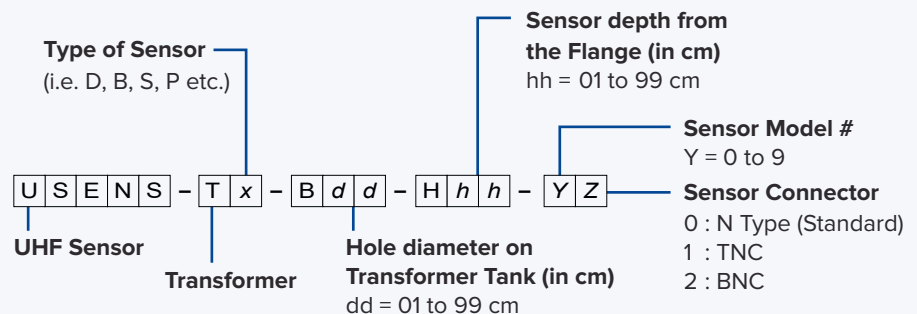
Benefits

- Higher sensitivity (-90dBm); detect even smallest PD activity
- Wider frequency response, compatible with all PDM systems
- High Dielectric Strength, Safest installation and operation
- Shielded Sensor, Lower Signal-to-Noise Ratio
- Integrated overvoltage protection, for the safety of PDM electronics
- Rugged design, IP68 Protection, Longer life
- 100% leak proof sensor
- Customizable according to the customer requirements

TECHNICAL SPECIFICATIONS

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
Oil Pressure	up to 10bar
Vacuum Tightness	< 0.10 mbar, Leakage rate < 0.0001 mbar/sec
Vibration Testing	Suitable for HV - GIS and Transformer applications
Ingress Protection (IP)	IP-68
Ambient (Operating Temperature)	-60 °C to +150 °C
Storage Temperature	-60 °C to +150 °C
Operating Humidity	95% humidity at 50 °C
Dimensions	Customized as per Transformer Flange Design
Weight	app. 1.5 KG; Customized as per customer requirements / Transformer Design
Install Position	Transformer Tank, Inspection Cover, Transformer Dielectric Window
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.