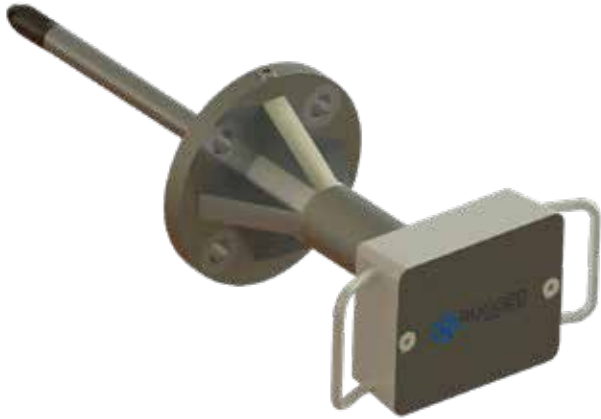


## USENS-D: UHF PARTIAL DISCHARGE SENSOR



- Wide band, Highly Sensitive, UHF PD Sensors for Transformer Drain Valves
- High Dielectric, Rugged, and Reliable design
- Built-in overvoltage (transient) protection
- Shielded to avoid electromagnetic interference
- 100% Leak proof and pressure tested for 10 bar
- Suitable for extreme environment, Outdoor Substation
- Customized according to Transformer Drain Valve design

Highly sensitive and accurate Partial Discharge sensor for measuring ultra high frequency signals emitted by partial discharge activity inside Transformers.

### Product Summary

UHF PD sensing technology has proved to be the best technology in detecting partial discharge activity inside transformer tank and real time monitoring of PD activity. Rugged Monitoring has developed the most advanced UHF PD sensor for Transformers, capable of detecting smallest PD signals.

USENS-D 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 Transformers, and easy installation on the transformer drain valves. The IP65 rated ingress protection allows sensor to be installed at Outdoor installations. Their wide band (200 - 2000 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-D is designed to fit into most of the Transformer Valves and all voltage levels. The sensors can also be customized according to Transformer Valve design and customer technical requirements. The sensors come with built-in overvoltage protection 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
- Power Transformer PD Testing and Monitoring
- Reactor PD Testing and Monitoring
- Distribution Transformer PD Testing and Monitoring

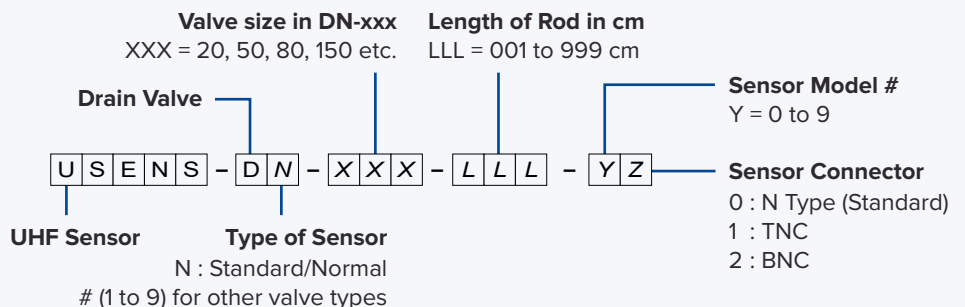
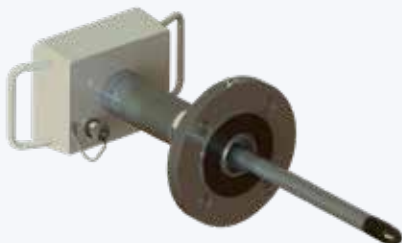
## Benefits

- 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
- IP68 protection and rugged design, suitable for outdoor installations
- Leak proof sensors enables safety and 0% oil leakage
- Customizable according to Transformer Valve design and customer requirements

## TECHNICAL SPECIFICATIONS

|  |  |
|--|--|
| UHF Frequency Response                         | 200 - 3000 MHz                                       |
| Sensitivity                                    | up to -90 dBm  |
| Average Effective Height over 500MHz – 1500MHz | 15 mm+   |
| Min. Effective Height over 500MHz – 1500MHz    | 6 mm+  |
| Withstand Voltage                              | up to 1500 kV  |
| Output   | N-Type connector; Customized option available        |
| Connector Circuit Impedance                    | 50 $\Omega$  |
| Pressure Testing                               | up to 10bar  |
| Vibration Testing                              | Suitable for HV - Transformer applications           |
| Ingress Protection (IP)                        | IP68   |
| 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 Valve design           |
| Weight   | app. 2.0 KG; Customized as per customer requirements |
| Install Position                               | Inside drain valve of Transformer                    |
| 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.