

Oil Drain Valve UHF PD Sensor

UHF PD sensor for transformer oil drain valves for PD measuring or monitoring systems

Transformers are an essential, critical and expensive part of electric power transmission and distribution systems. Failure of a transformer will unavoidably lead to power outage, damage, and costly repair or replacement. A continuous partial discharge (PD) monitoring of transformers detects deterioration of its insulation system at an early stage and allows to take measures before insulation breakdown and failure happens. A partial discharge monitoring system (PDMS) also helps to understand the health of transformers and supports maintenance and asset management.

Within the PDMS hardware infrastructure, the sensors for picking up the electromagnetic PD signals from within the oil-filled transformer housing play a crucial role in detecting PD. Usually, transformers do not have integrated PD sensors, in particular in older installations. The oil drain valve ultra-high frequency (UHF) sensor can be retrofitted into any transformer with a standard oil drain valve, even adaptation to non-standard valves is possible. Using oil drain valve sensors, the transformer tank acts as shielding against external electromagnetic interference, thus the UHF measurement has high sensitivity and a good signal to noise ratio.

Features:

- Decoupling of PD signals from the inside of oil-immersed components in power transformers
- Easy and leak free installation into oil-filled transformers and reactors
- Standard designs for DN 50 and DN 80 drain valves
- Online installation of the sensor, no power-down necessary
- No infringement of critical sections of the transformer
- Suitable for permanent and temporary installation

Technical Data:

Electrical

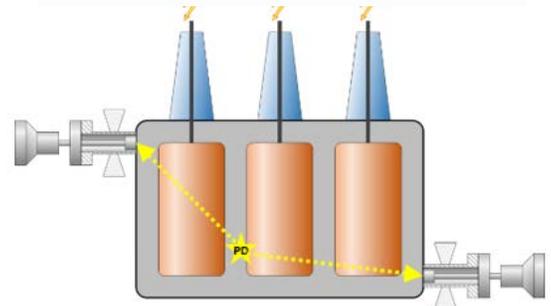
Frequency Range	100 MHz – 2 GHz
Impedance	50 Ω

Mechanical

Maximum Penetration	450 mm
Weight	3 kg (depending on diameter)

Operation

Max. Oil Temperature	120°C (248°F)
Max. Pressure	5 bar (0.5 MPa)



Scope of Supply:

- Transformer oil drain valve sensor
- Fastener set
- Installation instruction

Application Example:

Oil drain valve UHF PD sensors can be used in combination with the PDMS partial discharge monitoring system.

Example: Transformer PDMS using bushing and oil drain valve UHF PD sensors.

