PTSPD31 HFCT Continuous Online Partial Discharge Monitoring

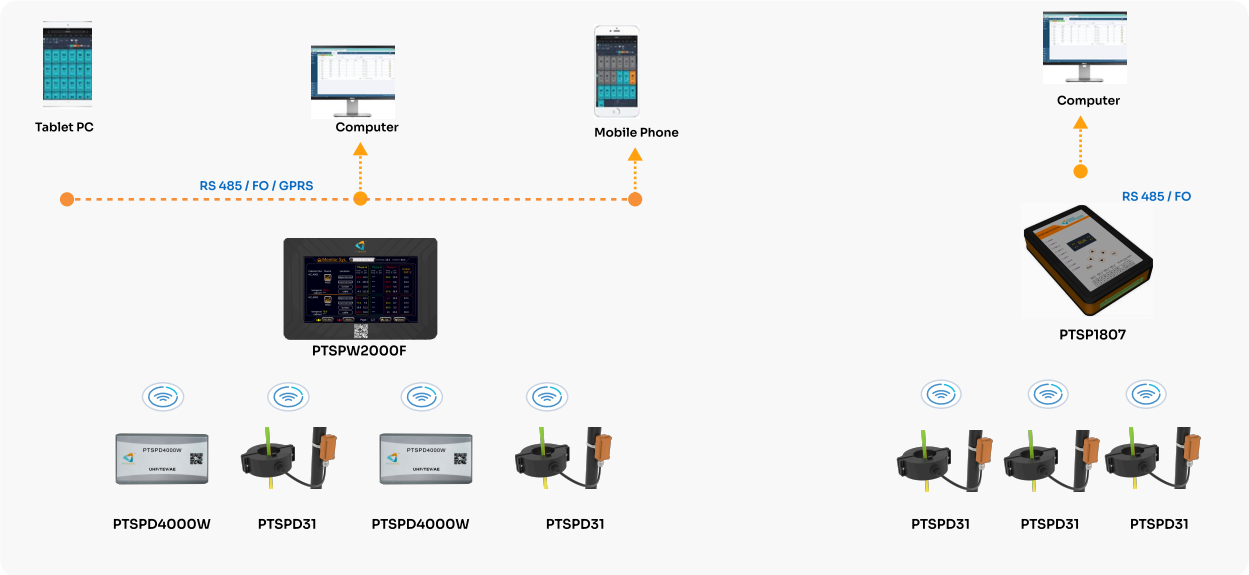
Product Overview

The PTSenR™ PTSPD31 is a wireless HFCT-based Partial Discharge (PD) Monitoring Sensor designed for continuous online insulation assessment of HV and EHV power assets. Utilizing advanced HFCT technology, it detects high-frequency PD signals through grounding conductors, enabling early identification of insulation defects and supporting predictive maintenance.

Designed in accordance with recognized IEC partial discharge testing methodologies, the PTSPD31 provides reliable asset condition monitoring to enhance system safety and reduce unplanned outages. Its wireless architecture enables flexible deployment and real-time data transmission without the need for extensive cabling.

The PTSPD31 is easy to install on existing assets and is ideal for monitoring power cables, cable joints, terminations, transformers, GIS, and switchgear, helping utilities and industries improve asset reliability, operational efficiency, and lifecycle management.

System Architecture



Applications

RMU Switchgear

Power Cable

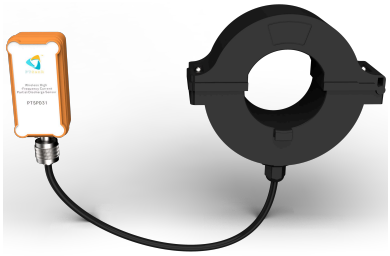
Dry Type Transformer

Characteristics

The PTSenR™ PTSPD31 is a wireless HFCT-based Partial Discharge (PD) Sensor designed for continuous online monitoring of HV and EHV assets. Operating within a frequency range of 3–30 MHz, it detects high-frequency current signals generated by partial discharge activity, enabling early identification of insulation defects.

Featuring ultra-low-power electronics and CT-based energy harvesting technology, the sensor requires no external power supply or battery replacement, providing maintenance-free operation. Its wireless data transmission capability simplifies installation by eliminating extensive cabling while enabling real-time PD data transfer to a monitoring gateway.

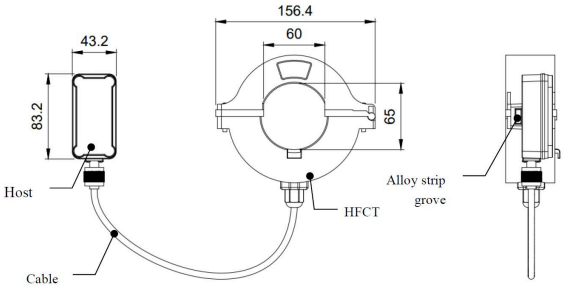
The PTSPD31 offers strong immunity to electromagnetic interference and is suitable for cable terminations, cable joints, switchgear, transformers, GIS, RMUs, and other high-voltage equipment.

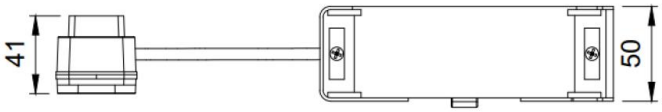


PTSPD31 HFCT - CT

Dimensions

(Unit: mm)





Specifications

Operational Supply	CT Energy Harvesting (≥5A) AC 50/60Hz
Power Consumption	80mA (Operation) <2μA (Standby)
Type of Monitoring	High Frequency Current Transformer (HFCT) 3 MHz to 30 MHz,
Application Voltage	3.3 kV ~ 42 kV
Measuring Range	10pC ~ 5,000pC
Wireless Operating Bandwidth	433.92 MHz
Transmission Power	≤10 dBm
Sampling Cycles	1 - 5 mins
Linearity Error	≤15%
Measuring Method	CT Core-clamping type
Installation	Earthing / Grounding cable

Operating Temperature	-40°C ~ 85°C
Relative Humidity	5% RH~95% RH (non-condensing)
Protection Level	IP 67
Wireless Transmission Distance	≤20meter (metal enclosed) ≤500 meters (open space)
Installation Mode	Alloy Strips
Compliance	EN 62479; EN 61326; EN 220, 300, 301, 400, 489

Ordering Information	
Part Number	Product Description
PTSPD31	PTSenR™ HFCT Continuous Online Partial Discharge Monitoring