

## Product Overview

The PTSenR PTSPD4000W Continuous Online Partial Discharge (PD) have a very unique characteristics, functions, and some precautions and to provide technical and usage reference to the user of wireless five-in-one PD, temperature, and humidity sensor.

In view of the partial discharge phenomenon caused by material aging, poor contact, current overload and other factors, and the hidden dangers of failure that should not be detected, the wireless five-in-one PD temperature and humidity sensor, which can work steadily in the state-of-art operation of the equipment and in high and low temperature environment, has the advantages of small size, light weight, wide range of applications and strong adaptability. Its greatest advantages using ultra-high frequency (UHF), ultrasonic (AE), transient ground wave (TEV) three-in-one monitoring technology temperature and humidity two-in-one technology fusion, wireless five-in-one temperature and humidity sensor is compatible with external power supply and battery power function, solve the long-term power supply problem of sensors, and the use of microelectronics technology, sensor low-power technology, sensor life is greater than 10 years, product safety and reliability, easy to deploy, maintenance-free, powered by industrial batteries with very low static losses and are non-rechargeable for at least 2-3 years of service.

## Working Principle

**UHF Method** - Each PD process is accompanied by positive and negative power and a steep current pulse, radiating electromagnetic wave around it. The current pulse during PD inside the switch cabinet can be transmitted by electromagnetic waves with an internal excitation frequency of up to 500MHz to 1500MHz.

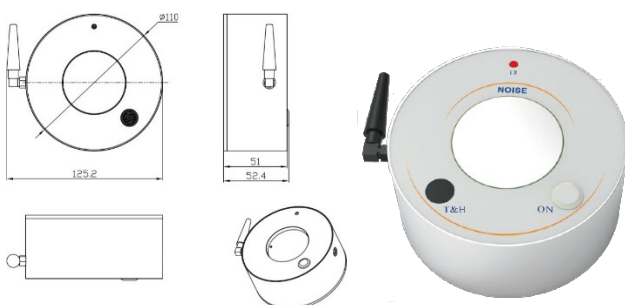
**Ultrasonic Method** - The spectrum of sound waves generated by local discharges is wide and can range from tens of Hz to several MHz, where the frequency is less than 20kHz.

**TEV Method** - Transient ground power porter refers to the frequency of excitation in the ground housing and ground wire of electrical equipment due to local discharge Electromagnetic wave signal sequence between 3-100MHz.

## Advantages

- Fast and Easy to Deploy (No Wiring)
- No external power
- High anti-jamming capability
- High Dimensional Sensitivity & Accurate
- 5 in 1: - Ultra High Frequency (UHF), Transient Ground Waves (TEV), Ultrasonic (AE), Ambient Temperature & Humidity

## Dimensions



## Installation



## The System Architecture



## Specification

Operation Supply	3.7V Lithium Battery / 24 VDC
Power Consumption	120mW
Type of Monitoring	Ultra-High Frequency (UHF) 500MHz to 1500MHz, Transient Ground Waves (TEV) 3MHz to 100MHz, Ultrasonic (AE) 20k to 200kHz, Ambient Temperature (T) & Humidity (RH)
Operational Voltage	3.3kV ~ 40.5kV
Wireless Operating Bandwidth	433MHz, 2.4G (LORA)
Transmission Power	≤10dBm
Sampling Cycles	3Sec (Can be set)
Wireless Transmission Distance	≥300meter (open space)
Reception Sensitivity	5dBm
Security	SM1/SM7 Hard encrypted chips
Battery Service Life	2~3 years
Operating Temperature	-40°C ~ 85°C
Humidity	10~95%RH (non-condensing)
Protection level (IP)	IP54
Installation Mode	Magnetic suction, Nut type
Certification	CE – EN 61000-6-2:2005+AC, EN 61000-6-2014/B5/EU LOW VOLTAGE DIRECTIVE; 2014/30/EU ELECTROMAGNETIC COMPATIBILITY DIRECTIVE
	4:2007+A1:2011, EN 62366-1:2014+A11:2017

## Ordering Information

Part Number	Product Description
PTSPD4000W	PTSenR Continuous Online Partial Discharge Monitoring Sensor