



PDGuard-T4000®

Online PD Monitoring System for Transformers

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Transformers are critical to electrical power systems. Their reliability and availability is the key to profitable power generation and transmission and continuous supervision is essential to evaluate transformer performance and safe operating conditions.

PDGuard-T4000 at a glance

- PDGuard-T4000 is an on-line system that continuously monitors the presence of partial discharge (PD) activity in the transformer main tank.
- It will alert personnel of fault conditions at an early stage and provide vital health information on the transformer.

Application

- Medium and large sized transformers
- Distribution, transmission and industrial transformers

Knowing the dielectric condition of insulation is vital

Dielectric flashover of insulation in bushings and inside transformers is one of the most frequent causes of failure in power transformers. Bushings and windings often fail due to the aging of their insulation over many years of service. Aging insulation progressively degrades to the point that it can no longer withstand electrical stress. This can cause bushings to explode, transformer destruction and long outages for repair.

Early detection prevents failures

The continuous monitoring of the dielectric state of bushing and transformer insulation is therefore essential for managing transformer health. It allows you to obtain continuous information about insulation condition status, to detect negative trends, and to plan corrective action early.

Such online assessments ensure safe, reliable operation during the intended transformer service life.

Main Features

- + Superior Reliability and Accuracy
 - Capturing and analysing PD data continuously
 - Super-diagnosis function
 - Precise data analysing and recording
 - Measuring PD signal in Real-Time / Event / Trend mode
- + Intelligent Remote Access Management
 - Upgrading firmware and Neural Network
 - Fully integrated access control system
- + User-friendly Operation
 - Analysing and displaying PRPD/PRPS simultaneously
- + Enhanced Noise Control
 - Unmatched noise elimination with 36 combinable filter matrix
 - Noise Gating with broadband noise sensor
 - Differentiating PD signal from noise with advanced Neural Network
- + Complete expert support&advice

Our dedicated team of professional engineers provides you complete guidance and support. This includes onsite consultations to evaluate your monitoring needs; system installation, setup and training; as well as data evaluation support.



UHF Sensor



Data Acquisition Unit (DAU)



Master Analysis Unit (MAU)

Your Benefits

- + Turn key condition monitoring solution to prevent costly failures and extend asset life of transformer
- + Accurate and early fault detection ensures reliable operation and reduces supply outages
- + Creates highly accurate reports on asset condition hence reduces maintenance cost
- + Monitors multiple transformers simultaneously resulting in higher return on investment
- + Easy installation , minimise downtime

Accurate
Stability
Advanced

Dedicated support for your monitoring needs

Why INNOVIT monitoring solutions are different?

PDGuard-T4000 is not only a set of excellent system components . Our knowledge experts are working for you to support you in all stages of your monitoring project .

In simple words : We provide you with peace of mind while matching the actual needs of your HV equipment over its operational lifetime .

High-quality support at every stage of your project

We start the implementation of your monitoring system by understanding your needs and challenges . With this input , the system can be designed according to your needs . Our team of specialists then installs the system for you on-site . During the commissioning of the system , its performance and measurement sensitivity are verified . You are then trained on how to use the system and take maximum advantage of its features . The measured data is stored , processed and visualised by the monitoring software . Our high-voltage experts are available to help you interpret and analyse the data . We can also provide you regular asset condition reports and recommendations for further action .

Monitoring project knowledge and expertise you can rely on

- Evaluation of monitoring requirements
- Project-specific monitoring system design
- Integration of monitoring system into existing infrastructure
- Installation, commissioning and calibration of the monitoring system
- Monitoring system and data evaluation training
- Dielectric failure analysis and follow-up based on monitoring data
- Professional expert assistance



Services

Turn key condition monitoring solution to Customised to customers' unique requirements

Our technical support provides 24/7 response



Knowledge

Customer training in system operation and data analysis



Availability

Worldwide customer support, system upgrades & HW/SW maintenance

Technical Specifications

UHF Sensor		
Mounting	Internal or external	
Sensitivity	below 5pC	
Frenquency Range	500-2000 MHz	
Impedance & Connector	50Ω & N-Type	
Size	120×80×50(W×D×H)mm or Special design for requirements	

Data Acquisition Unit (DAU)		
Full Detection Bandwidth	500MHz-2000MHz	
Supply Voltage	AC 90-240 / 50-60Hz	
Input Channel	8 Channel / Unit or 4 Channel / Unit	
Communication	Interface	10/100/1000Base-T Ethernet / Optic Fiber
	Operation System	Real-Time OS
Processor	Control Interface	RS232
Analog Module	Filter Matrix	LPF(6) & HPF(6) 36 Combination
	Channel Isolation	Upper 80 dB
	Dynamic Range	-80 To -15 dBm
EMC & Vibration Compliance	IEC61000-4, IEC68-2	
Environmental	Ambient Temp	-30 ~ +60℃
	Humidity	95% Non-condensing

Master Analysis Unit (MAU)		
Hardware	Sever	Windows OS or better
	Enclosure	800×900×2350(W×D×H),mm
	UPS	Power AC 100-240V/50-60Hz
		Efficiency MAX 94%
PDMS Software	Main Software	Measuring Mode Real-Time, Event, Trend (Simultaneous & Continuous)
		Real-Time Data (PRPD / PRPS / 2D / 3D)
		Display Event Data (PRPD / PRPS / 2D /3 D)
		Trend Data Time Chart (Daily, Weekly, Monthly)
	Expert Analysis	Automatic PD Detection of Fault and Classification
		Advanced Artificial Neural Network(ANN) adapted
	Client Software	Remote Control PDM System in Site (Administrator)
	Remote Software	Remote Monitoring&Diagnosis (Operator)

About Us

INNOVIT is a medium-sized provider of solutions for the energy distribution and supply. Our main competences are the development and technique of current limiting and smart-grid online monitoring systems.

On the company site of Hefei, with a subsidiary in Xi'an, we produce our products in China, we test, research and develop tailor solutions for our customers, the world class performance products have been applied for the most different cases of application in the areas of power generation and power distribution. Apart from that, we offer within our portfolio a range of special products as well as retrofit solutions for almost every case of application in the field of power distribution.

In the course of the years, our company became an innovation leader for current limiters and PD online monitoring system. Today, we are proud to put complex development projects into practice for notable global players within the electrical industry. We market our products worldwide.

Our company stands for innovation, competence, quality and sustainability.

We are your strong and reliable partner for a safe power supply.

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