



PDGuard-G5000®

Online PD Monitoring System for GIS

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GIS (Gas Insulated Switchgear) degradation might lead to complete GIS breakdowns. PDGuard-G5000 detects and alerts various defects inside of GIS by analyzing UHF signals generated by partial discharge . It's easy to deploy for permanent or shorter term monitoring and highly cost-effective .

PDGuard-G5000 at a glance

- PDGuard-G5000 is a system that monitors and diagnoses any problems in GIS online by detecting partial-discharge signals stemming from insulation defects in the Gas Insulating Switchgear (GIS) with Ultra-High Frequency (UHF).
- It analyses and categories PD signal continuously and alerts the condition of GIS to users via email and SMS.
- Helps utility maintenance teams make accurate decisions about asset life management based on comparable and reliable data.

Applications

- Power utilities
- Power plants
- Large industrial consumers

Why partial discharge monitoring?

Partial discharge (PD) phenomena are a consequence of local electrical stress concentration in electrical insulation.

PD activity can lead to failure and serious consequent damage as well as to faults in critical elements of the power network.

Therefore it is mandatory to identify the presence of PD activities and to monitor PD tendencies.

PD is a widely-accepted measuring parameter for insulation diagnosis. PD measurements are specified for type, routine and on-site tests for most HV assets.

The large variety of PD signals makes PD measurement and detection a challenging task. INNOVIT monitoring systems employ advanced UHF and noise suppression techniques for reliable PD source recognition..

Early detection prevents failures

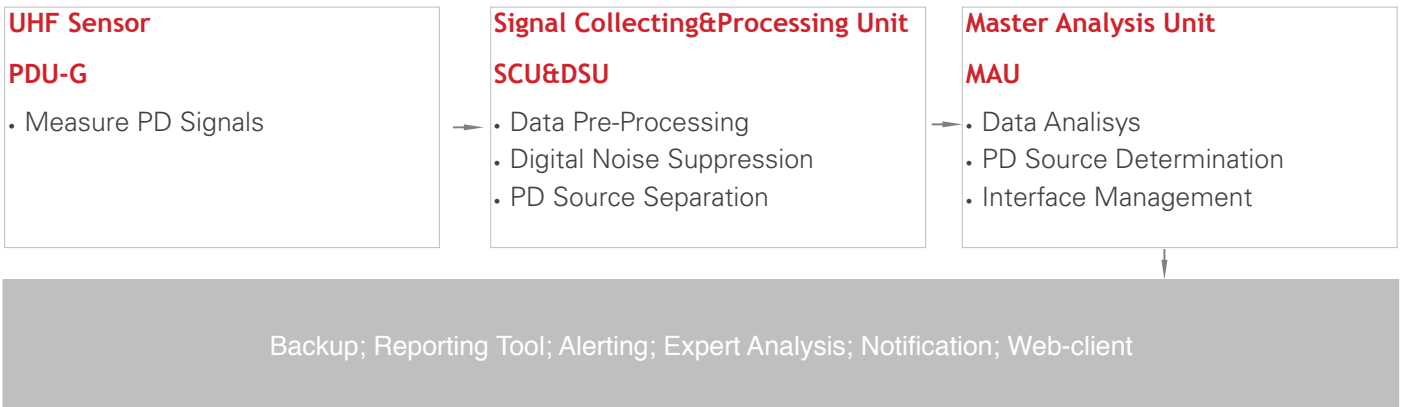
The continuous monitoring of the dielectric state of GIS insulation is therefore essential for managing GIS health. It allows you to obtain continuous information about insulation condition status, to detect negative trends, and to plan corrective action early .

Such online assessments ensure safe , reliable operation during the intended GIS 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
 - Comply with smart substation standard IEC 61850
- + 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.



Your Benefits

- + Turn key condition monitoring solution to prevent expensive failures by detecting Partial Discharge activity before it cause damage
- + Extend asset life cycles and maintain peak performance through improved understanding of GIS condition
- + Creates highly accurate reports on asset condition hence reduces maintenance cost
- + Monitors multiple GIS simultaneously resulting in higher return on investment
- + Easy installation, minimise downtime



Dedicated support for your monitoring needs

Why INNOVIT monitoring solutions are different?

PDGuard-G5000 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 MV 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 visualized by the monitoring software . Our medium-voltage experts are available to help you interpret and analyze 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



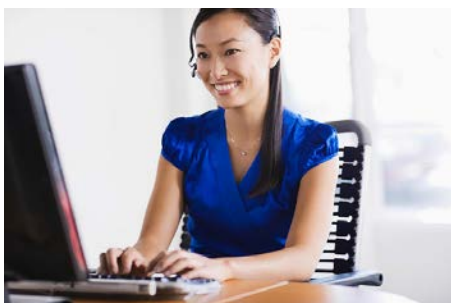
Knowledge

Customer training in system operation and data analysis



Availability

Worldwide customer support, system upgrades & HW/SW maintenance



Services

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

Our technical support provides 24/7 response

Technical Specifications

UHF Sensor

Mounting	Internal or external
Sensitivity	-80dBm
Frequency Range	300 -1500 MHz
Impedance & Connector	50Ω & N-Type
Size	120×80×50(W×D×H)mm or could be customized

Signal Collecting&Processing Unit (SCU&DSU)

Full Detection Bandwidth	300MHz-1500MHz	
Supply Voltage	AC 220-240 / 50-60Hz	
Input Channel	16, 8, 4 Channel / Unit	
Communication	Interface	10/100/1000Base-T Ethernet / Optic Fiber
	Operation System	Linux
Analog Module	Dynamic Range	-80 To -15 dBm
EMC & Vibration Compliance		IEC61000-4, IEC68-2
Environmental	Ambient Temp	-30 ~ +60°C
	Humidity	95% Non-condensing

Master Analysis Unit (MAU)

Hardware	Sever	Windows OS or better	
	Enclosure	800×900×2350(W×D×H),mm	
PDMS Software	Measuring Mode	Real-Time, Event, Trend (Simultaneous & Continuous)	
	Main Software		Real-Time Data (PRPD / PRPS / 2D / 3D)
		Display	Event Data (PRPD / PRPS / 2D / 3D)
			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.

www.innovit.com.cn
sales@innovit.cn

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