PRODUCTS

Key Features

PDMS with true UHF bandwidth

Superior accuracy and noise gating features based on the state–of-the-art UHF technology. Conventional PDMS systems may convert PD signals in UHF band to RF band because their systems do not have performance enough to analyze PD signals in UHF band directly. PDMS systems of APM Technologies include high performance data acquisition units that are enabled to analyze PD signals in UHF band without down converting.

IEC 61850 certified

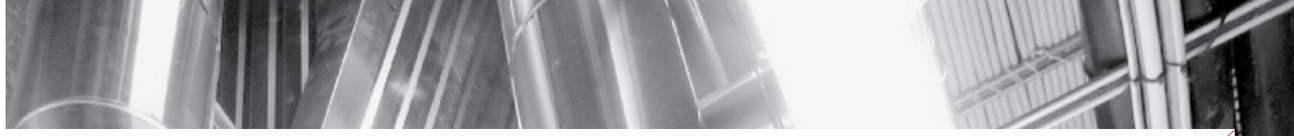
Supports the latest Substation Automation System including remote PD monitoring using IEC 61850 protocol.

Unparalleled multi-step noise filtering method

Step 1) Programmable hardware band pass filtering
Step 2) Eliminating external noises by comparing signals from PD Sensors with Noise Sensor
Step 3) Distinguishing various types of Noise signals including Mobile Network, WIFI by using Neural Network AI engine

AI analysis

Signals measured from each PD Sensor are analyzed in real time based on the database by AI, and reported instantly with its cause in case they are PD signals. The AI database includes various types of defect including Protrusion Electrode, Floating Electrode, Defective Insulator, Free moving particle and Noises.



Enhanced HMI

- Provides PD analyzing features using AI, Trend features which shows PD changes over time, and integrated features such as real time signal analysis
- Provides independent conditions setting according to each sensor's installation environment
- Provides user account and control management and regular automatic report generating features

Expandability

In case more bays are added to an existing GIS where APM's PDMS has been installed, the PDMS can be expanded to support the additional bays by adding Local Units and PD Sensors with the minimum cost.

Self-Diagnosis

- Monitors Local Units in HMI providing alarms and automatic recovery feature
- Provides PRPD, PRPS and other graphic charts for PD experts
- Stores and data for long period

Why UHF Method?

- UHF PD detection method can be used for a wide range of high voltage equipment including GIS, GIB, AIB, Transformer, etc.
- UHF PD detection method can detect PDs earlier than other methods.
- UHF PD detection method can diagnose causes of defect in real time more accurately.

APM 3000

On-line PD Monitoring System for Power Transformer

APM 3000 is an Online Partial Discharge Monitoring System (OPDM) for power transformers base on UHF partial discharge technologies. APM 3000 monitors and diagnoses various defects timely and accurately to support improved Condition Based Management (CBM) and to prevent serious breakdown of power transformers.

- Suitable for on-line partial discharge monitoring of extra-high voltage Power Transformer
- Distinguishes PD signals from similar noise signals by analyzing the characteristic of individual PD pulse signal in UHF bandwidth at time domain and frequency domain
- Able to locate defects causing PD inside transformer by comparing UHF signals from numbers of sensors installed in the transformer

Diagnosis Unit

Item	Specification
Power	90 to 240 VAC, 50/60Hz
Input	More than 250 channels
Analysis	Individual discharge signal is analyzed and its characteristics is mapped in 2-dimensional time-frequency space to make one group of discharge signals of one cause distinguished from others.
Diagnosis	Built in neural network engine classifies PD into 5 types: Protrusion Electrode, Floating Electrode, Defective Insulator, Free Moving Particle and Noise
Alarming	HMI, Email, IEC61850
Graphic Tools	T-MF, PRPD, PRPS, Trend, and others
Channel Configuration	Three threshold levels for alarming can be configured for each channel individually
IEC61850	Enabled
Remote Monitoring	Enabled
Communication	1000Base-T Ethernet
Storage	Database
Self Test	Enabled

Local Unit

Item	Specification
Power	90 to 240 VAC, 50/60Hz 120 to 370 VDC
Input	8 UHF Channels, N-Type Connector
Sensitivity	Can detect discharge less than 5 pC within monitoring area of Transformer
Input Bandwidth	Wide Bandwidth 100 ~ 2000MHz
Dynamic Input Range	- 65 to 0 dBm
Band Pass Filter	Combination of 4 LPF and 4 HPF
Data Acquisition	Individual Discharge Signal Shape in Time Domain and Frequency Domain
Noise Gating	Enabled (External Noise Sensor)
Communication	Fiber Optic (1000Base-X)
Notification	4 x LED Status Indicators
Operating Temperature	-25°C to 55°C
Operating Humidity	100%
Enclosure Rating	IP54
Dimensions	450 x 703 x 300 (W x H x D) mm

System Configuration