

PD700X

Modular High-performance Partial Discharge Online Monitoring System

- Up to **16 HF/UHF/AE channels**
- Up to **200 MS/s** per channel
- Capture rate **≥30,000 pulses per second**
- Configurable filtering for dependable PD detection
- Real time **PRPD, PRPS, waveform** and **PD location** analysis
- **Digital Twin** modelling for superior GIS and transformer PD diagnostics



PD700X is a multi-channel online partial discharge monitoring system for permanent installation. Capable of monitoring GIS, transformers and switchgear with channels tailored for their sensors and feature filled analysis software. The **PD700X** offers cost-efficient, dependable monitoring for high voltage power assets.

Scalable

Capable of continuously monitoring up to **16 channels** per local acquisition unit (LAU) with support for **HF, UHF or AE** sensors. **PD700X** systems can protect HV assets of any size.



Fast

SDMT's fastest and most capable online PD monitoring system. Capable of capturing over **100 times the pulse rate** at up to **twice the sampling rate** per LAU compared with previous generation **PD700** systems.

Sensitive

A highly functional modular design allows tailoring each channel pair during manufacture for their intended sensor type. **Ideal sensitivities** are achieved for HF, UHF and AE applications.

Vigilant

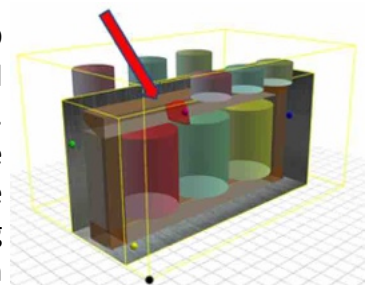
With a pulse capture rate of **>30k pulses per second** per acquisition unit, PD events are acquired no matter how many or small. Never miss vital PD data.

Professional

SDMT's system operating software is provided with the unit. **SD400MP** is designed for experts. Quickly identify and classify PD using real time **PRPD, PRPS, waveform** and **location** analysis across an entire substation.

Precise

Analyse and locate PD using an advanced **digital twin** model. Customisable to the exact geometry of the equipment being monitored for high precision.



PD700X PD Monitoring System Feature Table

Parameter	PD700X	
Supported Assets	GIS, Transformers, Switchgear	
Detection Technologies	Ultra-High Frequency (UHF), High Frequency (HF), Acoustic Emission (AE)	
Number of Channels	Customisable up to 16 channels per acquisition unit	
Pulse Capture Rate	≥30,000 pulses per acquisition unit per second 800 ns UHF pulse envelope capture	
Sampling Rate	100 MS/s 200 MS/s (when 2 channels are combined)	
Detection Bands	UHF	0.3 GHz ~ 1.5 GHz
	HF	0.1 MHz ~ 30 MHz
	AE	20 kHz ~ 200 kHz
Dynamic Range	≥80 dB UHF and HF ≥90 dB AE	
Built-in Filters	UHF	All-pass, High-pass, Low-pass and Cellular Frequency Notch
	HF	Digital FIR, All-pass, High-pass, Low-pass, Notch
	AE	Programmable Band-pass
Analysis Patterns	Real-time PRPS pattern, Cumulative PRPD pattern, Precision localization map	
Synchronisation Modes	Internal Synchronization, Power-line Synchronization, External Synchronization	
Localisation Method	TDOA-based auto-location with ≤30 cm accuracy	
Frequency-Domain Filtering	Configurable filter types and frequency bands	
Time-Domain Noise Reduction	Automatic noise pulse rejection	
Waveform Recording	Records raw waveforms of every pulse, with selectable multi-channel waveform comparison	
Connectivity	Gigabit Ethernet: RJ45 1000BASE-T and SC Single-mode Single-fiber USB 2.0 Type-A Wi-Fi 4 up to 150 Mbps (optional)	