

PD71X

High-performance Partial Discharge Locator



Overview

PD71X is a twelve-channel **portable** multifunction tester used for real-time **partial discharge (PD)** detection and diagnosis on **GIS, transformers, cables** and **switchgear**.

The **PD71X** supports up to **12 channels** total with a combination of **UHF, HF** and **ultrasonic AE** detection technologies. Its flexible modular design means the channels can be customized at time of order to optimally meet the requirements of different measurement scenarios.

PD71X automatically identifies, locates and comprehensively diagnoses PD defects. Use with a portable battery pack for a powerful portable PD detector for **spot checks**. Connect to the local AC mains to turn it into a high-performance **temporary online monitoring system**.

- Data processing capability of up to **30,000 pulses per second**.
- Sampling rate of up to **200 MHz**, enabling high-precision localization of discharge sources.
- **Continuous signal acquisition** for capturing and accumulating transient duration pulse signals.
- Expert diagnostic algorithms with a discharge type recognition accuracy of **over 95%**.
- **Pulse clustering** and **time-frequency clustering** analysis functions to separate interference signals from partial discharge signals.
- Supports acoustic-acoustic, electric-electric, and acoustic-electric joint localization.
- Advanced localization functions such as **3D GIS localization** and **transformer spatial localization**.
- Built-in **high-pass, low-pass**, and **band-stop** filters for strong anti-interference capabilities.

Technical Parameters

Parameter	PD71X	
Scope of Application	GIS, cables, transformers, switchgear and other high-voltage equipment	
Detection Technology	UHF, HF and Ultrasonic AE	
Number of Channels	Up to 12 channels customisable in groups of two for HF, UHF and AE	
Sample Rate	UHF	200 MHz, 100 MHz when channel pairs not combined
	HF	100 MHz
	AE	≥800 kHz
Detection Bands	UHF	300 MHz ~ 1 500 MHz
	HF	0.1 MHz ~ 30 MHz
	AE	10 kHz ~ 200 kHz
Dynamic Range	UHF	-80 dBm ~ -5 dBm
	HF	0.1 mV ~ 5 000 mV
	AE	0.01 mV ~ 2 000 mV
Sensitivity	UHF	≤3 V/m
	HF	SNR ≥2:1 when apparent charge is 50 pC.
	AE	Peak ≥80 dB (V/(m/s)) Average ≥75 dB (V/(m/s))
Linearity	HF	Error ≤±10%
	AE	Error ≤±20%
Effective Height	UHF	≥12 mm
Transfer Impedance	HF	≥ 10 mV/mA
Pulse Rate Capability	30 000 pulses/sec	
Synchronization Support	Intelligent Internal, Power, Wireless, PT, CT	
External Synchronization	20 Hz ~ 300 Hz with accuracy 0.01 Hz	
Connector Types	N-F for UHF, BNC-F for HF/AE	
Positioning Accuracy	≤30 cm	
PD Diagnosis Accuracy	≥95%	
Connectivity	RJ45, LC fiber and Wi-Fi	
Device Rated Power	30 W	
Input Power	AC Mains:	90 V ~ 240 V rms at 50/60 Hz
	External:	USB-PD over USB-C from USB Power Bank
Dimensions	417 mm × 221 mm × 334 mm	
Weight	9.1 kg	
Operating Temperature	-20 °C ~ +40 °C	
Operating Humidity	≤95% non-condensing	