



About us

AZARBAIJAN TECHNOLOGIES is an Iranian start-up company that works passionately on ideas for making electric power systems safe and reliable with focus on partial discharge measurement and monitoring.

We produce high-tech systems for the monitoring of power distribution devices and engineering

services for high-voltage diagnostic applications. Our solutions are designed to meet our industry's current and future challenges. We always go the extra mile to empower our customers: we react to their needs, provide extraordinary local support, and share our expertise.

Within our team, we research and develop innovative technologies for fields in partial discharge measuring systems and methods to prevent insulation failures in power grid assets. Also we have more valuable experience in offering advanced testing and diagnostic services for different industries.

In 2019, Azerbaijan technologies introduced first Iranian partial discharge measurement and monitoring systems for using in MV and HV cables with precision as well as pioneering global companies.

Now, we have more than 5 products in this field that provide wide solutions for different needs.



www.azertech.ir
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PDCAM catalog



**AZARBAIJAN
TECHNOLOGIES**



PDCAM is a handheld Online Partial Discharge Monitoring System for use on HV and MV cables, terminations, joints, switchgears and rotating machines. Its weight is light but can handle heavy duties. It offers real time PD acquisition on using different partial discharge sensors.

PDCAM is especially benefited of a wireless PD detection technology that significantly enhances its performance during online measurements. Using this wireless sensor, the PD sensitivity increases in the field and small PD activities can be detected and measured and allows PD testing to be performed at a distance, without the need for a direct connection to what is being tested. This means that measurements can be taken without having to switch the system off. And with a greater degree of safety for operators too. It's faster, more accurate and more effective than ever before!

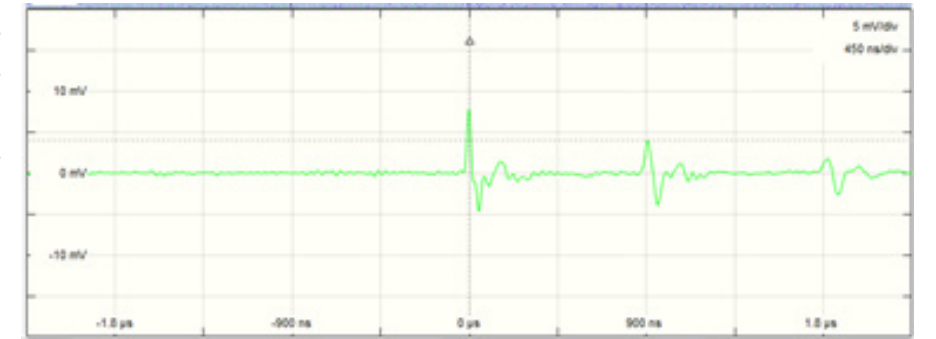
The Benefits

- Fully Online PD detection- The specially designed wireless PD sensor, make PDCAM to be operated fully online and no need for any outage of system.
- Wireless sensor technology- Using PDCAM wireless technology, Partial Discharge measurement and localization will be much simpler and faster than before, because the cross-coupling of the adjacent cables and other devices reduced dramatically and the external noise and disturbances effect less than the other PD sensor types.
- Galvanic Isolation- PDCAM has Wi-Fi communication with laptop or windows based tablets. So there is a galvanic isolation between the operator and the high voltage area and the measurement can be performed in more safe environment. So be SAFE!
- Up to 3 PD inputs- In addition to Wireless sensor, PDCAM has 3 other PD inputs that can be connected to three-phase HV and MV assets simultaneously and the measurement can be done faster. So, any harmful PD source can be detected, monitored and localized in real time.
- Phase locking - The PDCAM has also a wireless sensor for detecting system frequency automatically and produce PRPD patterns with most accuracy. It also has one voltage input to get reference voltage of grid or test circuit during offline testing and online monitoring of Generators and Electro-motors.



- Fully portable- The PDCAM weighs no more than 1.6kg, and is housed in a portable case, so it can be quickly transported to and installed on site in different situations.
- Real-Time- PDCAM provides real-time measurement and analysis of partial discharge with fully controllable settings and configurations.
- Complete User Control- PDCAM algorithm for PD detection make the partial discharge monitoring very simple and fast. In addition, the unit can be set-up and configured by the user, meaning no Azerbaijan Technologies engineer needs to be support.
- Easy connection- Using wide range of communication protocols like Wi-Fi and USB cable, the PDCAM can be easily connected to the laptops and tablets to perform partial discharge measurement.
- Advanced PD analysis tools- using features in the PDCAM you can analyze the monitoring results with the higher precision, and get the more reliable information about the condition of monitored assets. It has Fully digital band-pass filter with adjustable bandwidth and center frequency up to 50MHz.
- PD localization on cables- The PDCAM has to original method for PD localization in the cable systems: 1- Time Domain Reflectometry (TDR) method is an option to find PD location using wave shape analysis of PD pulses precisely. This method is especially useful for partial discharge source that are happening inside the cable insulation or joints.

2- Amplitude method is other valuable option to find the location of PD. This method has advantage of less effect of cross-coupling in the wireless sensor in comparison of HFCT and make localization more accurate and faster. This method is useful for localization the cable terminations and connected MV and HV elements to cables.



- Various Diagrams- The PDCAM offers Phase Resolved Partial Discharge (PRPD), Pulse shape and FFT histograms, applied voltage and frequency, Qiec, Qmax and Qavg and all of the diagram are fully scalable.
- Offline PD measurement- The PDCAM is also compatible with IEC 60270 Standard and can be connected to coupling capacitors to perform offline partial discharge measurement on the HV and MV cables, rotating machines and other high voltage assets in the field and HV Lab.

PDCAM monitoring system

Input PD channels	
Number of channels	3
Spike Protection	yes
PD Monitoring	
Sensor types	Wireless sensor
	ILMON-5 (HFCT)
	Coupling Capacitor
	AA for acoustic
PD range	1 pC to 1,000,000 pC
Diagram type	PRPD – PD pattern, wave shape analysis, TDR, FFT and FFT histogram, PD pulse shape after filter,
Data Acquisition and Analysis	
Signal sampling	105M Samples/sec, 14 bit
Frequency range	55kHz –50MHz

Band-width	3 MHz, 1MHz, 500 kHz, 300 kHz, 100 kHz, 30 kHz and 9 kHz
interface	USB-3/2, Wi-Fi
Processing	Real-time, Configurable, Band-pass filter and Innovative pulse detection algorithm
Localization by Time Domain Reflectometry (TDR) method	Yes
Operating Environment	
Temperature	0°C to 50°C
Humidity	20 to 90% RH non-condensing
Power	Battery operated 8 V-7200 mA
Rated Voltage	210 to 250 VAC
Frequency	47 to 63Hz