PARTIAL DISCHARGE ANALYZER

DAC-PD-9A

More and more diagnostic techniques for the predictive maintenance of large power equipment are required to contribute to its sustainable and economic operation. To meet the expectations for the electrical equipment diagnoses, Soken Electric Co., Ltd. has developed Digital Partial Discharge Analyzer DAC-PD-9A which incorporates the very latest digital technology. Partial Discharge Analysis can predict the time of critical condition on the equipment, which is essential to prevent the sudden failures of electrical equipment and to maintain its life as long as possible.
DAC-PD-9A provides ultra-wide-band measurement (up to 40MHz) and is capable of various measurements specified in IEC standards. The center and bandwidth of the frequency for measurement can be freely selected, which enables to select the appropriate frequency band for every specimen. All data will be sampled in time series, and statistical measurement can be performed. TFT liquid crystal touch screen enables simple and visual operation, and detailed analysis is possible by using the software provided with the analyzer.

Features

- Digital technology enables analysis of the true partial discharge patterns.
- All parameters such as cumulative frequency of occurrence and net peak are displayed in real time.
- Discharge pulses of positive and negative polarities can be counted simultaneously.
- Free center frequency and frequency bandwidth selection provide the optimum frequency band for each measurement.
- The large-capacity memory enables long-term data storage.
- Simple and visual operation with TFT Liquid crystal touch screen.
- Light weight and compact body (W320xD350xH150mm, 8kg).
- USB interface and LAN for communication.

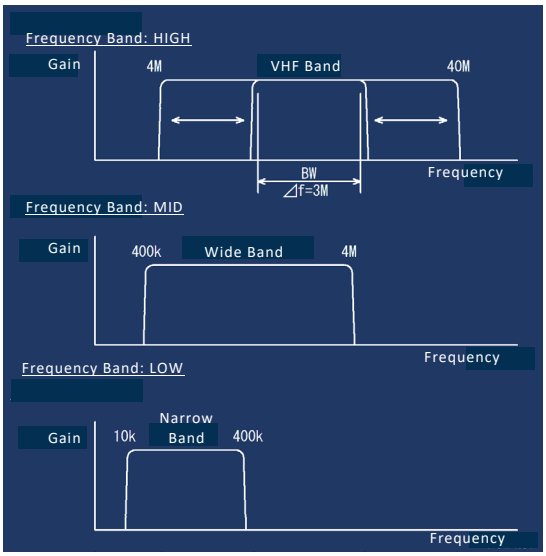
Test specimen

●Transformer ●Generator ●Motor ● Coil ● Insulation Materials
●Circuit Breaker, Switch

PARTIAL DISCHARHGE ANALYZER
DAC-PD-9A

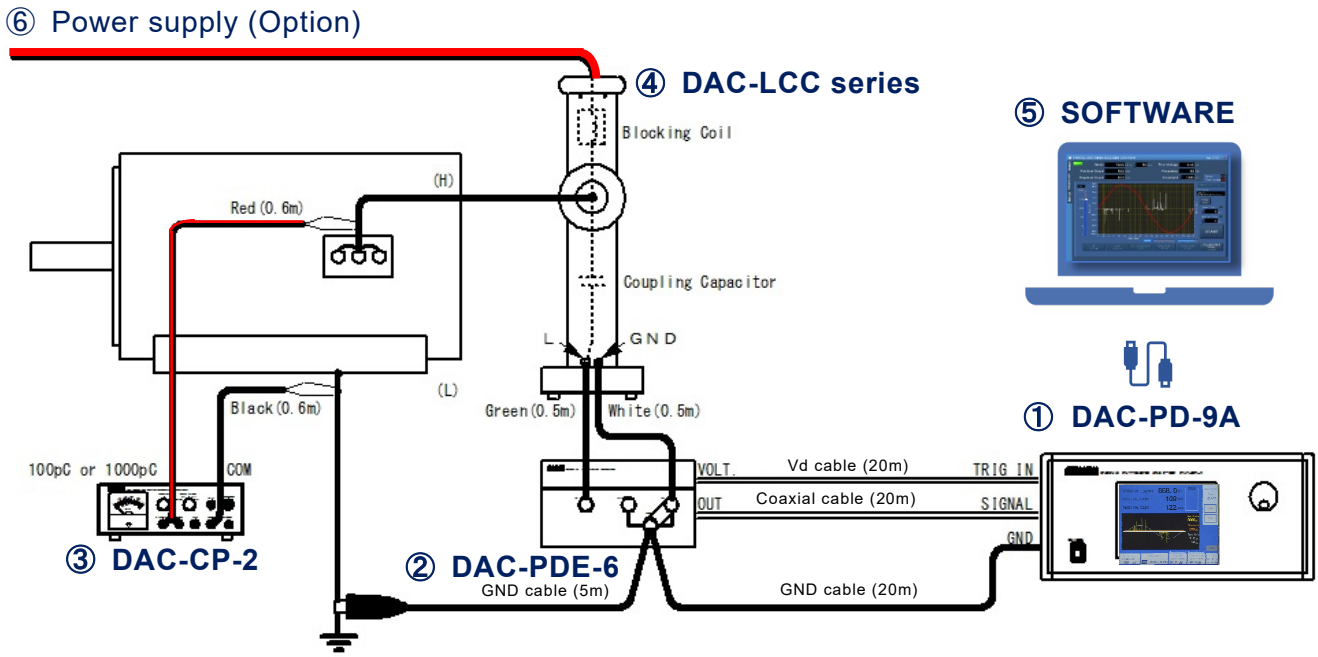
Variable Measuring Frequency Band

The evaluation of partial discharge greatly depends on the frequency bands for measurement. The optimal frequency band must be selected in consideration of the propagation characteristics and electrical structure of the test specimen as well as the noise environment and data reproducibility.



- ●Frequency Band: Low Band : 10kHz - 400kHz
  MID Band : 400kHz - 4MHz
  HIGH Band : 4MHz - 40MHz
- ●Center Frequency : 50kHz - 40MHz
- ●Frequency Band Range
  LOW Band : 50kHz,100kHz,300kHz
  MID Band : 300kHz,500kHz,1MHz,3MHz
  HIGH Band : 300kHz,500kHz,1MHz,3MHz

Product Composition



① Partial Discharge Analyzer (DAC-PD-9A)
② Detector (DAC-PDE-6)
③ Calibrator (DAC-CP-2)
④ Coupling Capacitor DAC-LCC series
15kV/30kV/50kV/100kV
⑤ Software for PD analysis
(PC is not included)

<Other option items>
- PD detection box(DAC-PDB-2)
- High Frequency Clamp CT
- Noise cut transformer
- Test chamber
- System Rack
- Rack Mount bracket

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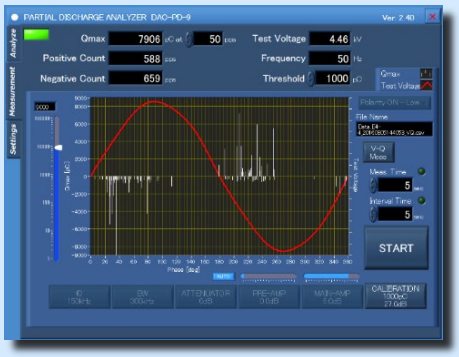
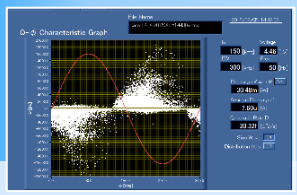
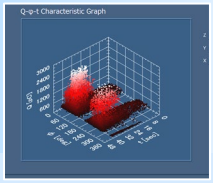
Partial Discharge Analysis Software

- Import data to PC while communicating with DAC-PD-9A in real time.
- The amount of charge for each phase can be measured. Max 18000/sec at 50Hz can be acquired.



In wideband measurement, the polarity of partial discharge waveform is automatically determined and the number of positive and negative occurrences are displayed. You can create 2D and 3D graphs from saved data and use it for discharge analysis.





- V-Q mode
  (Voltage-Discharge Quantity Measurement Mode)

When V-Q mode is selected, max PD charge amount (Qmax/pps) according to rise/fall of the test voltage is automatically acquired to see the voltage/charge amount characteristic.
The measurement data is saved in CSV format.

Accessories

■Calibrator DAC-CP-2

- Output Voltage : 5V, 50V
- Lamp Time : <20nS
- Generating Pulses : 0 - 10000pC
- Repetition Frequency : 50Hz
- Power Source : Battery 7.2V
- Size : W170×H60×D110(mm)
- Weight : approx. 800g

■Detector DAC-PDE -6

- Applicable Frequency Band
  : 10kHz – 400kHz
- Max. Applicable Current
  : Balance Circuit 5A
  : Un-balance Circuit 50mA
- Test Frequency : 50/60Hz/400Hz
- Test Voltage Dividing Capacitor : 2μF
- Size : W180×H100×D120(mm)
- Weight : approx. 2.3kg

■Detection Box DAC-PDB-2

Consists of a detector and a coupling capacitor.
Optimum for field testing.

- Rated Voltage : 12kV
- Max Current : 3A
- Ck : 2nF

■High Frequency Clamp CT

- Measuring Frequency Band
  : 10kHz - 100MHz
- Max Current : 39.3A
- Aperture : 31Φ

■Blocking Coil & Coupling Capacitor DAC-LCC series

	DAC-LCC-15	DAC-LCC-30	DAC-LCC-50	DAC-LCC-100
Rated Voltage	15kV	30kV	50kV	100kV
Rated Current	3A	3A	3A	3A
Capacitance	1000pF	1000pF	600pF	1000pF
Height	512mm	702mm	912mm	109mm

DACLCC-50

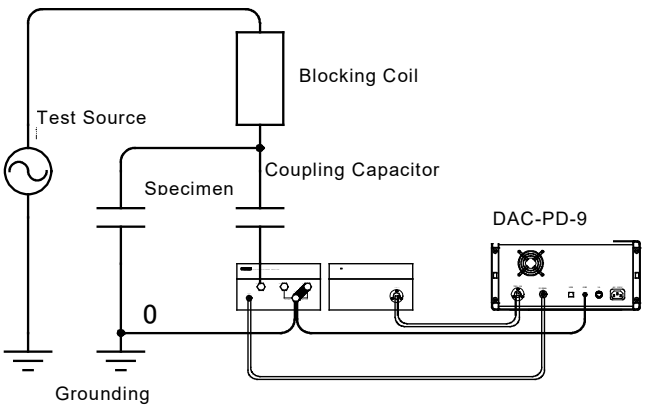
PARTIAL DISCHARHGE ANALYZER
DAC-PD-9A

Specifications

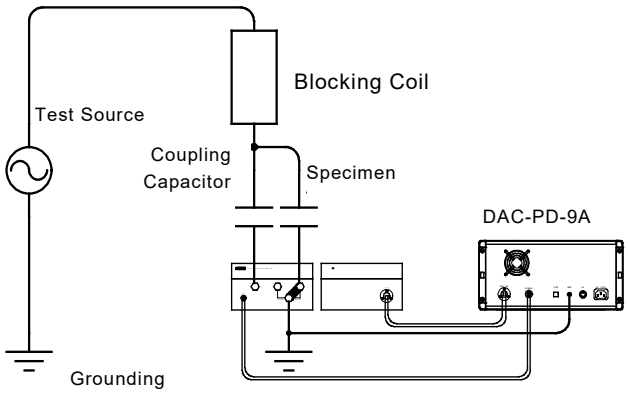
DAC-PD-9 Measurement specifications		
Maximum Partial Discharge	Measuring range	1 – 100000 pC
	Phase resolution	1 degree
	Evaluated Occurrence Frequency	1 – 400 pps
Occurrence Frequency	Measuring Range	0 – 9999 pps
	Polarity	Auto discrimination
Frequency Band Width Low band: 0Hz – 400kHz MID band: 400kHz – 4MHz HIGH band: 4MHz – 40MHz	Center Frequency	50 kHz – 40 MHz
	Low	50kHz, 100kHz, 300kHz
	MID	300kHz, 500kHz, 1MHz, 3MHz
	HIGH	300kHz, 500kHz, 1MHz, 3MHz
Gain		-40dB to 116dB
Input Characteristic	Input Impedance	50 ohm
	Input Voltage Range	0 – 2V p-p
Memory	Max 3000 cycles (Number of cycles of power supply frequency)	
Voltage Detection (Trigger Source)		
Input Characteristics	Input Impedance	2 M ohm
	Input Voltage Range	0 – 20 V rms
	Input Frequency Range	50 – 400Hz, 10Hz steps
Other specifications		
Interface	USB 2.0/1.1, B type connector, LAN	
Size and Weight	W320 x D350 x H150 mm, approx. 8kg	
Input Power	AC 100, 115, 220 or 240V ±10%, 50/60Hz	
Operation condition	Temperature 0 – 40 ℃ / Humidity 20 – 85% (no dew)	
Software		
Operating OS	Windows 10, 11	

Connection Diagrams

●GST (Grounded Specimen Test)



●UST (Un-grounded Specimen Test)



Dimensions and design are subject to be changed.

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