

# SG4008

## Multi-Channel Partial Discharge Measuring System



SG4008 multi-channel digital partial discharge measuring system developed by SAMGOR up to minutes, which have powerful anti-interference capability and up to six channels. It can collect data from single to six channels and show in the windows in the same time.

SG4008 multi-channel digital partial discharge measuring system is developed by summarizing the experience of PD measurement for many years, using the latest technology designed for next-generation high-performance analysis of digital PD measurement instruments, is the substitute of traditional analog PD instrument. The completed feature will make your measurement more flexible and convenient; all kinds of unique anti-interference technology allows you to measure accurately in the strong interference environment; and friendly user interface and high-speed sampling refresh rate, with the analog PD instrument's visual effects; to provide a variety of waveform analysis, recording methods allow you to easily determine discharge properties; all test data automatically recorded and processed, can quickly generate a test report. System comprehensive use computer technology, analog electronics technology, high-speed signal acquisition technology and advanced digital signal processing and graphics display technology, the automatic completion of partial discharge measurement and analysis.

SG4008 Multi-channel digital partial discharge measuring system using WINDOWS operating platforms, are free to choose ellipse, straight line, sine wave shows, two-dimensional, three-dimensional graphical analysis methods and spectral window, Q-V-F three-dimensional characteristics window, can measure, observe and analysis cycle wave test voltage PD impulse by static state. Can operate digital windowing, any phase windowing, single window, dual window optional, elliptical 360 ° rotation, in order to avoid interference on the measurement. Multi-channel measurement and digital differential technology, can composite pulse polarity differential flexibility or balance measurement circuit, suppress interference pulses signal effectively. Advanced spectrum analysis and processing can effectively reduce background interference.

Multiple input channels, can be a boost of six test samples measured PD signal (expandable), can easily analyze the source of PD signal. easy to process band selection, gain change, spectrum analysis, and two-dimensional, three-dimensional graphics display. In addition the system can also print or save the single frame drawing, save continuous-time graphical data for analysis.

SG4008 system is composited with the portable anti-interference notebook computers, host machine, detection impedance, calibrator and signal processing systems software. Digital set various control parameters, small size, light weight, anti-interference ability, easy to use, stable performance, measuring accurate. It is ideal equipment for partial discharge measurement and analysis for the power industry and electrical equipment company, especially suitable for field use.

## User Benefit

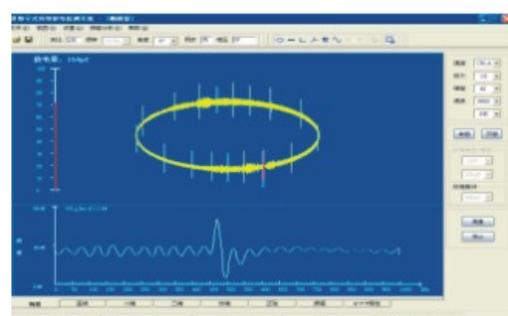
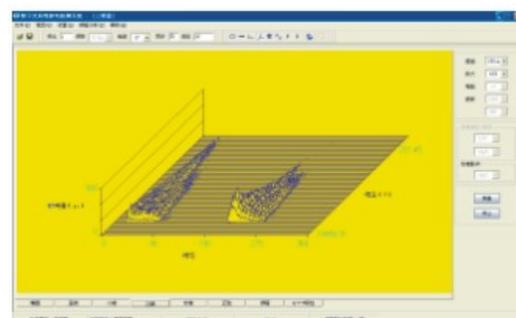
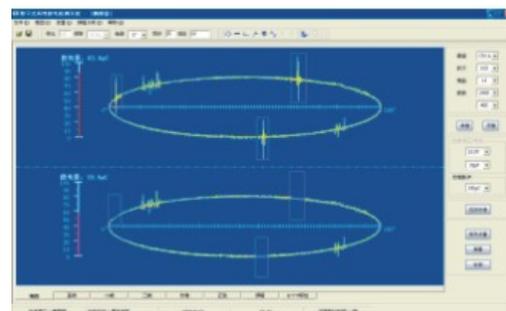
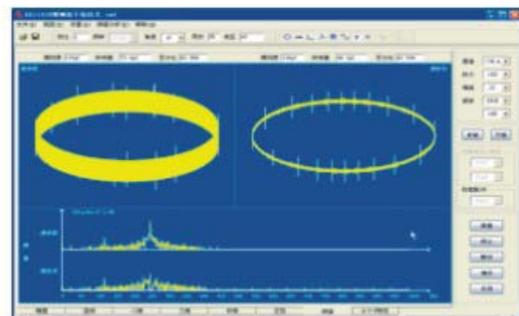
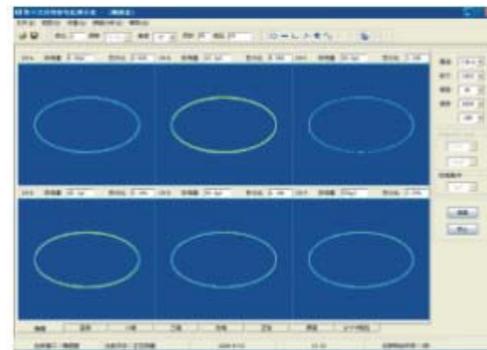
**Easy Operation** Ease of use was the mandate to our engineering and design teams. The SG4008 Detector uses the worldwide standard Windows operating system and an intuitive control and display panel to allow even inexperienced operators to learn quickly with minimal training. All the features you're used to with an analog scope, such as real-time bipolar pulse display, display graticules, analog readout, simple adjustment, etc., are built-in. In addition, advanced features such as higher accuracy, automatic calibration, data analysis, and customized test recording, are standard. Use as much or as little as you like.

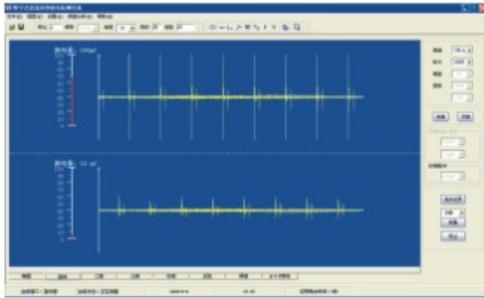
**Automated Testing** The SG4008 Detector can automate your entire PD testing process. Automated calibration simplifies setup. The SG4003 Detector can work with any HV source. However, when interfaced with other suitably equipped control systems for AC sources, control of the entire HV source is provided through the SG4008 Detector and test reports contain complete data on all aspects of the test.

**Open-Architecture Design** The SG4008 Detector has intentionally been designed with an open hardware and software architecture that eliminates obsolescence. Not only is this PD measuring instrument the most advanced instrument available, it will stay the most advanced well into the future, evolving and adapting to incorporate new, emerging technology and to meet changing testing needs. Microsoft ActiveX technology even allows third party developers to write new data recording, processing, and analysis modules for the system.

**Advanced Analysis Capability** The SG4008 Detector possesses the most flexible analysis tools of any multi-channel digital partial discharge measuring system. Pulse capture can be achieved against phase or time. There is full control over gating (vertical and horizontal) of pulses so that the effects of interference can be reduced. Optional software and hardware modules add capability for partial discharge site location, external pulse discrimination, noise suppression, three dimensional plots, and discharge pattern fingerprinting.

Everything you want in digital. Everything you know from analog!





### Training

Is it important for your operators to learn quickly? The SG4008™ Detector imitates the look and feel of an analog detector. If your operators can use a conventional analog detector, they can use the SG4003 Detector with minimal training.

### Readout

How do your operators interpret data? With the SG4008 Detector, they can read directly in PC, look at the analog bar graph, or interpret from the pulse display. All without changing windows or functions.

### Help

You will probably never need it because the SG4008 Detector is so easy to use. But it's there if you need it.

### Interpretation

How easily can you interpret results? The SG4008 Detector provides a color, bipolar pulse display that is easy to read and interpret. Calibration pulses and zero markers are clearly displayed and pulses are easily viewed. Display update is fast (25 times/second), so there is no guesswork.

### Ease of Use

How easy does your setup calibration need to be? The SG4003 Detector allows you to automate your calibration. Just type in the value and the SG4003 Detector does the rest. Manual calibration (as with conventional, analog detectors) can also be performed.

### Flexibility

How flexible does your detector need to be? Windows makes the SG4003 Detector easy to use and makes it easy to access other parts of the SG4003 Detector program. Additional, optional programs are quickly loaded and utilized. Just open a window! No confusing function keys to remember and no moving around through layers of the program.

### Noise Suppression

What gating and noise suppression features do you need? The SG4003 Detector provides complete control over horizontal and vertical gating (windowing). Make use of it when the conditions require you to.

### Applications

- Power Cable
- Distribution and Power Transformers
- MV and HV Switchgear
- Power Circuit Breakers
- Gas Insulated Switchgear
- Bushings
- Shunt Reactors
- Potential Transformers and Current Transformers
- Power Factor Correction Capacitors
- Line Insulator Products
- Lightning Arrestors
- High Voltage Laboratories
- HV Components
- Insulating Materials of All Types

Several standard test records are provided. Data can be inserted into any other Windows application for custom report generation. When used with a AC source and 970 control system, additional data acquisition and control is possible.

### Applicable Standards

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IEC-60060 Part 1 & Part 2

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IEC-60270

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IEC-885-2 and IEC-885-3

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IEEE Std. 4, 1995

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## Technical Specifications

### Amplifier

Gain:	0 dB to 120 dB
Attenuator Accuracy:	1 %
Input Impedance:	1M $\Omega$
System Noise:	< 15 $\mu$ V referred to input on highest gain range

### Filters

High Pass:	-10, 20,30, 50, 80 kHz
Low Pass:	- 100, 200, 300,400, 500 kHz

### PD Measurement

PD Meter Resolution:	12 bits displayed
Phase Resolution:	0.2 %
Linearity Error:	< 1 %

### Voltage Measurement

Uncertainty of Scale Factor:	< 3%
Linearity (10-100% FS):	< 1 %
Resolution:	12 bits

### Measurement Modes

Peak / $\sqrt{2}$ , true RMS
Synchronization: Local Mains, HV source (automatic)

### Environmental

Operating Temp Range:	0 $^{\circ}$ C to 40 $^{\circ}$ C
Storage Temp Range :	-10 $^{\circ}$ C to 75 $^{\circ}$ C
Humidity Range:	95% non-condensing
Ethernet Port:	Isolated 10 Base T (note: optically isolated cable recommended)

For further information please contact:

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