



PARTIAL DISCHARGE DETECTOR MODEL PD1R

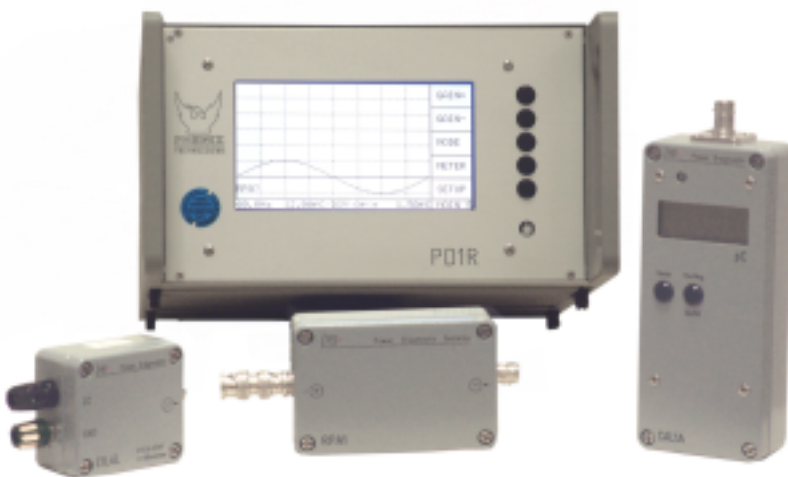
Application

The PHENIX PD1R Partial Discharge Detector is used for quality assurance and quality control tests of low and high voltage insulation.

The control and power supply of the Preamplifier unit (RPA1) is done by the acquisition unit through a standard coaxial cable which also transmits the partial discharge signal. The preamps do not use batteries or connections which may require maintenance or extra attention.

The RPA1 amplifiers also serve as impedance converters and line drivers. The power separation filter or coupling impedance is not loaded by the cable capacitance and signal cables as long as 200m* can be used without signal deterioration or loss of sensitivity. This technique provides extra safety margins in case of breakdowns and flashovers. The RPA1's are proven units which are performing reliably in more than 50 laboratory and field applications throughout the world.

**Note: RG58U is recommended up to 50 meters distance. RG213U is recommended for 50-200 meters distance.*



Typical Areas of Application

- ▼ Cables
- ▼ GIS
- ▼ Transformers
- ▼ Switchgear
- ▼ Electronics
- ▼ CT's and PT's
- ▼ Magnets
- ▼ Bushings

Features

Integrated LCD Screen. Displays an analog meter as well as an oscilloscope trace showing the test voltage, synchronous sine wave, and partial discharge pulses.

Pushbutton Menus. All PD1R settings and calibration are done by pushbutton menus displayed on the LCD screen. The settings remain stored after the instrument is switched off.

Automatic Scale Factors. Automatically calibrates and changes gain ranges. The PD1R also contains an autoscale algorithm that adjusts the scale automatically.

Unique Preamplifiers. Remote controlled and remote supplied preamplifiers and cable drivers are standard with the PD1R. The RPA1 is standard; however, several other types are available depending on testing requirements.

Specifications

Acquisition Unit:

Input	100-240 VAC, 50/60 Hz**
Power	20 VA max.
Temp. Range	10°C to 40°C

Width	9 3/8" (236mm)
Depth	11 1/2" (295mm)
Height	5 1/4" (133mm)
Weight	7 lbs. (3 kg)

Reference Voltage

Input (BNC)

Input Imp.	100kΩ/200pf
Input V	max. 100V (rms)
Frequency	30 to 400 Hz

Partial Discharge Signals

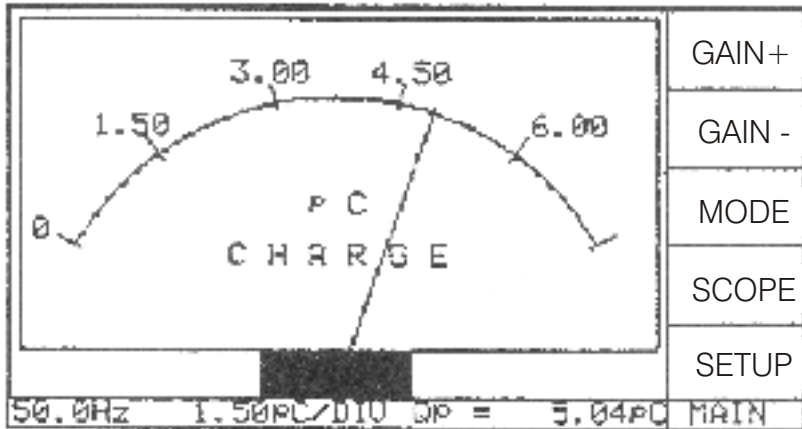
Coupling	AC
Input Imp.	50Ω (without RPA)
LF Cutoff	(6dB) 40, 80 or 100 kHz
HF Cutoff	(6dB) 250, 600 or 800 kHz

Preamplifier RPA1

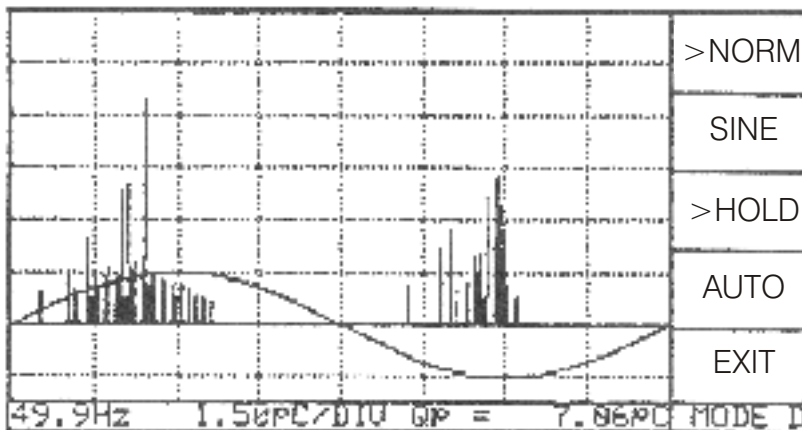
Input Imp.	10kΩ/50pf
Freq. band	20kHz to 2MHz (3dB) 40dB/dec.
Sensitivity	<200μV

**Voltage must be specified.

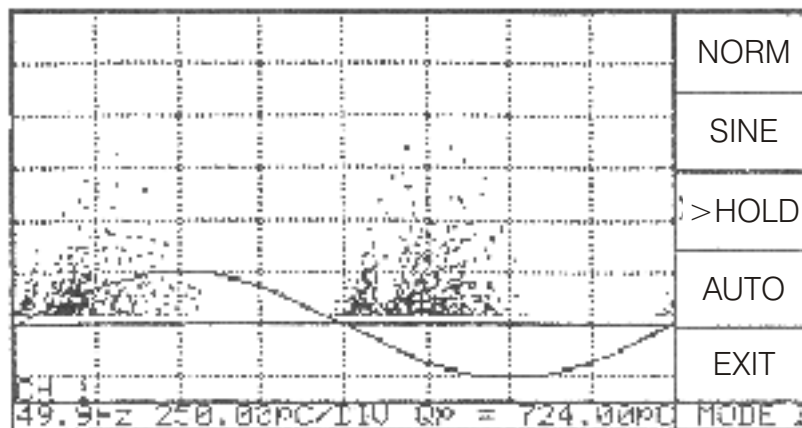
Variety of Display Modes



Analog Display with automatic scale adjustment. Pico/Nanocoulomb display. Selectable printer speed (fast, slow, Max, Hold).



Sine Display PD pulses superimposed on a sine wave, or displayed on a separate trace together with a test voltage synchronous sine wave.



Hold Display PD pulses are stored on the LCD screen as a point at the phase angle and amplitude of its occurrence, providing digital recording.

Other Features

Screen-Saver Function. Reduces wear on LCD display.

Analog Output. A 0-10 VDC signal is provided which is proportional to the selected analog scale of the analog display.

RS-232 Output. May be connected up to a printer to print out the information displayed on the screen.

Auto-Ranging Function. May be turned ON or OFF.

Gating Function. A two-pulse gate at a 180° distance may be turned ON or OFF and adjusted for position and width to mask any unwanted discharge.

Low-Level Discriminator. May be turned ON or OFF and adjusted in magnitude to mask any unwanted "ground clutter."

Low and High Level Filters. May be set through the pushbutton menus to set:

Low Level: 40/80/100 kHz

High Level: 250/600/800 kHz

Phase Adjust. May be adjusted through the pushbutton menus.

Your local representative is



**PHENIX
TECHNOLOGIES**

75 Speicher Drive
Accident, MD 21520 USA

Tel: 301-746-8118

Fax: 301-895-5570

Email: info@phenixtech.com

<http://www.phenixtech.com>