

**PARTIAL DISCHARGE MEASURING INSTRUMENT  
(SPECIFICATION)**

Analog/Digital display on screen

**SPECIFICATION**

Partial discharge measuring system will be used to conduct Partial discharge test on Power transformer with bushing capacitance as coupling capacitor. The test will be conducted at 50 to 150 Hz frequency in self-excited mode & measurement of Partial Discharge will be carried out on all HV & LV terminals simultaneously.

**(1) No of Measuring Channels** :- 01 no quadripoles to measure HV & LV

**(2) Amplifier**

**(a) Gain**

0- 100,000 in suitable steps with fine gain switch for varying gain

**(b) Accuracy of attenuator**

1.0% or better.

**(c) Input Impedance**

50 or 75  $\Omega$  as suitable

**(3) Filters:-**

**(a) Bandwidth of broadband filter** 10 KHz ... 300 kHz with selectable bandwidths

Lower cut frequency 20 kHz - 40 kHz

Upper cut off at 80 - 200 kHz

**(b) Measurement frequency:-** 0.1 to 2 MHz

**(4) PD Measurement:-**

**Ranges:-**

Auto – ranging upto 100000 pc.

**Linearity error**

1.0 % or less

**(5) Calibrator:- (Inbuilt)**

Charge value

1-800 pC in suitable steps

Power supply

Mains operated (Suitable for 160 to 270 volt at 50 Hz)

Rise time of pulse

less than 100 ns

Uncertainty

+/- 1.0%

**(6) Gates:-** Two independently selectable gates with variable width 15 to 150 .

**(7) Display:-** Selectable Ellipse/Sine wave/Straight line with built in Oscilloscope.

**(8) PD Meter:-** Logarithmic scale of 1-10-100 upon calibration with Analog/digital display of measured PD value.

**(9) Ambient condition for measurement**

**Temperature:-** 4 to 50 degree Celsius.

**Humidity :-** 20 to 95 % ( non condensed)

**(10) Instrument to be supplied along with all necessary cables required for measurement purpose.**

**Additional Mandatory Requirements**

(A) The instrument along with accessories should fulfill requirement of standard IEC 60270 & IS 6209

(B) The instrument should have selectable broadband filters.

(C) The instrument should have adjustable narrow band filters.

(D) The instrument should have analog / digital display.

(E) The instrument should be supplied with suitable Hand-trolley with minimum 4" wheel for keeping & proper handling of the instrument in test bed.

(F) The instrument should be supplied with a set of spare measurement lead.

- (G) Offer of recommended spare for three years to be provided along with instrument, should be submitted with the technical bid.
- (H) Calibration certificate traceable to National/international standard to be provided .
- (I) Instrument to be supplied along with operational manual, maintenance manual along with troubleshooting.
- (J) Similar instrument must be in operational condition more than three years in India & performance certificate of the above instrument obtained from the utilizer's end (customer) should be submitted with the technical bid.
- (k) List of the users in India for the instrument to be provided.
- (L) Scope of supply should include commissioning & training at our Works after receipt of material .
- (M) Onsite warranty to be provided for repair & service during warranty period.
- (N) Origin & make of the instrument to be specified in offer.
- (O) Any other item required for smooth functioning of instrument is to be included Supplier to ensure completeness of instrument.

