

S. No.	IITM Chennai requirement	Bidder's Confirmation
1.	<p><u>SCOPE</u> Supply and commissioning of Partial Discharge (PD) test equipment of reputed make suitable for laboratory/factory and on-site PD measurement & diagnosis of MV/HV power apparatuses such as Generators, transformers, reactors, GIS, circuit breakers, power Cables, etc.</p>	
2.	<p><u>General Specifications</u></p>	
2.1	<p>PD test system should be designed to be used for both in laboratory/factory and on-site testing of MV& HV assets.</p>	
2.2	<p>The test system shall be portable and of rugged construction and suitable for laboratory/on-site testing.</p>	
2.3	<p>PD measurement and data acquisition principle should be fully automatic & microprocessor or PC based.</p>	
2.4	<p>Necessary and compatible software (Full Licensed Version) and accessories required for the measurement is to be inbuilt/supplied along with the test set. It should be user-friendly and Windows-based, compatible with the latest version of Microsoft Windows OS.</p>	
2.5	<p>The system should have the software-filter, which can be used to segregate noise and discharges, and also separate multiple discharges such as corona, surface, and internal discharges during data acquisition.</p>	
2.6	<p>The test kit should be suitable to make PD diagnostic measurements on electrical assets. All the mandatory & optional accessories as required for testing of assets are to be included in the Bill of Materials for supply.</p>	
2.7	<p>The test equipment should have features & include all the hardware, accessories, and associated software (Full Licensed Version) required for performing PD measurement On-line/off-line and TDR on MV/HV power cables.</p>	
2.8	<p>The test system shall be able to capture signals on-line without outages of the 50/60 Hz HV power supply. The system should also be able to filter out noise while preserving the PD pulses.</p>	

2.9	The equipment should have measuring provision & be compatible with different sensors used for the PD measurement, such as HFCT, TEV, Coupling Capacitor, Acoustic, UHF sensors, etc. At least four variety of sensor should be supplied along with partial discharge unit.	
2.10	The system should have a minimum data-acquisition rate of 125 MS/s, per channel to allow for the PD pulse shapes to be visualized by the user - for manual checking of data.	
2.11	The system should be suitable for the operating temperature of 0 to +50 °C and < 90% (non-condensing) RH.	
2.12	The instrument must be able to be calibrated in the field/laboratory and the same verifiable in the field/laboratory itself.	
2.13	<p><u>Technical Parameters</u></p> <p>i. Power Specification Supply Voltage: 90-240 V_{AC}, 50/60 Hz Power Consumption: 40 W</p> <p>ii. Hardware Details Detection Frequency Range (HF, VHF, UHF): 0-1500 MHz min. Input Channels: at least 4 Measurement Channels, at least 1 Synchronisation Channel Each PD channel should support all suitable PD sensors like HFCT, TEV, Coupling capacitors, UHF sensors, etc. with at least three sensors need to be supplied along with equipment.</p> <p>Input Connection Type: BNC Input Connection Internal Impedance: 50 Ω for PD Channel, minimum 1 MΩ for the Synchronisation channel</p> <p>iii. Data Acquisition Hardware Bandwidth: 20 kHz- 35 MHz (minimum) Bandwidth: IEC 60270 Band, UWB (for HF & UHF Measurement) Trigger source: Automatic Sample Rate for 50/60 Hz: 125 MS/s Analogue to Digital Resolution: minimum 12-bits Sensitivity < 1mV or 1pC</p>	

	<p>iv. Software</p> <p>The test system software shall have:</p> <ul style="list-style-type: none"> • The analysis software shall be compatible with Windows XP/Vista/7/8 or later, compatible with Microsoft Office® for report generation. • The PD Test System Software shall have: <ul style="list-style-type: none"> • A PD Test and Data Acquisition and Pre-processing Program • A PD Data Post-Processing, PD data Reader and automatic Report Generation Program • A USB copy each of all the applicable software <p>v. Communication System</p> <p>The test system shall be able to communicate via Ethernet/RJ45 with laptop-PC.</p> <p>vi. Operating Environment</p> <p>Temperature Range: 0 to +50°C Relative Humidity: < 90% (non- condensing)</p>	
3.	<p><u>Accessories</u></p> <p>The complete package should include all accessories required for the satisfactory operation of the system and shall include:</p> <ol style="list-style-type: none"> 1. Double screened BNC Signal Cables & BNC connectors -Qty. as <i>adequate</i> 2. Media transfer and backup (USB storage) 3. Hardware, software & Accessories required for TDR in on-line cable for localization. <p>Transport Cases</p> <p>The equipment should be supplied with a heavy-duty transport case.</p> <p>External Laptop:</p> <ul style="list-style-type: none"> • Reputed Laptop • Intel Core i5 or superior • 16 GB Ram or higher • 500 GB HDD or higher • Licensed Windows OS • Other essential accessories including a carry bag 	

4	<p><u>Factory Acceptance & Test Requirements</u> Equipment shall be supplied with full calibration and test certificates. Calibration certificates traceable to National or International standards or by OEM shall be supplied along with the system without any additional charges to the purchaser.</p>	
5	<p><u>Guarantee & Warranty requirements</u> The instrument should have a warranty of at least twelve (12) months from the date of installation & commissioning or fifteen months from the receipt at our store, whichever is earlier. In case of any trouble/defects within the warranty period, free of cost servicing to be done with replacement of defective parts, covering all the associated transportation costs.</p>	
6	<p><u>Training and Demonstration</u> The supplier has to provide complimentary training to our personnel after the installation and commissioning of the equipment at our laboratory. During the training, demonstration of the system has to be given by- performing the necessary measurements. The duration and training course details for the same to be given by the bidder in their technical bid.</p>	
7	<p><u>Documentation</u> Complete sets of equipment's OEM users' manuals to be supplied in Printed & soft format, along with the equipment.</p>	
8	<p><u>After Sales Services</u> Bidder should be an OEM having their office set-up in India for after-sales service and support.</p>	
9	<p><u>Quality Assurance and Inspection</u> Pre-dispatch inspection, if required, shall be carried out by the buyer's representative. However, the final inspection & verification shall be done during the commissioning of the equipment in our laboratory.</p>	