

TECHNICAL SPECIFICATION OF CT ANALYZER FOR CTs TESTING

Sl. No.	Description	Vendor to Specify
1	Purpose: CT analyzer instrument test set suitable for precise measurements of Turn Ratio, Polarity, Secondary winding resistance, Knee point voltage test, CT burden etc. of up to 400 kV class CTs & ring type turret CTs mounted in turret assembly in Power transformer.	
2	General Requirements: 1: The CT Analyzer should be able to give the direct readings of ratio, Phase, Polarity, Secondary winding resistance & Knee point voltage etc. 2: Built-in data memory to store /recall minimum 100 measured data items with selectable storing & recalling intervals.	
3	Software: 1: User-friendly PC based software to assist in analyzing the measurements / test results. 2: Inbuilt USB/RS-232 Interface for connecting with external PC/Laptop.	
4	Input power supply	230 V AC $\pm 10\%$, 50 Hz Single phase
5	Display:	Large size bright LED/LCD/TFT display with visibility in sun light.
6	Ratio Measurement	Range: 1 to 5000 Accuracy for 1 to 2000: $\pm 0.1\%$ of rdg. or better 2000-5000: $\pm 0.2\%$ of rdg. or better Resolution: $4^{1/2}$ digit or better
7	Phase Measurement	Range: 0-360 Degree Accuracy: ± 3 Min, Resolution: 1 Min
8	Secondary winding resistance measurement	Range: 1 m Ω to 100 Ω . Accuracy: $\pm 0.2\%$ of rdg or better, Resolution: $3^{1/2}$ digit or better
9	Knee point voltage measurement	Range: 1 V to 4.0 kV or more Accuracy: $\pm 1.0\%$ of rdg or better Resolution: 4 digit or better
10	Exciting Current Measurement	Current Range 0.1 mA – 5.0 A Accuracy: $\pm 1.0\%$ of rdg. or better Resolution: 4 digit or better
11	Demagnetization	Instrument should demagnetize the CT after resistance measurement.
12	Electromagnetic Compatibility	Should be able to work in high inductance region.
13	Safety Arrangements	1: System should have adequate and reliable safety interlocks / devices to avoid damage to the system, work piece and the operator due to the malfunctioning or mistakes. It should comply with applicable safety IS/IEC Standards. 2: All electronic parts should be house in shielded enclosures. 3: indication for earth connection should be there.
14	Standard Accessories	All necessary power and control cables / leads for smooth operation for the instrument will supplied with system.

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15	Spares	1. Confirmation on availability of all necessary spares for five years trouble-free operation. 2. Vendor to furnish list and details of accessories if any.	
16	Environmental conditions: Operating Temperature: 0 °C to 50 °C, Humidity: 0-90 % non-condensing, Storage Temperature: 0 °C to 50 °C, Ambient Temperature: 0 °C to 50 °C		
17	Documents: 1. Two sets of operating / maintenance manuals in English language 2. Two sets of calibration reports from NABL Accredited Lab covering full range of the equipment for each tests with following details... Calibration date, periodicity, calibration validity duration & next calibration due date. Traceability details of standard used for calibration. All documents endorsed by authorized signature. 3. Provide the list of NABL accredited calibration agency having the facility to calibrate the equipment in future.		
18	Warranty Certificate & Acceptance: The warranted of the equipment should be 24 Months from the date of successful commissioning at BHEL works.		
19	Qualifying Conditions: 1. At least two or more performance certificate of offered model (minimum period of 01 year) supplied in the last 07 years from the tender opening date is required along with offer. 2. Party to furnish contact name, address and contact numbers of the users where the offered equipment, same model, is in successful operation.		
20	Commissioning/Acceptance: Commissioning of the instrument and job testing at BHEL work by supplier's representative. Instruments shall be acceptable only after successful commissioning.		
21	Supplier should provide all necessary attachment/accessories required for smooth functioning of the instrument		
22	Technical catalog is required along with technical bid.		
Note: Supplier should submit technical compliance/comments against each of the above points in above format. Technical bid without complete technical compliance sheet will not be considered for technical evaluation.			

Prepared by
16/10/17

Checked & Approved by
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