

**POWER GRID CORPORATION OF INDIA LIMITED
(A Govt. of India Enterprise)
EASTERN REGION - II, ODISHA PROJECTS
BHUBANESWAR-751007**



Registered Office:-

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B-9, Qutab Institutional Area
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TECHNICAL SPECIFICATION

VOLUME - II

Name of the Package

**Supply of Automatic THRC Test Kits for various
POWERGRID sub-stations in Odisha**

[Specification No. ER-II/C&M/C&M-877/I-231]

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06. Technical Specification of Automatic Third Harmonic Resistance Measurement Kit for Gapless Surge Arrestor

Item	Specification
Functional Requirement	<ol style="list-style-type: none"> 1. The instrument should be suitable for automatic online measurement of Third Harmonic Resistive Current of the Gapless Surge Arrestor, in live switchyard upto 765 kV level, as per IEC standard. 2. The measurement should not be affected by the presence of harmonics in the system voltage 3. The test results should have repeatability, consistency & immunity to electromagnetic interference in live switchyard upto 765 kV levels. 4. The instrument shall have in built temperature measurement and voltage/temperature correction facility.
Measurement Parameters/range	<ol style="list-style-type: none"> 1. Total Leakage Current: 200μA To 5 mA 2. Resistive Leakage Current: 1μA To 5 mA
Accuracy	± 5 % of reading
Resolution	1 μ A
Test Leads and accessories	One complete set of cables of sufficient length (Min 20Metre) with suitable clamps & connectors, compatible with the instruments should be provided for successfully carrying out the test in POWERGRID S/S. Additionally all the required accessories, drawing & documents, tools etc. should be provided for the smooth functioning of kit. Further hard carrying case (which should be robust/ rugged enough) for ensuring proper safety of the kit during transportation shall have to be provided.
Design/Engg.	The complete equipment along with complete accessories must be designed/engineered by Original Equipment Manufacturer.
Power Supply	It shall work on single phase 230 Volts ± 10 %, 50 Hz ± 5 % supply with standard socket/ Inbuilt battery with charging facility.
Operating Temperature	0 to +50 deg C
Relative humidity	Max. 90 % non-condensing
Protection/ Control	Against short circuit, over voltage, improper ground connection over load & transient surges, the kit should have alarm/cut-off features to protect the instrument.
Cooling Arrangement	Necessary in built cooling arrangement should be provided to dissipate the heat generated during testing. No external coolant/ accessory shall have to be required.

Weight	It should be easily portable.
Software	The software should be suitable for analysis of test data. The kit should have facility to store and communicate with windows based computer for exporting the test data.
Display/Control	LCD/Keypad
Environment	The test kit shall be compatible for EMI/EMC/safety environment requirement as per IEC.
Guarantee	Warranty/Guarantee Period: Min 01 year from the date of successful & complete commissioning at Powergrid sub-station. All the materials, including accessories, cables, laptops etc. are to be covered under warranty/guaranty period. If the kit needs to be shifted to supplier's works for repairs within warranty/guaranty period, suppliers will have to bear the cost of spares, software, transportation of kit for repair at test lab/ works.
Calibration Certificate	Unit shall be duly calibrated before supply and the date of calibration shall not be older than two month from the date of supply of Kit.
Training	Supplier shall have to ensure that the kit is made user friendly. Apart from the detailed demonstration at site, the supplier shall also have to arrange necessary training to POWERGRID engineers.
Commissioning, handing over the Instrument	Successful bidder will have to commission the instrument to the satisfaction of POWERGRID. The instrument failed during the demonstration shall be rejected and no repairs are allowed.
After sales service	Bidder will have to submit the documentary evidence of having established mechanism in India for prompt after sale services.