INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

MATERIALS MANAGEMENT DIVISION

Powai, Mumbai 400076.

PR No. 1000051625 **Rfx No. 6100002681**

Technical Specifications of Power Analyzer

S. No.	Item Description	Technical Compliance (Yes / No)	Additional Information (if any)
1.	Power Analyzer should have six isolated input elements for Voltage & Current.		
2.	Power Analyzer should have Basic Accuracy: ± 0.03% of reading and 0.05% of Rang		
3.	Power Analyzer should have Frequency range: 0.5 Hz to 1 MHz		
4.	Power Analyzer should have Sampling Rate: 2 MS/s		
5.	Power Analyzer should have Input type: Isolated, floating, distorted, unbalanced.		
6.	Power Analyzer should have direct Input Ranges: Currents - 1A to 50A AC/DC Voltages – 1.5 V to 1000 V AC/DC		
7.	Power meter should have large current measurements capability by using external sensor input like Clamp on Current Probe		
8.	Power Analyzer should have Auto ranging function when feeding unknown input quantities		
9.	Power Analyzer should have A/D Converter – 16 Bit resolution, Conversion speed of approx. 5msec.		
10.	Power Analyzer should have Display Update rate– 50 msec to 5 sec selectable		
11.	Power Analyzer should have user programmable CT/PT ratio Scaling Function for obtaining direct display of voltage & current of primary side		
12.	Power Analyzer should have measurement and display in RMS, Mean & DC mode		
13.	Power Analyzer should have Max hold function and Hold function.		

14.	Power Analyzer should have Wiring combinations: 1 Phase 2 wire, 1 Phase 3 wire, 3 Phase 3 wire, 3 Phase 3 wire- Two loads, 3 Phase 4 wire.		
15.	Power Analyzer should have line filter function to remove noise in input signal. a.		
16.	Power Analyzer should have Measurement Parameters: Voltage of each phase, Current of each phase, Watt of each phase, Power Factor of each phase, ± kWh, ± kVAh, kVAr, kVA, Current, Frequency of each phase, Voltage frequency of each phase, Phase angle, Voltage peak, Current peak, Crest factor of Voltage & Current, Form factor, Corrected power.		
17.	Power Analyzer should have Math Function to perform efficiency measurement, input crest factor measurements, arithmetic calculation between two channels, User defined functions & Delta calculations.		
18.	Power Analyzer should have Simultaneous Dual Harmonic Analysis like input and output up to 500th order, Analysis Parameters like Voltage, Current, Active Power, Reactive Power, Apparent Power, Phase difference of harmonic competent relative to fundamental wave for each order, Harmonic content of Voltage, Current and Active Power for each order, Total Harmonic Distortion of Voltage, Current and Active Power , Voltage / Current telephone harmonic factor, Voltage/Current telephone influence factor, Harmonic voltage/current factor		
19.	Power Analyzer should have Integration Mode with timer, repeat or manual start & stop. Energy Measurement up to 10,000 hours in 1-second increments. Power & Current values integrated separately for positive & negative polarities.		
20.	Power Analyzer should have Averaging function of Exponential average & moving average up to 64 numbers.		
21.	Power Analyzer should have Motor Evaluation Function To perform calculations like Torque, RPM, Mechanical Power, speed, slip, motor efficiency,		
22.	Power Analyzer should have Display of 8.4-inch color TFT LCD to view Numerical Data, Trend display of voltage/current waveform, and Harmonic data as Bar Graphs, Vectors and Lists.		
23.	Power Analyzer should have Internal Storage of min. 1GB for storage of data.		
24.	Power Analyzer should have External I/O – External Clock function for sync.		
25.	Power Analyzer should have Built in USB & Ethernet for PC communication, acquiring,		
26.	Power Analyzer should have VGA output for large screen display.		
27.	Power Analyzer should have user calibration capability		

28.	Power Analyzer should have Software for communication, acquiring & managing measurement data on PC		
29.	Power Supply 230V, 50Hz AC		
30.	Accessories: 1)Banana to Crocodile Voltage Probe, 1000V, 3 Meter length - 8 Nos 2)Clamp on Current probe Range 1000A, output 2mv/1A, Band width 50khz, accuracy 0.2%, output connection BNC Type, along with AC power supply 3)2-meter safety BNC to BNC cable – 4 Nos. 4)Power cord- 01 No.; Instruction Manual-01No		
31.	Warranty: 3 Years on main Equipment and 1 year on Accessories		