

MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY, BHOPAL
INVITATION FOR QUOTATIONS FOR SUPPLY OF PORTABLE POWER
QUALITY ANALYSER, CURRENT DIFFRENCIAL RELAY AND
MOTOR PROTECTION RELAY

Enquiry No.: MANIT/EE/2017/01

Dated: 27/12/2017

Due Date: 16/01/2018

Time : 12.00 noon

To

Dear Sirs,

Sub : **INVITATION FOR QUOTATIONS FOR SUPPLY OF PORTABLE POWER QUALITY ANALYSER, CURRENT DIFFRENCIAL RELAY AND MOTOR PROTECTION RELAY.**

1. You are invited to submit your most competitive quotation for the following goods:-

Brief Description of the Goods	Specifications*	Quantity	Delivery Period	Place of Delivery	Installation Requirement
PORTABLE POWER QUALITY ANALYSER	Specifications sheet attached	01 No.	With in 4 weeks	MANIT, Bhopal	
CURRENT DIFFRENCIAL RELAY		01 No.			
MOTOR PROTECTION RELAY		01 No.			

* Where ISI certification marked goods are available in market, procurement should generally be limited to goods with those or equivalent marking only. The warranty/AMC required must be specified.

2. **Bid Price**

- a) The contract shall be for the full quantity as described above. Corrections, if any, shall be made by crossing out, initialing, dating and re writing.
- b) All duties, taxes, AMC Charges and other levies payable by the contractor under the contract shall be included in the total price. Price should be quoted for net FOB, MANIT, Bhopal. However the Excise/Custom Duties, sales Tax and other incidental charges must be mentioned separately. (In the Format Enclosed).There should not be any hidden cost.
- c) The rates quoted by the bidder shall be fixed for the duration of the contract

and shall not be **subject to adjustment on any account.**

- d) The Prices should be quoted in Indian Rupees only.
- e) Technical Compliance Statement must be submitted with the offer.

3. Each bidder shall submit only one quotation.

4. **Validity of Quotation**

Quotation shall remain valid for a period not less than 30 days after the deadline date specified for submission.

5. **Eligibility criteria required for Vendor/Supplier/Manufacturer**

The following points can be considered for the Qualification /Eligibility Criteria of the Vendors

- 1) Details of the office and relevant infrastructure in Bhopal/ within M.P
- 2) The dealer should have a minimum turnover of Rs. 10 Lacs in last year. C.A. certificate in this regard is to be submitted.
- 3) The Company/Manufacture should have GST Number
- 4) List of customers where machine supplied is to be submitted.
- 5) OEM Authorization tender specific.
- 6) Compliance on OEM letter head.

6. **Evaluation of Quotations**

The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which

- (a) are properly signed ;
- (b) confirm to the eligibility criteria of the vendor; and
- (c) confirm to the terms and conditions, and technical specifications.

The Quotations would be evaluated for all the item together/would be evaluated separately for each item. [Select one of the options].

7. **Award of contract**

The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

7.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.

- a. The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.
- b. Payment shall be made within 30 days of installation & acceptance of the Goods/Items.
- c. The payment for AMC shall be staggered over the period of AMC and shall be made at the end of each year.

8. Normal commercial warranty/ guarantee shall be applicable to the supplied goods. A performance Bank Guarantee 10 % of the basic value is required for the warranty period.

9. The tenderer should avoid the use of vague term such as “Extra as applicable”. Such offers shall be treated as non responsive.
10. The Institute reserves the right to accept /reject all or any offer without assigning any reason thereof.
11. All dispute arising out of this should be submitted to the jurisdiction of Courts of Bhopal only.
12. You are requested to provide/submit your offer latest by 12.00 noon hours on 16/01/2018 (*date*) at Stores & Purchase Section MANIT Bhopal.
13. The envelope of quotation shall be super scribe as “Quotation No And Item quoted” with the Due date”
14. We look forward to receiving your quotations and thank you for your interest in this project.

DIRECTOR
M.A.N.I.T.,BHOPAL

Specifications

Portable Power Quality Analyzer :

- Input Channels 4 (3-phase + neutral).
- Measurement method EN 61000-4-30 Class-S.
- Max. input voltage 1000 Vrms.
- Graphical presentation of data in a waveform and vector diagram.
- 5,6" tFt color screen, 320 x 240 pixel.
- Waveform real-time display (4 voltages/4 currents).
- Half cycle rms measurement (voltage and current).
- Measurement of trms currents up to 3000 a (with standard probes mode).
- Measurement in 1-phase and 3-phase systems (3 - and 4-wire).
- Measurement of voltage, current, harmonics, power, energy, inrush current, flicker and other.
- Record of events: dips, swells, overvoltages.
- Power quality according to en-50160 standard or user-defined limit.
- Internal memory for data logging needs (continuous registration from 2 hours to 7 days).
- The registration frequency from 1 second up to 60 minutes.
- Built-in 8g memory card.
- Ethernet interface for remote operation of the analyzer.
- USB Host to move archive data and screenshots to an external USB memory.
- Safety standards: en 61010-1, Cat iii 1000V / Cat iV 600V.
- The analyser set: analyzer, flexible probes mode 3000a (4x), voltage tests leads alligator clips (5x), dC power adapter, Cd with software & user's manual.

Power system Lab

List of equipment and specifications

Sr. No.	Specification	Quantity
1	<p>Current Differential Relay</p> <ul style="list-style-type: none"> • Percentage Differential Protection. • Harmonic Blocking. • Unrestrained Differential Protection • Zero-Sequence Removal. • The relay shall provide automatic calculation of HV and LV tap quantities. • Overcurrent Fault Protection. • Adaptive Phase Overcurrent Elements. • CT Phase Angle Compensation. • Status and Trip Target LEDs. • Communication: The relay shall include one EIA-232 or one EIA-485 serial port to provide flexible communication to external computers and control systems. Modbus®, ASCII, and binary protocols shall be available for communication with SCADA, local HMI, or modems • Relay Logic: The relay shall include programmable logic functions for user-configurable protection, monitoring, and control schemes. • Auxiliary Inputs/Outputs. The relay shall include fully programmable optoisolated inputs and output contacts. • Trip and Close Variables. • Metering: The relay shall include metering capabilities for real-time current and differential quantities, as well as phase demand and peak demand current values. Second- and fifth-harmonic currents shall also be included. • Event Reporting. The relay shall be capable of automatically recording disturbance events of 15 cycles with user-defined triggering. Events shall be stored in nonvolatile memory. • Internal Real-Time Clock. <p>AC Current Inputs 5 A nominal: 15 A continuous, 500 A for 1 s, linear to 100 A symmetrical. 625 A for 1 cycle (sinusoidal waveform) Burden: 0.16 VA at 5 A 1.15 VA at 15 A</p> <p>Power Supply Rated: 125/250 Vdc or Vac Range: 85–350 Vdc or 85–264 Vac Interruption: 100 ms @ 250 Vdc Ripple: 5% Burden: 5.5 W</p>	01

2

Motor Protection Relay

Protections function

- 46 Current Unbalance
- 47 Phase Reversal
- 49 Motor Thermal
- 50P Phase Overcurrent
- 50G Residual Overcurrent
- 50N Neutral and Ground Overcurrent
- 50Q Negative-Sequence Overcurrent
- 66 Starts/Hour, Time Between Starts.

Current- and Voltage-Based Metering Functions

- Phase, residual, and negative-sequence voltage
- Real, reactive, and apparent power (kW, kVAR, kVA)
- Real, reactive, and apparent energy (kWh, kVARh, kVAh)

Motor Monitoring and Statistics

- Time running and stopped
- Total MWh
- Number of starts
- Average and peak starting time and current
- Average and peak running current and power
- Average and peak RTD temperatures
- Learned motor parameters
- Protection element alarm and trip counts

01