

INDIAN INSTITUTE OF TECHNOLOGY KANPUR
Department of Electrical Engineering

Enquiry No.: **EE/SA/INQ/2017-18/04**
Opening Date: **5-June-2017**
Closing Date: ~~26-June-2017~~ **28-June-2017**

Sub: Inquiry for AC source of 30-KVA with Sink Option

We are interested in purchase of Regenerative Grid Simulator of the following configuration. Our organization is an educational institute of repute and liable to get **educational discount** from the manufacturer / supplier. Please specify the discount separately.

There will be **two steps in the tender process**:

1. Technical specifications should be put in one sealed envelope. SPECIFY company name and model number, and attach detailed technical specification for each part/component. Must also include detailed technical brochure.
2. Financial details i.e. budget quotation should be in a separate sealed envelope. This quotation will not be opened if technical details of the product do not match with our specifications.

Please send your **Sealed Quotation** to the undersigned for the same. The envelope should be marked as **“Regenerative Grid Simulator - E EE/SA/INQ/2017-18/04”**

Items required:

| Item required | Specifications | Quantity |
|-----------------------------|--|----------|
| Regenerative Grid Simulator | Total output Power: 30kVA continuously at 400V L-L, 43.3A for 0 to unity power factor Should Offers full power rating (30kVA) power sink capability with regenerative capabilities. AC input: Three phase supply nominal 400/410/440 V L-L (nominal), 50Hz nominal AC mode output: Output Rated Voltage: ≥ 300 Vrms line to neutral Output Rated Current: ≥ 100 Arms on single phase operation at 300Vrms line-neutral and ≥ 33 Arms in each phase for 3 phase mode operation at 300Vrms line-neutral. (actual voltage and current should be controllable between zero and their corresponding rated values) Four Wire (RYB-N) output connections Load regulation: $\leq 0.25\%$ of full scale | 1 |

Line regulation: $\leq 0.1\%$ full scale
Frequency Range: Should be able to generate fundamental output of at-least 30Hz- 100 Hz range and harmonic output of at-least 50th order (50/60Hz fundamental)

Harmonic distortion in output voltage should be less than or equal to 1% in case of pure sine wave (50Hz) output operation.

It should allow creation of following conditions at the output voltage: unbalanced among phases, harmonic distortion by specifying amplitude and phase for up to at least 50 harmonics of the fundamental frequency.

DC mode output:

Rated DC power output: ≥ 15 kW (1 phase mode), ≥ 5 kW (3 phase mode)

Rated Output Voltage: $\geq 0-400$ V

Rated Output Current: ≥ 50 A (1 phase mode), ≥ 16.6 A (3 phase mode) at 400V output

(actual voltage and current should be controllable between zero and their corresponding rated values)

Panel Description:

Should have at least but not limited to LCD display, power switch, I/O ports.

Operating temperature: 0°C - 40°C.

Protection:

Overvoltage, Overcurrent, Over temperature.

Measurement:

Should be capable of measurement of RMS voltage, RMS current, true power, power factor, harmonics measurement

I/O Interface:

Lan (Ethernet port) and one of the (USB or RS232)

Isolated Analog Control:

Should be able to operate as power/voltage amplifier by using low voltage analog signals as inputs.

Should have at least **3 years warranty. Warranty must include/cover parts, labour and transportation cost. Software to interface with computer must be included in the quotation.**

Note:

1. Your quotation shall contain Authorization Letter from manufacturer.
2. Quotation must be valid for minimum of 90 days.
3. Delivery period should not be more than 10 weeks and delivery should be at IIT Kanpur or CIF New Delhi.
4. Send complete detail of the product(s).
5. Payments terms: 90% on installation and 10% on satisfactory report (FOR IIT Kanpur) and LC (CIF New Delhi)
6. Price must include all taxes and charges (including delivery, installation etc.)
7. IITK has exemption on excise and custom duty. Suitable certificate would be provided if required by the supplier.
8. All prices are to be FOR IIT Kanpur or CIF New Delhi.
9. The Institute reserves the right of accepting and rejecting any quotations without assigning any reason.

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