

**Dept. of Electrical Engineering
Indian Institute of Technology
Hauz Khas, New Delhi-110 016**

NOTICE INVITING QUOTATIONS

Date: **09.12.2016**

Subject: **Purchase of Eighteen Power Converters for use in the laboratory**

Invitation for Tender Offers

Department of Electrical Engineering, IIT Delhi invites tender offers, one financial and one technical, in separately sealed envelopes from eligible and experienced OEM (Original Equipment Manufacturer) OR OEM Authorized Dealer for **supply of eighteen power converters for use in the laboratory** as per terms & conditions specified in this tender document.

TECHNICAL SPECIFICATION:

The specification below is applicable for one converter. All the 18 converters should follow the same technical specification.

The power converter should be single phase AC-DC-AC power converter. The input voltage to the converter is single phase 50Hz, 230V AC which should be rectified by a diode bridge rectifier. The output voltage is controllable from 0-230V AC by a full bridge inverter with IGBT as the power device. The output current can vary between 0-10A. The DC bus is made up of electrolytic capacitors. The switching frequency of the IGBTs can be up to 20 kHz. The converter should operate continuously with an ambient temperature of 40°C.

Individual diodes in the bridge rectifier should have a blocking voltage of 1600V and nominal current rating of 75A or more. The i^2t rating of the diodes should be more than 2000 A²s. Individual IGBTs should be rated for 1200V and 50A or more. 4th generation IGBTs are preferred. The IGBTs should be in a half bridge module arrangement.

Gate drive circuit should be included in the converter. It should have two isolated channel for driving each half bridge module. Short circuit voltage protection and under voltage protection should be provided. The supply to the gate drive board should be 15V. The isolation voltage between input and output should be close to 4000V.

IGBT Snubbers and thermal trip should be included in the converter. The converter should be enclosed in a polycarbonate box with knobs for accessing the input and output voltages, rectifier output voltage, dc bus capacitor, gate drive signals etc. Bleeder resistance should be provided across the dc bus capacitors. Heat sinks for IGBTs and rectifiers must be provided. The dimensions of the converter should be preferably in the range of (40cmx40cmx40cm).

The converter should be designed and fabricated by reputed manufacturers with long history of quality and service.

Terms & Conditions

1. Letter from the manufacturer for this tender is to be attached for authenticity of dealership/agency, and the dealer should be authorized service provider.
2. Special discount/rebate wherever admissible may please be indicated, keeping in view that the supplies made for educational purposes in respect of the public institution of national importance.
3. Vendors should attach the relevant product brochures/datasheets for the model quoted.
4. Validity of the quotation should be at least two months.
5. Vendors will do the installation and demonstration of the equipment at IIT Delhi premises without additional charges.
6. Taxes, terms and conditions should be clearly mentioned. Transport charges, if applicable, should be included in the bid.
7. Warranty period should be clearly mentioned.
8. Payment terms and conditions should be clearly mentioned. Record of previous purchase orders and operational experience is desirable.
9. The Institute/purchase committee has the right to accept or reject any bid or all quotations without assigning any reason whatsoever.

The financial and technical quotations in a sealed envelope should be addressed to Dr. Anandarup Das, Department of Electrical Engineering, IIT-Delhi, Hauz Khas, New Delhi 110016 and should reach the Department of Electrical Engineering, IIT-Delhi by 5.00 PM on 23rd Dec 2016.