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INDIAN INSTITUTE OF TECHNOLOGY MADRAS

psUuS 600 036  
CHENNAI 600 036

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Ref. No.

FORM FOR INVITING QUOTATIONS

Date: 14.8.2012

CEC	12-13	00	BEEEX	HODX	A
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dsUnzh; bysDV<sup>a</sup>k WpUdD<sup>u</sup>z 14.9.2012

bZ&esy : [vjk@iitm.ac.in](mailto:vjk@iitm.ac.in)

To nwjHkk" k % ¼044½ 2257 4946@4947@4948@4406 :QSD1 % ¼044½ 57 4986

**ADDRESS LIST ENCLOSED**

Dear Sirs,

1. Quotations are invited in duplicate for the various items shown below / overleaf / Enclosed list.
2. The Quotations are to be in two bid system as : Technical bid and Commercial bid. Two parts of the offer are to be clearly marked on the envelopes. The two parts of the offer in a separate envelop must enclosed in the one bigger envelop duly sealed and superscribed with reference number and due date and, should be addressed to the undersigned so as to reach him on or before the due date stipulated above. A blank price quote (identical to the Commercial bid with numbers removed) should be enclosed with the Technical Part.
3. The Quotations should be valid for sixty days from the due date and the period of delivery required should also be clearly indicated.
4. If the item is under DGS&D Rate contract No. and the price must be mentioned. It may also please be indicated whether the supply can be made direct to us at the Rate contract price (Please note that we are not Direct Demanding Officers). If so please send copy of the RC.
5. Relevant literature pertaining to the items quoted with full specifications (and drawing, if any) should be sent along with the Quotations, wherever applicable. Samples if called for, should be submitted free of charges, and collected back at the supplier's expenses.
6. Local Firms : Quotations should be for free delivery to this Institute. If Quotations for Ex-Godown delivery charges should be indicated separately.
7. Firms Outside Madras : Quotations should be for CIF/F.O.R. Madras. If CIF/F.O.R. consignor station, freight charges by passenger train / lorry transport must be indicated. If Ex-Godown, packing, forwarding and freight charges must be indicated.
8. The rate of sales / General Taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim for Sales / General Taxes will be admitted at any stage and on any ground whatsoever. The taxes leviable should take into consideration that we are entitled to have concessional Sales Tax applicable to non Government Educational Institutions run with no profit motive for which a concession. Sales Tax Certificate will be issued at the time of final settlement of the bill.
9. Goods should be supplied carriage paid and insured.
10. Goods shall not be supplied without an official supply order.
11. Payment : Every attempt will be made to make payment within 30 days from the date of receipt of bill/acceptance of goods, whichever is later.

Yours faithfully,

Head of the Dept/Centre



**CENTRAL ELECTRONICS CENTRE  
INDIAN INSTITUTE OF TECHNOLOGY MADRAS  
CHENNAI 600 036**

Ref. No.

Date:14.8.2012  
DUE DATE: 14.9.2012

CEC	12-13	00 5	BEEEX	HODX	AC-DC	1
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**Specifications for Programmable AC/DC Electronic Load**

<b>S.No</b>	<b>Description</b>	<b>Specification</b>
1	Power Current Voltage Frequency	4500 W 0 A to 45A 50 V to 350 V (500 V peak) 45 to 440Hz, DC
<b>AC Section</b>		
<b>Constant Current Mode</b>		
2	Range Accuracy Resolution	0A to 45A, Programmable 0.1%+0.2%F.S 5 mA
<b>Constant Resistance Mode</b>		
3	Range Accuracy Resolution	1.11 $\Omega$ to 2.5 k $\Omega$ , Programmable 0.5 % + 0.5 %F.S 50 $\mu$ S
<b>Constant Power Mode</b>		
4	Range Accuracy Resolution	4500 W, Programmable 0.2 % + 0.3 %F.S < 1.2 W
<b>Crest Factor</b>		
5	Range Accuracy Resolution	1.414 to 5, Programmable 0.5% / Irms + 1%F.S 0.005
<b>Power Factor</b>		
6	Range Accuracy Resolution	0 to 1 lead or lag, Programmable 1 % 0.001
<b>Rectifier Load Mode</b>		
7	Operating Frequency  RLC Mode  Constant Power Mode	45 Hz to 75 Hz  Parameter: Ip(max), R <sub>S</sub> , L <sub>S</sub> , C, R <sub>L</sub>  Parameter: I <sub>P</sub> (max) Power Setting: 200W to 4500W PF = 0.4 to 0.75

	Inrush Current Mode  R <sub>S</sub> Range L <sub>S</sub> Range C Range R <sub>L</sub> Range	Parameter: I <sub>p</sub> (max), R <sub>S</sub> , L <sub>S</sub> , C, R <sub>L</sub> 160A (Peak Current)  0 Ω to 9.999 Ω 0.1 μH to 9999 μH 100 μF to 9990 μF 0 Ω to 9999.99 Ω
<b>DC Section</b>		
8	Voltage Range Current Range Rise Time Operating Mode	7.5 V to 500 V 0 A to 45A 75 μs CV,CC,CP,CR, DC Rectified
<b>Measurement Section</b>		
9	<b>Voltage</b> Range Accuracy Resolution <b>Current</b> Range Accuracy Resolution <b>Other Parameter</b>	500.0 V 0.1 % + 0.1 %F.S 10 mV  200.00 A 0.1 % + 0.2 %F.S 2.5 mA P(W), S(VA), Q(VAR), CF, PF, Frequency, R, I <sub>p</sub> , THD <sub>v</sub>
<b>Input AC Power</b>		
10	Voltage	230 V±10 % LN
11	<b>Protection</b>	OTP,OPP,OCP and OV Alarm
12	<b>Interface</b>	USB/Ethernet
13	<p style="text-align: center;"><b>Should have following facilities</b></p> <ul style="list-style-type: none"> <li>• Timing Measurement for Battery, UPS, Fuse and Breaker Test</li> <li>• Constant and Rectified Load Modes for AC Loading</li> <li>• Analog Current and Voltage Monitor</li> </ul>	