



TEZPUR UNIVERSITY

ENGINEERING CELL

NAPAAM : : TEZPUR-784028

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Quotation Notice No. 27/2015-16 Date: 22-03-2016

Sealed quotations are invited from the reputed manufacturer/dealer/reputed firms dealing with battery charger manufacturing works for supply of following specified Battery charger for control power supply to the 2X2.5MVA, 33/11KV Sub-station at Tezpur University and will be received in the office of the Registrar, Tezpur University up to 15.00 Hrs. on 11th April, 2016 (Monday). The quotations so received shall be opened on the same date at 15.30 Hrs. in presence of the quotationers or their authorized representative(s). The quotation can be downloaded from www.tezu.ernet.in. Quotation fees of Rs.1000.00 (non-refundable) to be provided along with quotation.

Sl. No.	Item specification	Qty	Price	Rate	Amount
01	415V AC $\pm 10\%$ input, 50Hz $\pm 5\%$, 110V DC out put, three phase, 4 wire, 100Ah, battery charger as per enclosed technical specification Mfd. By AMARA RAJA POWER SYSTEM PVT. LTD.	01	Basic price : Excise duty: CST : VAT % if any Freight and insurance charge		
02	Installation, testing and commissioning	Complete job	L.S		

The quoted rates should be inclusive of all applicable taxes and F.O.R. Tezpur University campus, Napaam. Tezpur University reserve the right to accept or reject any/all quotations without assigning any reason whatsoever

Terms and conditions:

- 1) No advance payment will be made.
- 2) 90% payment will be made after delivery of the material(s) in good condition and remaining 10% after commissioning.
- 3) Guarantee/Defect Liability Period: 12(twelve) months from the date of commissioning or 18(eighteen) months from the date of delivery of the material whichever is earlier. During the guarantee/Defect Liability Period, free replacement, repairing against any defects arises will be in the scope of supplier.
- 4) Delivery : 45(forty five) days from the date of issue of the supply order
- 5) Loading and unloading: To be done by the supplier.
- 6) Freight and insurance charge: To be borne by the supplier
- 7) Validity of quotation: 120 days from the date of opening of quotation.
- 8) F.O.R. : Tezpur University Campus, Napaam, Dist. Sonitpur, Assam, PIN:-784028, India
- 9) Test Certificate and drawing: All routine test are to be conducted free of cost at manufacturer's factory before dispatch of the materials. Test certificate to be furnished to the Tezpur University along with drawings and manuals.

- 10) Security Deposit: security to the extent of 05(five)% of the value of supply order is to be deposited by the supplier to Tezpur University in the form of Bank Guarantee duly pledged in favour of the Registrar, Tezpur University, Napaam which will be released only after successfully completion of the Guarantee/Defect Liability Period as stated in Sl.3 above.

Sd/-

Deputy Registrar (GA)

Tezpur University

Date: 22-03-2016

Memo. No.F.13-09/97(EC)

Copy to:

- 1) The Web Master, Tezpur University to upload the notice in TU web site in downloadable format.
- 2) Notice Board, Administrative Building.
- 3) Concern file

Sd/-

Deputy Registrar (GA)

TECHNICAL SPECIFICATION OF BATTERY CHARGER

- 1) Scheme : Float cum Boost Charger
- 2) Type : Full wave Half Controlled
- 3) Rating : 110V 20A suitable for SMF VRLA Battery
- 4) A.C input
 - i) Voltage : 415V AC \pm 10%
 - ii) Frequency : 50Hz \pm 5%
 - iii) Phase : Three phase 4-wire
- 5) DC out put
 - i) Nominal Voltage : 110V DC
 - ii) Float Voltage : 121.5V DC adjustable by +2%, -5%
 - iii) Boost voltage : 124.2V DC adjustable by +2%, -5%
 - iv) Regulation : Better than \pm 1% of set value
 - v) Ripple : Less than 3% RMS
 - vi) Current : 20A
 - vii) System out put voltage : Max. 124.2V DC \pm 1% (at Load terminals)
 - viii) Efficiency : Better than 75% at full load
- 6) Meters with
 - a) 90° deflection shall be provided in the system
 - b) DV voltmeter with selector switch
 - c) DC ammeter with selector switch
- 7) Indications : LED indicators shall be provided for the following Conditions with audio alarm for abnormal conditions.
 - a) AC supply ON (Neon Lamp)
 - b) Float ON
 - c) Boost ON
 - d) DC over voltage
 - e) DC under voltage
 - f) AC supply Fail
- 8) Protections : Following protections shall be provided
 - a) AC Input circuit breaker
 - b) Fast acting semiconductor fuse for charger bridge.
 - c) DC over voltage cutback
 - d) DC overload
 - e) DC output circuit breaker
- 9) Controls and switches :
 - a) Float voltage adjust potentiometer
 - b) Boost voltage adjust potentiometer
 - c) Auto/Float/Boost mode select switch
 - d) AC Input circuit Breaker
 - e) DC output circuit breaker
 - f) DC voltmeter selector switch
 - g) Battery input fuses.

GENERAL DESCRIPTION OF BATTERY CHARGER

The float cum boost charger basically consists of one Three phase double wound charger input transformer, Rectifier power bridge, charger control card, LC filter circuit, Auto/Float/Boost charging mode selector switch, AC Input and DC output circuit breakers. The functional block diagram of proposed charger is shown in enclosed single line diagram.

The charger is manufactured utilizing thyristers and diodes, which are connected in full wave half controlled bridge configuration. The charger output voltage regulation and over load drooping characteristics are achieved by carefully determining the precise moment to fire the thyristers by supplying proper gate pulses. Charger control card accomplishes this function.

The charger works on three phase, 50Hz supply. The charger is capable of delivering full rated current at the specified voltage at output terminals. This voltage is maintained for an AC input voltage variations of $\pm 10\%$ and load current variations from 0 to 100 of rated full load.

The charger charges the battery in auto or manual float or manual boost modes depending on the mode selector switch position. In auto mode, the battery shall be charged either in float or boost mode depending on the battery charging current, when charging current exceeds a preset value, charger operates in float mode automatically.

All these circuits are housed in a single cabinet of folded sheet steel construction. All the meters, indications pushbuttons and control and switches are brought on to the front panel.

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