



Indian Institute of Technology Kanpur

National Center for Flexible Electronics

Enquiry number: SCDT/FLEXE/2017-2018/24

Tender Opening Date: 01/02/2018

Tender Closing Date: 21/02/2018

Sealed Quotations (Technical & Commercial) are invited for the supply and installation of online UPS of 180kva (with Paralleling & Synchronizing Process 60+60+60kVA=180kva). Each 60 kVA / 54kW UPS should have the technical specification as given below

Note: Bidders may deposit their Bids (both Technical Bid and Price Bid, in two separate sealed envelopes, marking envelope as Technical Bid and Price Bid respectively and then put these two envelopes in one big envelope marked with the tender number and closing date) in the tender box.

TECHNICAL SPECIFICATION FOR 60 kVA ONLINE UPS

UPS Capacity	60 kva online UPS with Built-in Galvanic Isolation
Technology	IGBT on the input and output with Digital Signal Processor controlled (Rectifier/Charger)
Rated Output	60 kva / 54 kW The UPS system is compatible for 0.7 lagging to 0.9 leading PF loads without deration
Input Power factor at full load	≥ 0.99
Input Power factor at 50% load	≥ 0.98
Input current THDi at full load	$\leq 3.0\%$
Input current THDi at 50% load	$\leq 6.0\%$
Input(Rectifier) IGBT Based	
Voltage	380/400/415 V
Voltage tolerance	320-480V at rated load. upto 240-480V at 50% load.
Frequency	50/60 Hz
Frequency tolerance	$\pm 10\%$
Rectifier/Charger	
Type of rectifier used	IGBT based DSP controlled Rectifier.
Ripple voltage at full load	Typically 0.
Efficiency of rectifier	$\geq 98\%$
Battery charger features:	1.Charging circuit constant Voltage Constant Current 2.Battery status monitoring facility Through LCD display at the front panel 3. Battery protection circuits MCCB provided in enclosure.
Output (Inverter) IGBT Based (Guaranteed Continuous rated output power at rated output Voltage)	Technology of inversion / IGBT based PWM design with DSP controlled.
Voltage	380/400/415 VAC, 3 phase, 4 wire, Settable.
Output voltage regulation	I) Balanced load - $\pm 1\%$ Unbalanced load - $\pm 3\%$ for 4 wire system
Output Frequency	50 Hz
	Output Frequency range - ± 0.5 Hz
OP Frequency synchronizing range with	Selectable between 1Hz to 5Hz

Bypass	
Transient voltage regulation for 0 to 100% and vice versa	$\pm 2\%$
Recovery time	< 5 m.sec
Wave form	Sinusoidal
Crest Factor	3 : 1
Harmonic	Total Harmonic Distortion non – linear load-< 3%
	Total Harmonic Distortion 100% linear load- < 1%
Phase Displace	Balanced load - 120 ± 1 deg. Electrical 100 % Unbalanced load- 120 ± 2 deg. Electrical
Protection	Input Voltage , Output Voltage, Input frequency, Output Frequency, Battery Charging/ Discharging Level., Load Level, Input High/ Normal/ Low/ fail, Output overload, output short circuit, Output Fault etc.
Indication	Main On, Inverter On, Battery Low, Over Load etc.
Overall Efficiency	Including the transformer loss
	At Full load - $\geq 93.0\%$ At 75 % load - $\geq 93.5\%$ At 50% load - $\geq 93.5\%$ At 25% load - $\geq 90.5\%$
Battery bank:	12V Lead Acid Sealed Maintenance Free Batteries SMF Make Exide/Quanta/Panasonic/Numeric
Backup:	45 Min on full Load Battery (60KVA minimum 62nos 12V/100AH batteries should be quoted OR equivalent VAH but battery combination ≥ 100 AH).
Bypass / Remote Monitoring	Automatic Static Bypass Switch / SNMP Support
Warranty: Three years replaceable warranty on UPS as well as on Battery bank is mandatory from date of Installation,	
Important Note:-	
<ol style="list-style-type: none"> 1. Alarm Indication, Main On, Inverter On/Off/ Faulty indication Battery Level Static Bypass On Load Level Over Temperature Audible Alarms, Mains failure, low Battery, Over Load. 2. UPS must be IGBT based rectifier/inverter/IGBT/Charger. 3. Automatic Phase sequencer should be at input side. 4. For the service of UPS, the vendor must have service support at Kanpur/ Lucknow with adequate service persons, spare & standby UPS Facilities. 5. Battery Cabinets should be matching with site available. 6. Quoted model should be CE Certified, and Company should have ISO 14001 & 18001 certificates. 7. Tender should be submitted in two parts – Technical & Financial. 8. Hard Copy quoted Product brochure must be attached along with technical bid. 9. Price validity- 90days 	

General Terms & Condition

1. Evaluation will be done on the basis of technical specifications given in tender document.
2. Financial bid will be open for those only who qualify all the technical specification as per our tender notice.
3. Quotation must be valid for 90 days
4. Please send the name and contact details of the person to whom company had supplied/ or give services for similar systems & requirement. Committee may ask for the feedback.

5. Payments terms: 70% against delivery at IIT Kanpur, 20% against installation and 10% against successful running of equipment 3 months and approval.
6. The supplier must have supplied systems to institutions of national and/or international repute.
7. Warranty/Guarantee should be clearly mentioned. The Warranty must start from the date of installation at IITK.
8. Installation, demonstration, and training-sessions at IIT Kanpur will have to be provided by the manufacturer or the vendor for the quoted system free of cost.
9. Quotation should carry proper certifications like proprietary certificate/ authorization certificate from manufacturer, etc.
10. Price must include all taxes and charges.
11. Institute is exempted for partial custom duty (CD applicable to IIT Kanpur is 5.15%).
12. The delivery period should be specifically stated. Earlier delivery may be preferred.
13. At any time prior to the deadline for submission of bid, the Institute may, for any reason, at its own initiative, modify the bid document by amendments. Such amendments shall be uploaded on the website through corrigendum and shall form an integral part of bid document. The relevant clauses of the bid document shall be treated as amended accordingly. It shall be the sole responsibility of the prospective bidders to check the website from time to time for any amendment in the tender document. In case of failure to get the amendments, if any, the Institute shall not be responsible for it.
14. The Penalty @1% per week or part thereof subject to max 10% of the delivery price will be deducted from the balance payment, if supply is not completed within aforesaid delivery period.
15. The indenter reserves the right to withhold placement of final order. The right to reject all or any of the quotations and to split up the requirements or relax any or all of the above conditions without assigning any reason is reserved.

Kindly send the quotation in sealed envelope latest by 3:00 PM on Dated 21.02.2018 to the following address.

Dr Ashish

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