



Purchase department
Bharat Heavy Electricals Limited,
Boiler Auxiliaries Plant, Ranipet - 632 406, INDIA.
(A Government of India Undertaking)

Technical Specification for 80KVA ONLINE UPS system as per enquiry no 2760768E			Supplier's Acceptance or Remarks
SLNo	Description	Specification	
1	Capacity of UPS	80KVA ----Requirement---02 nos	
2	Technology:	True On-line, double conversion type	
3	Inverter Device Type:	IGBTs	
4	Technology of rectification/ Inversion:	Fully Microprocessor based - free frequency - PWM with IGBTs	
5	Input Source:	Mains / Local DG Set Compatibility	
6	Input Voltage:	415 VAC 3 phase, 4 wires	
7	Input Voltage Tolerance:	±20%	
8	Input Frequency:	50 Hz	
9	Input Frequency Tolerance:	45 Hz to 55 Hz	
10	Input Power Factor:	> 0.9 at nominal voltage and full load	
11	Output Voltage:	415 VAC 3 phase, 4 wires	
12	Output Voltage Regulation:	±1% for 100% static load	
		±1% for 100% balanced load	
		±1% for 100% un-balanced load	
		THDU < 3% between Phase to Neutral for 100% non-linear load	
13	Output Power Factor:	0.9 or higher	
14	Over Load Rating:	110% for 60 minutes	
		125% for 10 minutes	
		150% for one minute	
		Single phase - 200% for 30 seconds	
15	Total Harmonic Distortion:	< 5% at 100% NonLinear Load	
16	Inverter Efficiency:	> 90%	
17	Overall efficiency:	> 85%	
18	Static switchover capability:	14 times for 10 milli seconds	
19	Static Switch:	A Built-in static transfer switch shall be provided as an integral part of the UPS. The Static switch shall be a Bi-directional naturally committed high-speed static (SCR type) device rated to carry full load current continuously.	
20	Isolation Transformer:	The UPS should have input / output Isolation Transformer	
21	Maintenance Bypass:	The UPS should have a Built-in Maintenance Bypass Isolator to directly connect the load to the input AC power source, bypassing the rectifier, inverter and static transfer switch.	
22	DC voltage:	> 384 Volt	
23	Battery Parameters:	Indicate Battery Voltage, Battery Ah and number of Batteries	
24	Battery Bank:	Independent Sealed Maintenance Free battery banks with Battery Cabinet and with Battery Circuit Breaker.	
25	Interconnecting Cable:	Cable from UPS to battery bank as per site requirement shall be included in vendor scope.	
26	Battery make:	Rocket / Exide / Quanta / Perstolite/ make batteries only acceptable.	
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			Signature and Office Seal of Vendor

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27	Backup time:	Minimum 30 minutes backup on full load.	
28	Advance Battery Management for:	Periodic Battery Test	
		Controlling Charging Time and Current	
		Increase in Battery Life	
		Battery low Cut-off without draining current	
29	The UPS should have LCD panel display :	input voltage,current,frequency, power factor and KW, phase reversal correction, Output Voltages, output Currents ,Frequency,power factor and KW, Battery Voltage and charging / discharging Current, Display status of the battery Capacity and Backup time left (hrs:minutes). Any alarms (abnormal condition or fault) generated shall be display on front panel Graphical TFT LCD as well as stored in non-volatile memory with a date and time stamp of the alarm occurrence. The unit shall able to log 100 alarms (events)	
30	Interface:	RS232/RS485 interface to be provided	
31	Remote Management:	The UPS should have SNMP card & Remote Management of UPS System through LAN should be possible.	
32	Power Management Facilities:	The UPS should have Power management software and interface cable, providing complete power monitoring and control capabilities to system administrators. It should enable Safely shutdown & restart through multiple Windows & Linux clients over LAN, analyze power condition and conduct self test.	
33	Warranty:	OEM onsite / labour / parts warranty for a period of two years.	
34	Charger sizing calculation sheets:	Confirm that the charger sizing calculation sheets are enclosed.	
35	Qualification requirements	1. Supporting documents : To substantiate that the same or higher size UPS being offered under this purchase enquiry has been operating satisfactorily for two continuous years at two different customer locations. Such UPS must have been purchased from the supplier with in the last 5 years.	
		2. Performance certificate given by the end user: Suppliers who have manufactured at least two UPS equipment of same or higher size for similar applications in the past five years and such equipment are working satisfactorily for at least 2 years after commissioning or as per Technical specification should enclose at least two performance certificates - issued by two different end-users	
		3. Clientele list with their full address including details of contact person with phone no. fax no, & email ID to whom the similar UPS is supplied in the past 5 years. The date of supply should also be indicated.	
		4. Annual Maintenance contract: Vendors who agree to provide, as per the standard AMC norms, comprehensive AMC for the proposed UPS shall alone quote for this tender. Vendor to provide supporting documents in their offer itself, from 2 different end users that should certify the satisfactory execution of AMC by the UPS manufacturer for the supplied UPS system.	
36	Application of the UPS	Computer servers, computers, lightings.	



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Price Bid format for UPS system--80KVA as per enquiry no 2760768E

Sl no	Description	QTY	Price in INR per unit
1	Main UPS Unit	02 nos	
2	Battery bank with stand-01 for one unit	01x02 nos	
3	Connecting copper cable Min. 95mm ² length of 20Mtrs--for one unit	20x02 metre	
4	Magnetic Circuit Breaker (DC) -- 200Amps.-01 for one unit	01x02 nos	
5	Isolation Transformer 80KVA capacity-01 for one unit	01x02 nos	
6	Excise Duty in percentage		
7	VAT in percentage		
8	CST in percentage with "C" form in percentage		
9	CST in percentage without "C" form in percentage		
10	Total		

Signature and Office Seal of Vendor