

Annexure-A
TECHNICAL SPECIFICATION FOR 10KVA ONLINE UPS 1P-1P SYSTEMS

Note: Vendor to confirm rating/function/make wherever required, instead of writing, "confirmed/Yes/No". The vendor shall clearly indicate the specification, make and other details. A simple Yes/ No will not be acceptable to BHEL.

SI No.	Technical Parameters		Vendor to Confirm	Deviation if any
1	UPS Capacity	10kVA Online with 20mins backup time		
2	Suggested Makes	As Per Annexure-B		
3	Input			
	Voltage Range	170V - 280V AC		
	Frequency Range	45 to 55 Hz		
	Power Factor	≥ 0.99 at full load and nominal input Voltage		
	Surge Protection	Single Phase 20kA, Response Time 20 Nano Seconds & Certified / UL		
4	Isolation Transformer	Inbuilt at the input side of the UPS		
5	Output			
	Voltage	230 VAC		
	Voltage Regulation	+ / - 1%		
	Frequency (Free Running Mode)	50 Hz ± 0.1 Hz		
	Frequency (Synchronisation Mode)	45 to 55 Hz		
	Harmonic Distortion (THD)	< 3% (linear load)		
		< 5% (non-linear load)		
	Output Waveform	Sine wave		
	Crest Factor	3:1		
	Efficiency (AC - AC)	> 90%		
	Power Factor	0.9		
	Overload	105% - 125% for 10 minutes		

		126% - 150% for 1 minute		
		>150% for 10 Seconds		
		>170% for 1 Second		
6	DC Voltage	240 VDC		
	Battery	20x 12 V, 26 AH (SMF)		
	VAH	6240		
	Charger	Built-in solid state float-cum-equalizing charger with		
		automatic boost / trickle charge modes with		
		current limiting features.		
	Transfer time	0 ms		
7	General			
	Operating Temperature	10 to 45 Deg. C only for UPS		
	Noise level	< 50 dB @ 1 meter		
	LCD Display & Indication	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		
	Audible Alarm	Mains Failure alarm		
		Low Battery Alarm		
		Overload		
		Fault		
	Protections	Advanced electronic protection for device		
		safety backed with MCBs		
		Fast acting fuses,		
		High speed pulse blanking		
		Electronic overvoltage / undervoltage		
	Ingress Protection	IP20		
	Bypass	Static Bypass		
	Maintenance Bypass	Available		
8	Communication Interface	SNMP & RS 232 port for software interface		
9	Warranty	2 Yrs on UPS & Batteries		
10	Certifications	ISO 9001,14001,18001		

Annexure-B

1. Luminous Power Technologies Pvt Ltd
2. Genus Power Infrastructures Ltd
3. Su-Kam Power Systems Ltd
4. Numeric Power Systems Ltd (Swelect Energy Systems)
5. Microtek International Pvt Ltd
6. Delta Power Solutions India Pvt Ltd
7. Consul Consolidated P Ltd
8. Best Power Equipments (I) Pvt Ltd
9. Uniline Energy Systems Pvt Ltd
10. Tritronics India Pvt Ltd
11. Techser Power Solutions Pvt Ltd
12. Truepower International Ltd
13. Epoch Electronica Ltd
14. upsINVERTER.com
15. Emerson