COMPLIANCE STATEMENT TO TECHINCAL SPECIFICATIONS OF THE UPS FOR CRITICAL ANALYTICAL MACHINES

VENDORS ARE REQUIRED TO FILL-UP THE `OFFERED SPECIFICATIONS' COLUMN (Vendor not filling-up this format will be rejected)

SPECIFICATIONS FOR 10 KVA ONLINE U.P.S. SYSTEM – 1 Set		
PARAMETER	**REQUIRED SPECIFICATION**	**OFFERED SPECIFICATION**
Topology	True Online Double Conversion Power Recreation	
Isolation	Regenerated Output Neutral for Galvanic Isolation between Mains and UPS / Load	
Rectifier Design	Fully Controlled	
Charger Design	Low Ripple CVCC Battery Charging	
Inverter Design	Advanced Sine-weighted High Frequency PWM using IGBT with Instantaneous Sine-wave Control	
Duty	Continuous Operation.	
INPUT		
Voltage Range	340 to 470 V AC	
Frequency Range	47 to 53 Hz	
Input Power Factor	>0.92	
Input Phase Reversal	The UPS should keep working on Mains supply indefinitely and should also charge the batteries	
OUTPUT		
Power Rating	10 KVA / 10 KW 230 V, 1 Phase	
Output Current	Continuous Output Current @ 230 V AC = 43.5 A	
Voltage Regulation	$\pm$ 1%	
Waveform	Sine Wave	
Harmonic Distortion	Less than 2% on linear load	
Power Factor	Unity to 0.7 lag within specified power ratings	
Load Crest Factor	3:1 without derating	
Overload Rating	125% for 1 minute 150% for 10 seconds 300% for 10 milliseconds The UPS should not trip in case of Start-up of Any Load at the Output within the above specifications	Specify Output Current @ 230 V and 125% load: Specify Output Current @ 230 V and 150% load : Specify Output Current @ 230 V and 300% load :
External Relay Port / Contact	Should be provided for Extending Alarm / Signaling to the Infrastructure / Panel	

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PARAMETER	REQUIRED SPECIFICATION		OFFERED SPECIFICATION	
BATTERY				
Back-up Time	20-25 Minutes on full load. Battery Required : For 10 KVA /10 KW UPS : 10000 VAh Minimum Battery Type :Sealed Lead Acid Maintenance Free		Specify No. Of Batteries : Specify Voltage of Each Battery : Ampere-Hour Rating of Each Battery :	
Battery Installation	For Safety of the user, either the batteries should be built-in OR external Powder-coated battery cabinet should be supplied.			
Cabinet Protections	IP10 Protection			
Battery Path Protection	There shall be a suitable DC Type MCB / MCCB / Protection in addition to protection inside the UPS			
PROTECTIONS				
Input Over Current	Input Under/ Over Voltage	Output Under/ Over Voltage		
Over Temperature	Battery Under/ Over Voltage	Output Overload & Short Circuit		
ENVIRONMENTAL				
Operating Temperature	0 to 40 deg C (45 deg C Peak)			
Relative Humidity	Upto 95% Non-condensing			
Audible Noise	< 55 dB at 1 metre			
Ingress Protection	IP21			
Cooling	Forced Air Cooling			
INTEGRATED AUTOMATIC BYPASS TRANSFER SWITCH				
Bypass Supply	UPS should have Automatic Transfer Switch for Transferring the Load to Standby Supply			
Intelligence in Automatic Bypass	UPS should have intelligence in Bypass Operation and should not Transfer the Load to Bypass Supply if the Bypass Supply is Beyond +-10% of the UPS Output Voltage The Critical load should not get damaged even in case of Bypass supply being too High. If this feature is not available, the supplier should supply external Over Voltage Protection of 10 KVA / 10 KW with necessary wires / cables rating alongwith the UPS			
Bypass Supply Frequency Tracking	Should be incorporated – In case Bypass Supply is provided with another supply of 48 to 52 Hz, the UPS should also track the frequency to ensure minimum frequency jerk to Critical Load under transfer to bypass supply and return from bypass			

Continued..3…

PARAMETER	REQUIRED SPECIFICATION	OFFERED SPECIFICATION
Bypass Supply Frequency Tracking	Should be incorporated – In case Bypass Supply is provided with another supply of 48 to 52 Hz, the UPS should also track the frequency to ensure minimum frequency jerk to Critical Load under transfer to bypass supply and return from bypass	
Output Panel	Should be Provided with via 6 No. Two Pole MCB – C-Curve	Specify the No. Rating
EXTERNAL PANEL FOR UPS INPUT AND LOAD DISTRIBUTION		
Input	Suitable MCB / MCCB of Reputed Brand	Specify the Brand and rating :
Output	Minimum 6 No. Through Two Pole MCB – C-Curve	Specify the No. Rating
UPS Output Change-Over Switch	Rated for 63 A, Single Phase, Two Pole	
Indications	Suitable Long-term Reliability LED Type	
ONSITE WARRANTY		
For UPS	5 years Minimum	
For Battery	5 years Minimum	
EARTHING		
6 No. to be Made per UPS	6-Sets of ERICO Make CHEMICAL EARTHING Material for Onsite Work using 10 Feet or Longer Steel Bonded Copper Electrode and Ground Enhancement Material as per Global Standard	
Additional Earthing related Material	Wiring and hardware and above 6 No. Earthing with following specification: 1. 25 x 3 mm copper strip, approx.50 meter with insulation sleeve & wall insulators. 2. 1Cx6.0 mm^2 Cu Flexible Wire Green for Earthing with lugs at ends , approx.100 meter	
CABLING, LAYING & DISTRIBUTION FROM Input Output Panel to Load		
For the above UPS Input & Output - To be done by the supplier. Scope may be evaluated.	The expected cable dimensions are : 10 Sq.mm Copper Flexible with laying using Conduit 6 Sq. mm Copper Flexible with laying using Conduit	
For Bypass Supply of above UPS to be fed from our Standby Bypass Source	10 Sq. mm. Copper Flexible with laying using Conduit – approximately 50 metres	

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VENDORS ARE REQUIRED TO FILL-UP THE `OFFERED SPECIFICATIONS' COLUMN (Vendor not filling-up this format will be rejected)

SECOND TIER OF ONLINE UPS PROTECTION DEDICATED FOR CRITICAL LOAD - 3 KVA – 2 Sets (Specifications are for Each Set of UPS)		
PARAMETER	**REQUIRED SPECIFICATION**	**OFFERED SPECIFICATION**
Topology	True Online Double Conversion Power Recreation	
Inverter Design	Advanced Sine-weighted High Frequency PWM using IGBT with Instantaneous Sine-wave Control	
Duty	Continuous Operation.	
INPUT		
Voltage Range	180 to 260 V, Three Phase	
Frequency Range	47 to 53 Hz	
OUTPUT		
Power Rating	3 KVA 230 V, 1 Phase	
Output Current	Continuous Output Current @ 230 V AC = 13 A	
Voltage Regulation	$\pm$ 1%	
Frequency	50 Hz Nominal	
Waveform	Sine Wave	
Power Factor	Unity to 0.7 lag within specified power ratings	
Load Crest Factor	3:1 without derating	
High Efficiency Mode	Required to ensure lower Power Losses and Two-Tier UPS Redundancy for Critical Load	
Output Load Segments	Minimum 2 No.	Specify the No. Rating
Output Programmability	Each Load Segment should be Programmable for the Back-up time	
External Relay Port / Contact	Should be provided for Extending Alarm / Signaling to the Infrastructure / Panel	
BATTERY		
Type	Sealed Lead Acid Maintenance Free	
Back-up Time	30 minutes on full load. Battery Required : For 3 KVA UPS : 3000 VAh Minimum	Specify No. Of Batteries : Specify Voltage of Each Battery : Ampere-Hour Rating of Each Battery :
Battery Installation	For Safety of the user, either the batteries should be built-in OR external Powder-coated battery cabinet should be supplied.	
Battery Cabinet Protections	IP10 Protection	
Battery Path Protection	There shall be a suitable DC Type MCB / MCCB / Protection in addition to protection inside the UPS	

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PROTECTIONS				
Input Over Current	Input Under/ Over Voltage	Output Under/ Over Voltage		
Over Temperature	Battery Under/ Over Voltage	Output Overload & Short Circuit		
PARAMETER	**REQUIRED SPECIFICATION**		**OFFERED SPECIFICATION**	
ENVIRONMENTAL				
Operating Temperature	0 to 40 Deg C for UPS Electronics			
Relative Humidity	Upto 95% Non-condensing			
Audible Noise	< 55 dB at 1 metre			
Ingress Protection	IP21			
Cooling	Forced Air Cooling			
EXTERNAL PANEL FOR UPS INPUT AND LOAD DISTRIBUTION				
Input	Suitable MCB / MCCB of Reputed Brand for Both UPSs		Specify the Brand and rating :	
Output Load Segments	Minimum 2 No.		Specify the No.	Rating
UPS Output Change-Over Switch	Rated for 25 A, Single Phase, Two Pole			
Indications	Suitable Long-term Reliability LED Type			
ONSITE WARRANTY				
For UPS	5 years Minimum			
For Battery	5 years Minimum			

ADDITIONAL ACCESSORIES & INSTALLATION

SNo	Details	Qty	Unit
1	**MS channel for wiring 50 mm width**	**100**	**Meter**
2	**MS switch boxes with Modular sockets and switches, 15 A**	**40**	**boxes**
3	**Wiring if any, as per site requirement**		
4	**RCBO DP 40A/100mA of ABB / LEGRAND/ Hager Make alongwith Boxes & 40 A DP C-Curve MCB**	**1**	**No.**
5	**RCBO DP 40A/30mA of ABB / LEGRAND/ Hager Make alongwith Boxes & 16 A DP C-Curve MCB**	**1**	**No.**