

COMPLIANCE STATEMENT TO TECHNICAL SPECIFICATIONS OF UPS FOR RESEARCH WORK AND ITS ACCESSORIES

No. of UPS Systems required : 2 Sets

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

SPECIFICATIONS FOR 6 KVA ONLINE U.P.S. SYSTEM		
PARAMETER	REQUIRED SPECIFICATION	OFFERED SPECIFICATION
Topology	True Online Double Conversion Power Recreation	
Isolation	Regenerated Output Neutral for Galvanic Isolation between Mains and Load	
Rectifier Design	Fully Controlled	
Charger Design	Dual-Step (Float/ Boost), 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	160 to 270 V, Single Phase	
Frequency Range	47 to 53 Hz	
OUTPUT		
Power Rating	6 KVA 230 V, 1 Phase	
Output Current	Continuous Output Current @ 230 V AC = 26 A	
Voltage Regulation	+ 1%	
Frequency	50 Hz ± 0.05% Crystal Controlled	
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	

PARAMETER	REQUIRED SPECIFICATION		OFFERED SPECIFICATION	
Overload Rating	125% for 10 minutes 150% for 1 minute 300% for 10 milliseconds The UPS should not trip in case of Start-up of Main Machine		Specify Output Current @ 230 V and 125% load: Specify Output Current @ 230 V and 150% load : Specify Output Current @ 230 V and 300% load :	
BATTERY				
Type	Sealed Lead Acid Maintenance Free			
Back-up Time	30 Minutes. Battery Required : For 6 KVA Load : 4900 VAh Minimum			
Battery Installation	For Safety of the user, either the batteries should be built-in OR external Powder-coated battery cabinet with castor-wheels should be supplied.			
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 45 deg C (50 deg C Peak)			
Relative Humidity	Upto 95% Non-condensing			
Audible Noise	< 55 dB at 1 metre			
Ingress Protection	IP21			
Cooling	Forced Air Cooling			
WARRANTY				
For UPS	60 months Minimum			
For Battery	60 months Minimum			

ACCESSORIES & ITS INSTALLATION

S. No.	DESCRIPTION OF ITEM	Qty	Unit
<p>A</p> <p>1</p>	<p>415V AC SWITCHBOARD / PANEL</p> <p>L.T. Panels / Switchboards as per attached Single Line Diagram Enclosed. Indoor cubicle panel, floor mounted, cable entry at bottom or top as per site requirement, powder coated, incomer & outgoing shall be connected with Al/Cu Conductor Armoured / Flexible Cables. Panels shall be fabricated out of 14 Gauge CRCA sheet steel, compartmentalised free standing floor/wall mounted, dust and vermin proof, with reinforcement of suitable size as required. Panels shall be treated with all 7 tank anti-corrosive process before painting / powder coating as per specification. Panels shall be suitable for 415V, 25kA, 3-Phase, Four wire, 50 Hz supply complete with earth bus and lifting hooks as required in case of large panels. Approval shall be taken for each panel before fabrication. (All hardwares like nuts and bolts used shall be Galvanized and Zinc passivated).</p>		
<p>1.1</p>	<p>Main Power Distribution Panel / Switchboard as per Bill of Material & SLD enclosed.</p>	<p>1</p>	<p>No.</p>
<p>a</p>	<p>Incomer : 1 Set of 100A, 4P, 16kA, MCCB with overload & short circuit protection, extended spreaded terminals and extended type rotary handle,</p>		
<p>b</p>	<p>1 Set of R Y B LED 230VA AC Phase indicator with protection fuses / MCBs of 2A.</p>		
<p>c</p>	<p>Outgoings : 63A FP (TPN Connection) 10kA MCBs - 2 Nos, 40A DP (SPN Connections) 10kA MCBs with ON LED indicator - 4 Nos, 40A DP (SPN Connections) 10kA MCBs - 2 Nos, 16A SP (SPN Connections) 10kA MCBs - 4 Nos, 10A SP (SPN Connections) 10kA MCBs - 4 Nos, 6A SP (SPN Connections) 10kA MCBs - 4 Nos. Terminal Block and copper wiring for each MCB of suitable rating.</p>		
<p>d</p>	<p>Bus Bar : Al Alloy 150A 16kA FP Section Size 25x6 mm E91E grade duly supported on SMC/DMC insulators.</p>		

e	Panel Cubicle : Main body 2 mm CRCA sheet and internal partitions of 1.5 mm CRCA Sheet, duly powder coated after 7 tank process, Floor / Wall mounting, supplier will take mounting / GA drawing approval before fabrication.		
1.2	UPS Power Distribution Panel / Switchboard as per Bill of Material & SLD enclosed.	1	No.
a	Incomer : 4 Set of 40A, 2P (SPN Connection), 10kA, MCB with overload & short circuit protection, and ON LED Indicator.		
b	Outgoings : Set-1&2 : 6A SP (SPN Connections) 10kA MCBs - 2 Nos, 10A SP (SPN Connections) 10kA MCBs - 1 No., 16A SP (SPN Connections) 10kA MCBs - 1 No., Terminal Block and copper wiring for each MCB of suitable rating. Set-3 : 6A SP (SPN Connections) 10kA MCBs - 3 Nos, 10A SP (SPN Connections) 10kA MCBs - 3 Nos, 16A SP (SPN Connections) 10kA MCBs - 2 Nos, Terminal Block and copper wiring for each MCB of suitable rating. Set-4 : 16A DP (SPN Connection) 10kA MCBs - 1 No., 16A SP (SPN Connections) 10kA MCBs - 2 Nos, 10A SP (SPN Connections) 10kA MCBs - 3 Nos, 6A SP (SPN Connections) 10kA MCBs - 4 Nos. Terminal Block and copper wiring for each MCB of suitable rating.		
c	Bus Bar : Al Alloy 100A 10kA FP Section Size 20x5 mm E91E grade duly supported on SMC/DMC insulators.		
d	Panel Cubicle : Main body 2 mm CRCA sheet and internal partitions of 1.5 mm CRCA Sheet, duly powder coated after 7 tank process, Floor / Wall mounting, supplier will take mounting / GA drawing approval before fabrication.		
Distribution Switchgear, Panels & alloyed works-total			
B	EARTHING		
1	Copper Strips of following sizes in readymade trenches or trays :-		
1.1	25 x 3 mm	35	Mtr
1.2	1Cx6.0 mm ² Cu Flexible Wire Green for Earthing with lugs at ends	50	Mtr

2	Earth Pits having 600x600x6 mm Copper plate, 40x6 mm Earth strip from plate to top of pit, 19 mm GI watering pipe with funnel, Charcoal, man hole chamber with hinged CI Cover 300x300 mm, Earth test link complete in all respects as per IS-3043 amended upto date.	3	No.
		EARTHING	
C	LIGHTING		
1	Ceiling fans as detailed below:-		
1.1	1200 mm sweep	4	No.
1.2	Wall mounted Fans 16" dia heavy duty	2	No.
2	Exhaust fan as detailed below:-		
2.1	450 mm dia	2	No.
3	Junction boxes 150x150x60 mm fitted with 4 way 32A open type terminal strip along with cover powder coated suitable for cable entry 4 way.	12	No.
4	Industrial Lighting Fixture Philips Model BY688P LED 140/CW PSD S-NBor equivalent in Wipro (High bay godown lighting)	4	No.
5	Emergency Light alongwith inbuilt battery, charging facility of suitable rating at least 11W or above of Reputed make Like Legrand or Cooper HR Series or equivalent	1	No.
6	2x28 W Industrial type T/L fitting with Vitreous Enamel reflector Philips BN208C LED40/DL L1200 FR	4	No.
7	1x28 W Industrial type T/L LED fitting with Vitreous Enamel reflector Philips BN150W LED13S-6500 PSE OD GR	2	No.
		LIGHTING	
D	LIGHT/POWER/CIRCUIT WIRING		
1	Single core flexible copper conductor PVC insulated wires of 660/1100 Volts grade. The rate shall be for single run and termination to be done with copper lugs wherever required. (Finolex / Ecko / Polycab Make)		
1.1	1.0 mm ²	100	Mtr

1.2	1.5 mm ²	500	Mtr
1.3	2.5 mm ²	500	Mtr
1.4	4.0 mm ²	500	Mtr
1.5	6.0 mm ²	100	Mtr
1.6	10.0 mm ²	100	Mtr
2	Plate switches, sockets with suitable mounting boxes, front plate, dummies etc (ABB / Finolex / Legrand Make)		
1.1	6 amps switch	30	No.
1.2	16 amps switch with Indicator	10	No.
1.3	6 amps socket 5 Pin	20	No.
1.4	16 amps socket 6 Pin	10	No.
1.5	Fan regulator step type 400W	4	No.
1.6	Moulded plate upto 1-3 modules	6	No.
1.7	Moulded plate 4-5 modules	12	No.
1.8	Moulded plate 6-8 modules	6	No.
1.9	MS Box 3x3" 1/2 Module	4	No.
2	MS Box 4x3" 1/2/3 Module	6	No.
2.1	MS Box 5x3" 4/5 Module	12	No.
2.2	MS Box 8x3" 8 Module	6	No.
2.3	PVC moulded Box 1-3 modules	2	No.
2.4	PVC moulded Box 4-5 modules	2	No.
2.5	PVC moulded Box 6-8 modules	2	No.
2.6	PVC or MS conduits along with all accessories in surface/recess including painting in case of surface conduits as required:- ISI (NIC/AKG / BEC Make)		
2.7	20 mm 16swg MS Conduit	100	Mtr
2.8	25 mm 16swg MS Conduit	300	Mtr
2.9	Special MS Boxes for any junction requirement.	25	Kgs
		LIGHT/POWER/CIRCUIT WIRING- total	
E	M.S. FABRICATION ,GI LADDER AND ALLOYED WORKS		
1	Structural steel angle, channel, flats etc complete including painting 2 coat of red oxide and 2 coat of enamel paint of approved shade.	200	Kgs

2	Structural steel chequered plate or plane plate etc complete including painting 2 coat of red oxide and 2 coat of enamel paint of approved shade.	100	Kgs
3	G.I. Sheet Cover 2 mm Thick Embossed duly powder coating of approved shade of sizes as per site required.	100	Kgs
4	GI Sheet Powder Coated Pre Fabricated Ladder / Perforated cable trays of following sizes:- 14SWG Tray & 18SWG Covers.		
5	M 6x50	25	No.
6	M 8x75	25	No.
7	M 10x100	25	No.
8	M 12x100	25	No.
M.S. FABRICATION, GI LADDER AND ALLOYED WORKS			
F	MISCELLANEOUS ITEMS		
1	32A TPN MCB with encloser (ABB / Legrand Make)	2	No.
2	63A TPN MCB with encloser (ABB / Legrand Make)	2	No.
3	25A SPN 3 Pin (P+N+E) Metal Clad Plug & Socket with DP RCBO 30mA Legrand/ABB/Eq. make	2	No.
4	32A TPN 5 Pin (3P+1N+1E) Metal Clad Plug & Socket with FP RCBO 300mA Legrand/ABB/Eq. make	2	No.
5	20A SPN 3 Pin (P+N+E) Metal Clad Plug & Socket with SPN MCB Legrand/ABB/Eq. make	2	No.
6	32A TPN 5 Pin (3P+1N+1E) Metal Clad Plug & Socket with TPN MCB Legrand/ABB/Eq. make	2	No.
7	GI Flexible pipe 1" / 25 mm dia with couplers complete as required.	15	Mtr
8	GI Flexible pipe 1-1/4" / 32 mm dia with couplers complete as required.	15	Mtr
9	Cable Tie 150 mm	200	No.
10	Cable Tie 200 mm	200	No.
11	Cable Tie 300 mm	200	No.
MISCELLANEOUS ITEMS- total			

PANEL DRAWING

