

Technical Specifications for 10 KVA UPS System

10 KVA 1-Phase Input / 1-Phase Output

Technology and Capability

- I) Microprocessor /DSP based control, using IGBT devices and high switching frequency PWM (>15kHz)
- II) Active Power Factor Correction (APFC) in converter to improve Input Power Factor > 0.95
- III) Capability of Independent or Common battery bank operation of the UPS when operated in PRS
- IV) Isolation to be provided between input and output preferably by a high frequency transformer

Input

Input facility	1-Phase
Input Voltage Range	160 - 240V AC (On Full Load)
Nominal Input Frequency	50 / 60 Hz (Auto selectable)
Input Frequency Range	45 to 55 Hz
Input Power Factor	> 0.95 on Full Load
Input Current Harmonic Distortion (THDi)	< 10% on full resistive Load (with Mains THDu less than 1%)
Generator Compatibility	Compatible to Generator set
Input Protection	Input AC over / under voltage & short circuit, output overVoltage, overload & short circuit, over temperature, battery over charge, battery low

Output

Nominal Output voltage	220VAC±1%
Nominal Output Frequency	50 / 60 Hz (Auto selectable)
Output Wave Form	Pure sine wave
Output Voltage Distortion (THDu)	<= 2% (For R Load) <= 5% (For RCD Load)
Crest Factor	3:1,
Output Short circuit Protection	Electronic / MCB
Transient Response: Dynamic Regulation for 10% to 90% step linear load	+/- 10 %
Transient Recovery to steady state condition after 10% to 90% step linear load	< 1 cycle

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SKDH

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Transfer Time (Mode of operation)

Nil from Mains mode to Battery Mode

Nil from Battery Mode to Mains mode

Transfer Time (Inverter to Bypass / Bypass to Inverter)

< 2 ms (Synchronized Mode)

Automatic & Bi-directional static by-pass (In-built)

Provided to take care of uninterrupted transfer of load from Inverter to bypass (under overload / fault conditions) & automatic retransfer from bypass to inverter (on removal of overload / fault conditions)

Maintenance Bypass

1. UPS should have option for manual maintenance bypass

2. Transfer of load to maintenance bypass should be without disruption of the connected load

3. The maintenance bypass should provide for Hot-swap of the faulty UPS for repairs / service

Overall Efficiency (AC to AC) – Online-(Double Conversion)

> 92% (On Full Load)

Overall Efficiency (AC to AC) -ECO Mode-

(Bypass feeding the load under normal conditions)

> 96 % (On Full Load)

Inverter Overload capacity

125% 300 sec

150% 30 sec

Display Panel (In-built LC Display / LED)

Measurements

Input: Voltage / Frequency

Bypass: Voltage / Frequency

Output: Voltage / frequency

Battery: Remaining time / Battery Level Indicator

Load: Percentage / Load Level Indicator

Fault IndicationCharger Failure

Battery Failed

Battery Low

Overload

Indications

AC indicator

Battery Mode of Operation

Bypass feeding the load

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Audible Alarms

UPS Fault

Battery Low beep / DC Fault beep/ UPS Overload beep/ output short circuit fault beep/ Shutdown beep

Battery Bank Voltage

240 V DC or higher

Batteries Type

Sealed Maintenance Free (SMF) - 12V Cells 65AH

Battery Makes

Quanta(Amara Raja) / Rocket / Exide

Number of Battery Bank

1 No.

Minimum Charger Rating

The charger should be able to deliver charging current Equivalent to 10% of Battery Ah rating offered.

Charger type / Charging Method & Charging Voltages

Constant Voltage Constant Current Solid state SMPS charger

Float Voltage: 2.25 - 2.26 VPC minimum

Boost Voltage: 2.30 - 2.33 VPC minimum

Battery recharge time (After complete-discharge) to 90% capacity

10-12 hours

Battery Housing

Should be compact and space saving open racks complete interconnectors

Battery End Cell Voltage

1.75 VPC

Interface to NMS (Network Management System)

SNMP Card for connecting the UPS to LAN thru Ethernet port & monitoring thru NMS should be available (SNMP Card / NMS software)

Cold Start

UPS should start up

On AC Supply (Mains) without DC Supply (Batteries)

On DC Supply (Batteries) without AC Supply (Mains)

Automatic Restart

UPS should start up automatically on mains resumption after battery low shutdown

Self-Diagnosis

UPS should be capable to carry out self-test of Rectifier / Charger /Battery & Inverter module during start-up

Operating Humidity

0% ~ 95%RH (No Condensing)

Type of Cooling

Forced Air

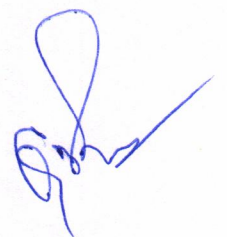
Noise Level

< 59 dbA at 1 meter distance

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Air Filters

UPS should have internal anticorrosion air filters for dust filtration

Reliability

MTBF greater than 100000 hours

Product Safety Certifications

All mandatory certificates must be provided.

The UPS must be CE & UL Certified. Include copy of certificates

Authorization certificate from OEM

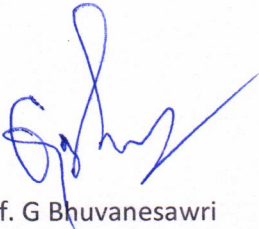
Required

Terms and conditions:

1. The quotations must be submitted with technical brochure, pamphlet etc.
2. The quotations must be submitted in rupee only.
3. Warranty: 3 years (comprehensive on-site) on UPS and one year on batteries.
4. Certificate of the quoted model (copy to be attached).
5. No query regarding the tender will be entertained.
6. Delivery period should not exceed 3 weeks from the date of placement of order.
7. Separate sealed **technical** and **commercial** bids should be submitted in separate envelopes, otherwise the quotation will be rejected.
8. The quotation should reach the address given below on or before 15.03.2013 by 5:30pm.

Prof A D Rao
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NOTE: The committee has all rights to accept or reject any or all quotations without assigning any reasons.



Prof. G Bhuvaneshwari
Chairperson, Purchase committee



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