DSP/ HIGH-END MICRO CONTROLLER BASED UPS JUMBO models are designed using latest state-of-the-art Technology for Optimum Performance and Higher Reliability.

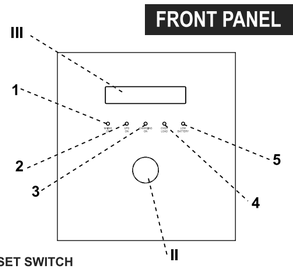
- **DSP/High-end micro controller based PWM technology using MOSFET:** DSP/High-end micro controller used where the internal digital frequency control is at a speed of as high as 40 MIPS (millions instructions Per Second).
- **ACEC (Analog Compare Error Correction) technology based PWM for the generation of Pure Sine Wave:** Using ACEC technology the PWM is corrected.
- **Boost based PWM controlled Intelligent Multistage Battery Management Charging Technology**, the input power factor maintains 0.85 which reduces the electricity bills.
- Wiring Fault, Overload, Short-Circuit, Battery Low, Reverse Phase, Reverse Battery Protections.
- **ASC (Assessing System Configuration) software technique is being incorporated.** The software verifies all the critical system parameters before the system starts, & keep on assessing the system parameters while the system is running.
- Delivers unmatched noise free performance.
- UPS mode: Very useful with computer type of applications, music studios or medical etc.
- **Replicates Mains:** Ensure same power quality as from mains with a Crest factor of as high as 3.7.
- LCD/LED indication for Status & Fault, Load & Battery indication.
- **PLPO:** Peak Load Peak Output ensures high peak load handling capacity.
- **Generator Compatible.**

TECHNICAL SPECIFICATIONS

Input voltage	(Std)	100V~280V
	(Narrow)	180V~260V
Output Voltage on mains mode		Same as input
Output Voltage on UPS mode		220V±10%
Output frequency on UPS mode		50Hz ± 0.5Hz
Switching from mains to UPS and from UPS to mains		Automatic
Output waveform on mains mode		Same as Input
Output waveform on backup mode		PURE SINEWAVE
Battery charging current		Max Charge Current 20A±3A
Battery Charger		Boost based PWM control multi-stage IBM technology
Efficiency		> 80%
Input Brown Out Voltage		100V±10V
UPS Overload		108% of the Rated Capacity
Technology		DSP Based Smart Control Design.
Auto Reset Feature		Yes
Operating Temperature		0~45°C
Mains Bypass		Rotary/Rocker Bypass Switch

NOTE: Power Factor may vary depending upon the Load.
Because of a policy of continuous product improvement, specifications are subject to change without notice.

FRONT PANEL



I. LED Indications

1. Mains ON.
2. UPS on Backup.
3. Battery Charging.
   - ✱ LED Continuously Glows when Charged.
   - ✱ LED Blinks when Battery is Charging.
4. UPS Overload.
5. Battery Low.

II. POWER ON/OFF AND RESET SWITCH

I) Switch OFF: UPS does not delivers power when mains is out of range, UPS delivers power when mains is within range and also performs charging.

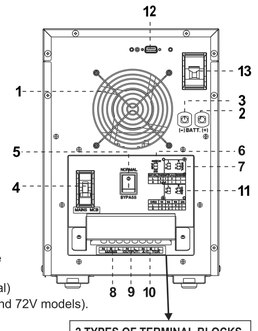
II) Switch ON: UPS delivers power when mains is out of range *Buzzer Active.

III) Switch Reset: Means make UPS switch OFF and reset all fault conditions.

III. LCD Display Indications

1	Welcome Message	WELCOME TO MICROTEK INTL Initializing... JUMBO.....
2	UPS ON	UPS ON O/P: ...V Battery Time:...h O/P FREQ:....Hz Battery:.....V ....MODE Load:...%
3	Mains ON	Input FREQ: ...Hz Battery: ...V AC Input: ...V Chg Res Time:...h
4	Overload Indication	*OVERLOAD: ...% Pls Reduce Load UPS OFF INV Over Load
5	Low Battery Indication	LOW BAT: .....V Pls Reduce Load
6	Low Battery Shutdown	UPS OFF Low Battery
7	Low PF OVER LOAD Indication	LowPF OVER LOAD Pls Reduce Load

BACK PANEL



1. AC Fan.
2. (+) Positive Battery Lead.
3. (-) Negative Battery Lead.
4. Input MCB AC.
5. Rotary/Rocker Switch, used to select UPS or Bypass Mode.
6. Input Voltage selection slide switch (STD. / Narrow)
7. Battery Type selection slide switch.
8. Input Terminal Block.
9. Output Terminal Block.
10. Delayed Output Terminal Block.
11. Charging Current selection slide switch (20A/15A/10A/5A).
12. RS232 Communication (Optional)
13. Battery MCB (Installed in 48V and 72V models).

Charging current define:

Charging current	5A	10A	15A	20A
Switch L	0	1	0	1
Switch R	0	0	1	1

Battery type define:

Battery type	TUB	SMF	FLA-LC	RESERVED
Switch L	0	1	0	1
Switch R	0	0	1	1

2 TYPES OF TERMINAL BLOCKS

OPTION-1

N	E	L	N	L	N	E	L
MAINS			OUTPUT		A/C TDR		

OPTION-2

N	E	L	N	L	L
MAINS			OUTPUT		TDR

IMPORTANT: While installing the UPS, Keep minimum distance of 1feet from the wall, so that air can circulate freely.

STEPS FOR UPS INSTALLATION

TO BE DONE BY A COMPETENT & KNOWLEDGEABLE PERSON.

- Switch OFF the supply to the distribution point to which the UPS unit is to be connected.
- For extra safety also remove the fuses from the line. Make absolutely sure with measurement that there is no power.
- A readily accessible disconnect device must be incorporated in all fixed input wiring. The disconnect device shall have a contact separation of at least 3mm. The UPS has automatic backfeed isolation but for extra safety a warning label can be added on all primary power isolators installed remote from the UPS to warn electrical maintenance personnel.
- Check the building wiring, Improper wiring will not prevent the UPS from operating but will limit its protection capability. Improper building wiring could result in equipment damage that is not covered in warranty.
- Connect the Battery/Batteries to UPS as per its requirement.
- Keep the front switch of UPS on OFF position.
- Connect the Load wire to the Output Terminal Block located on the rear panel of UPS.
- Connect AC input wire to commercial mains socket.
- Switch ON the front Switch of the UPS.

TROUBLE SHOOTING

Problem	Possible Cause / Action Suggested
1. UPS does not operate if Mains fails. MSG:- "AC OUT OF RANGE" "UPS OFF"	a) Check "Backup" LED, if OFF, shift the Power ON/OFF Switch to ON Position. b) Check the output connections. c) Reset UPS front switch by making it OFF then ON, if still problem persist bypass UPS by Rotary/Rocker Switch & Call Service Centre.
2. Mains normal but working on Backup mode. MSG: MCB TRIP / SELECT	a) Check the INPUT AC for loose connection, check the MCB on back panel if trips then reset MCB or check the Rotary/Rocker Switch if in OFF position. b) AC out of range / check for dead wall socket. c) Over temperature protection, wait for unit to cool down, it will automatically reset to the normal operation. (within 30minutes) d) Internal problem, bypass UPS by Rotary/ Rocker switch & Call Service Centre.
3. "Overload LED Glowing MSG: OVERLOAD: 108% LowPF OVER LOAD Pls Reduce Load	Overload>107% please reduce load & reset UPS as it may be overloaded
4. UPS Trips.(Low Battery LED glows) MSG: *UPS OFF Low Battery	Battery is discharged or reduce the load reset the front ON/OFF switch to get the output.
5. (continuous Beep with Overload LED glows Continuously) MSG: O/P Short Circuit	Switch OFF the Power ON/OFF Switch to stop the beep, Check LED indication and power wiring, reduce the load & restart system again by making the switch on Power ON position.
6. Less Backup	Check battery water, charge the battery for at least 15 hrs. if still backup is less get battery checked by Service Center.
7. Mains backup, continuous operation with no Output.	Check for the wiring of input & output for phase reverse.
8. During Mains/Backup mode LED blinks.	a) Over temperature protection wait for unit to all. cool down, it will automatically reset to the normal operation. b) Reset UPS front panel switch by making it off then on, If still problem persist internal problem, bypass UPS by Rotary/Rocker switch & Call Service Centre.
9. Turn output voltage On and Off	Check the Input/Output wires connected properly.

BATTERY - INSTALLATION & CONNECTIONS

CAUTION: Battery Polarity must be checked before connections. Wrong Polarity connection with UPS will cause Reverse Protection Fuse Blown and may lead to Fire Hazards.

NOTE: Recommended Battery:
12V x 2 for UPS JM SW 2750+/3000+/3500+ 24V models. (100AH to 200AH).
12V x 3 for UPS JM SW 3750+ / 4500+ 36V models. (100AH to 200AH).
12V x 4 for UPS JM SW 4000+ / 5500+ 48V models. (100AH to 200AH).
12V x 6 for UPS JM SW 6000+ / 8000+ 72V models. (100AH to 200AH).

SERVICING / WARRANTY

Microtek International P. Ltd., warrants each instrument to be free from defects in materials and workmanship for a period of Two years after initial delivery. This obligation is limited to servicing any instrument or part returned to the authorised service center for that purpose and to making good any parts thereof which shall, within the warranty period, be returned to the company or authorised Service center under a written intimation and which to the company's satisfaction be found defective. The company reserves the right to decide as to whether the repair work should be carried out in the company's service center or at site or at any other place.

The freight incurred for to and fro dispatch will have to be borne by the customer and the transit risk for the material will rest with the customer.

The warranty will be invalidated if defects arising in company's opinion are by reasons of accident, abuse, misuse, neglect, Improper Installation (If not undertaken by the company or its representative), fire, flood, any other act of God and any other natural calamities. Further, this warranty does not extend to any instrument which has been repaired / tampered with by any agency/person not authorized by the company. The services given for the same will be paid service.

The warranty will last for a period of 24 months from the date of initial delivery/dispatch of the instrument if used within its specifications. The warranty for the replaced components will lapse along with that of the main instrument.

MICROTEK International P. Ltd., reserves the right to make changes in design and specifications without notice and without any obligation to install such changes on units previously supplied.

In no event will MICROTEK International P. Ltd., its distributors / dealers be liable for any loss or injury or damage caused to life or property or death & disability caused to any form of life for any reasons whatsoever. The company, its distributors / dealers will also not be liable for consequential damages or for any expenses incurred by the buyer or user, due to use or sale of products sold by MICROTEK International P. Ltd., directly or through its authorised Distributors / dealers or any third party.

SAFETY INSTRUCTIONS

Always connect the UPS to a two pole, three-wire grounding mains socket, near by the product. The socket must be connected to appropriate branch protection (fuse/circuit-breaker). Connection to any other type of socket may result in a shock hazard.

To switch off the UPS output in emergency, use switch on the Front panel. Also disconnect the mains cord and battery wires.

Avoid installing the UPS in open, excessively humid place or where there is water or near flammable materials (plywood, chemicals, gasoline etc.). Care must be taken to ensure that the UPS is kept away from heat-emitting appliances such as a heater, blower, oven etc.

The unit must also be placed in a manner that it avoids exposure to sunlight. The place of installation should be well-ventilated & easily accessible for servicing. Ensure that ELCB/RCCB is not connected at either Input or Output, Only MCB upto 63A or MCCB above 100A to be used as per UPS capacity.

Foreign objects and water must not enter the UPS. Always ensure that objects containing liquid are avoided near the unit.

Place the Battery Compartment as near as possible to the UPS. Don't allow sparks near the Battery. Be sure not to come in contact with Battery Acid by any means.

Always Switch Off the UPS and disconnect mains when disconnecting the Battery.

Avoid connecting the stabilizer between Utility Power and UPS. The AVR of the stabilizer may cause rebooting of the Computer. The equipment must be earthed.

Do not open the UPS there are dangerous high voltages inside even when the power is OFF, Contact the Company only if it is not working properly.

Replace Batteries and the Fuse only with same Rating and Type.

Do not place UPS on a sloping shelf unless properly secured. Use perfect stand to hold the UPS.

Backfeed, See the warning label on the UPS.

IMPORTANT

In the event of any instrument requiring service at our authorised service centre, the following procedure should be adopted:-

1. The instrument must be securely packed, preferably in its original packing. Also ensure that nothing inside packing is damaged. Please transport the product in its original packing to protect against shock, damage & Impact.
2. We reserve the right to charge the consignee for any damage incurred during transit.
3. The output of the UPS should never be connected to a generator or incoming utility power source. This situation is far worse than a short-circuit. If the unit survives the condition, it will shutdown until correction is made.

GOING ON VACATIONS

1. Must put the UPS ON/OFF Switch in OFF Position.

DO'S & DON'TS RELATED TO UPS

Do's Related to UPS

- ✓ Unplug and Switch OFF the UPS before touching or cleaning the surface.
- ✓ Unplug the UPS from the wall outlet during a Lightening Strom.

Don'ts Related to UPS

- ☒ Don't block the bottom ventilation slots by cloth or other material it may result in fire hazard.
- ☒ Don't place the UPS near radiation or heat source.
- ☒ Don't Install near Kitchen Sink, Laundry, Wash Bowl, Bath Tub or Swimming Pool.

In case of any Service requirement kindly contact Microtek Customer Care, specifying following details:

(i) **Model Number & Serial Number of the Product.**
(ii) **Name & phone no. of the contact person with full address & e-mail ID if any.**
(iii) **Reported problem/description of the complaint.**

Note: (a) Refer all servicing queries to Microtek Customer Care only.
(b) Please take care that Serial Number is kept intact and that the product is not allowed to be fiddled (opened) by any unauthorised person; otherwise the warranty will be void.

MICROTEK CUSTOMER CARE:

ALL INDIA: 7283838383

WHATSAPP: 08800255733 E-mail: cc@microtek.in

*All disputes subject to Delhi jurisdiction only.

MICROTEK INTERNATIONAL P. LTD.
H-57, Udyog Nagar, Rohtak Road, New Delhi-110041.

POST WARRANTY ANNUAL MAINTENANCE CONTRACT (AMC)

Microtek Offers Annual Maintenance Contract to save you from any inconvenience in case of a product failure post warranty. Various options are available in select cities for all models of Microtek Products:-

For Details, Contact nearest Microtek Branch or e-mail at: ho@microtek.in

INSTRUMENT DESCRIPTION

MICROTEK JUMBO EXTERNAL BATTERY UPS

JM SW 2750+ 24V	☐	JM SW 4000+ 48V	☐
JM SW 3000+ 24V	☐	JM SW 5500+ 48V	☐
JM SW 3500+ 24V	☐	JM SW 6000+ 72V	☐
JM SW 3750+ 36V	☐	JM SW 8000+ 72V	☐
JM SW 4500+ 36V	☐		

SERIAL NO.

Authorised Dealer Stamp with Signatures

Vend. C:
Form No.: QPN/003-360
Issue No.: 03, 25/04/2024 (Part Code: 902-692-8001) 002-394-JMSW 2750+ TO 8000+ V.3

MICROTEK

JUMBO UPS

HIGH CAPACITY SERIES

UPS JM SW
2750+/3000+/3500+/3750+/4000+
4500+/5500+/6000+/8000+

USER MANUAL

ISO CERTIFIED COMPANY ISO CERTIFIED 9001:2015 ISO 14001:2015

CE 2 YEARS WARRANTY

www.microtek.in