

- MICROTEK SUPER POWER for Better Performance and High Reliability.**
- **Micro computer Inside:** Micro computer based H-Bridge topology ensures High Reliability & Rugged Performance.
  - **SELF-AWARE:** Performs SELF-TEST at Start-Up to automatically detect any faults.
  - **INTELLI-CHARGE:** Boost based IBM (Intelligent Battery Management) adjusts charging parameters to deliver best-in-class Gravity Profile Management.
  - **Bill Buster:** High Power Factor results in considerable Savings in the monthly electricity bill.
  - **Temperature Shield:** Shut down automatically when over temperature is detected. Auto Recovers when temperature stabilizes to Normal.
  - **SYC Technology:** synchronized changeover enhances equipment life as Voltage and Current remains in-phase during changeover.
  - **ECR Technology:** Extended charging Range keeps the Battery Healthy in Urban as well as Rural Applications.
  - **PLPO Technology:** Peak Load Peak Output allows heavy duty equipments to run smoothly.
  - **shhh... Factor:** Extremely Low Noise Design for silent operation.
  - **Green Mode:** SHUTDOWNS the system if running at No Load for more than 10 Hrs.
  - **Multi Stage Short Circuit Protection:** Shields your equipment from harm during Short Circuit.
  - **Deep Discharge Protection:** Saves the Battery from going into Deep Discharge Mode and keeps it healthy and safe for optimum performance.

## TECHNICAL SPECIFICATIONS

Product	UPS 1700 24V DG
VA/Wattage	1600VA/1275W
Input voltage (Standard Range)	90V~300V
(Narrow range)	180V~260V
Output Voltage on mains mode	Same as input
Output Voltage on UPS mode	200V ~ 230V ± 10%
Output frequency on UPS mode	50 Hz ± 0.1 Hz
Switching from mains to UPS and from UPS to mains	Automatic
Output waveform on mains mode	Same as Input
Output waveform on UPS mode	TPZi Waveform (TRAPEZOIDAL WAVEFORM)
Battery charging current	Constant charging approx 10% of the rated battery current in AH
Charger Efficiency	Constant current, Constant wattage > 84%
UPS Overload/UPS Short Circuit	110% / 300%
UPS Transfer Time	≤ 15msec.
Browns out mains voltage	100V ± 40V
Technology	MICRO CONTROLLER BASED DESIGN
Auto Reset Feature	Yes
Operating Temperature	-20°C~45°C

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

## 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.

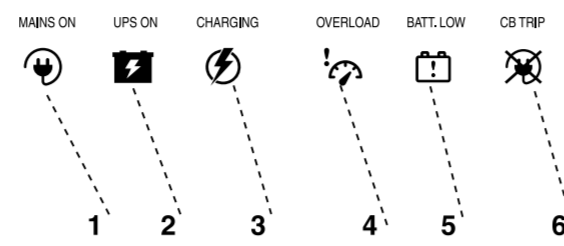
Place the Battery Compartment as near as possible to the UPS. Don't allow sparks near the Battery. Be sure not to come in contact with Battery Acid by any means.

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.

## FRONT PANEL

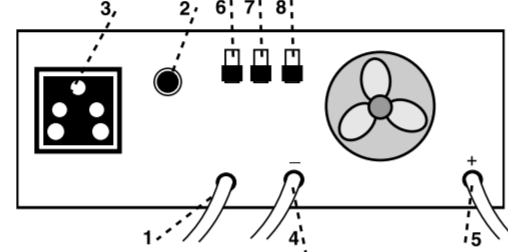


### I. LED Indications

1. Mains ON.
2. UPS ON.
3. Battery Charging.
  - ★ LED Continuously Glows when Charged.
  - ★ LED Blinks when Battery is Charging.
4. UPS Overload.
5. Battery Low .
6. Circuit Breaker Trip.

## BACK PANEL

1. Mains Input Lead for AC input.
2. Circuit Breaker for mains Short Circuit and Charger Protection.
3. Output Socket for Load.
4. Negative Battery Lead.
5. Positive Battery Lead.
6. Slide Switch to select the Charging Current
  - I) High Charging
  - II) Standard Charging
7. Slide Switch for Mains Input Voltage Range (INV: 90V~300V / UPS: 180V~260V) selection.
8. Battery Voltage Selection (TUB / LC/FP). Select appropriate Voltage as recommended by the Battery manufacturer/ Supplier.



**CAUTION:** Proper selection of switch position is recommended based on the battery manufacturers specifications, for proper backup and also to avoid any damage to the battery due to wrong selection.

\*TUB: TUBULAR LC: LOCAL FP: FLAT PLATE

## TROUBLE SHOOTING

Problem	Possible Cause / Action Suggested
1. Main Supply is Normal but:- a) UPS is working on battery (UPS ON Green LED Glows) b) Circuit Breaker Trip (CB Trip Red LED Glows and Buzzer continuously sounds) or No output from UPS	a) i) Check the AC Mains presence in the Mains AC wall socket. ii) Check the AC mains input voltage, which should be in 100~300V range. b) Check Circuit Breaker at the Rear. If Trip, Push the Circuit Breaker (Reset) to Switch On the mains, If Trips again call the authorised service engineer.
2. UPS trips frequently at UPS mode.	The load is more. Reduce the load and reset the UPS.
3. UPS Mode but no power:- a) Overload (Overload Red LED Glows) b) Low Battery (Low Battery Red LED Glows) c) Short Circuit (Overload / Short Circuit Red LED Glows)	a) Reduce the load and reset the switch on the front panel( OFF-ON). b) Battery has discharged. Recharge the battery after the mains restoration. c) Check or reduce the output load & turn the reset switch on the front panel (OFF-ON). Call electrician to check short circuit.

## BATTERY - INSTALLATION & CONNECTIONS

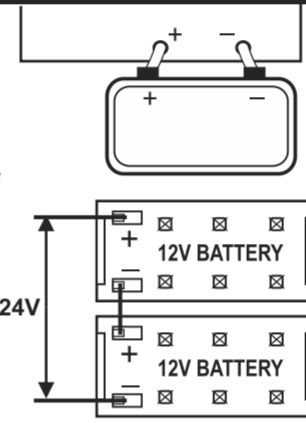
**CAUTION:** Battery Polarity must be checked before connections. Wrong Polarity connection with UPS will cause Reverse Protection Fuse Blown and may lead to Fire Hazards.

Installation shall be done by a knowledgeable person.

- Take precautions while connecting the thimble of battery cable to the battery post, avoid short circuit by spanner etc.

### BATTERY CONNECTIONS:

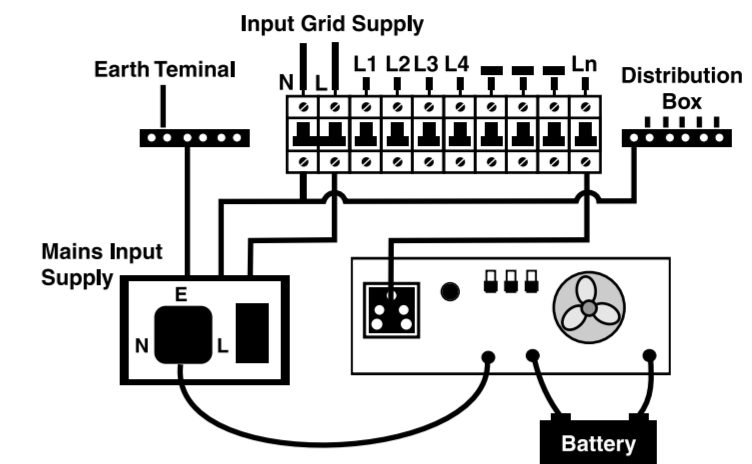
**SERIES CONNECTION:** Voltage adds & AH 24V remains same.



**NOTE:** Recommended Battery(Lead Acid Type) 2x12V: 100AH to 200AH.

## CONNECTION DIAGRAM FOR INSTALLATION

TO BE DONE BY A COMPETENT & KNOWLEDGEABLE PERSON.



L - Mains Line I/p  
N - Neutral  
E - Earth

\* When the Push switch is at OFF position then it By-Pass the mains AC supply & charges the Battery.

\* When the Push switch is at ON position(Pressed) and is having alternating supply. It charges the battery and has mains By-Pass and when the alternating supply(mains) is not present at that instant it is ready for Backup.

## 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 right hole of Output Socket located on the rear panel of UPS.
- Switch ON the front Switch of the UPS.
- Connect AC input wire to commercial mains socket.

## 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 Storm.

### 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: 728383833  
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 SUPER POWER DIGITAL EXTERNAL BATTERY UPS

Double Battery (24V) System:

UPS 1700 24V DG (MTKN1317KH)



SERIAL NO.

Authorised Dealer Stamp with Signatures

Vend. C:  
Form No.: QPN/003-347  
Issue No.: 02, 25/04/2024(PART CODE: 902-921-1701) 002-381-SUPER POWER 1700 DG V.2



**SUPER POWER**  
High Performance UPS Series

UPS 1700 24V DG



**USER MANUAL**



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