

LUMINOUS

Introducing

ZELIO+

A state-of-the-art UPS with
power back-up display
in Hours & Minutes



JODI JO DE ZYAADA



USER MANUAL

Dear Customer, thank you for buying the LUMINOUS ZELIO+ Sine Wave UPS. Welcome to the ever-increasing family of satisfied LUMINOUS users. This product provides you uninterrupted and reliable power in case of power failure. Please read the instructions carefully and thoroughly before using this product. This manual will facilitate you to not only understand the basic working of the LUMINOUS UPS but will also facilitate the ease of its maintenance and use.

SAFETY INSTRUCTIONS GUIDELINES

please go through these guidelines before connecting UPS.

This manual contains important safety and operating instructions. Read and keep the manual for future reference.

- Before installing and using this device, read all instructions located in (or on) this manual.
- There are no user serviceable parts inside the UPS. Do not disassemble or attempt to repair.
- The unit contains more than one live circuit (mains and batteries). Power may be present at more than one source.
- In case of any emergency, use the front panel switch to switch off the UPS and disconnect the mains power cord & remove one battery connector.
- Mount the unit indoors. Prevent exposure to the elements and do not allow water to enter the UPS.
- While installing the unit, make sure that UPS power switch is OFF.
- Always connect UPS to a 230V, 3-pin type mains socket with earthing. Connection to any other type of socket may result in a shock.
- To reduce the risk of electrical shock, disconnect all power source from the UPS before attempting any maintenance cleaning or working on any circuit.

Do's and Don'ts

Do's related to UPS

- ✓ Unplug and switch off the UPS before touching or cleaning the surfaces.
- ✓ Unplug the UPS from the wall outlet during a lightning storm.

Don'ts related to UPS

- ✗ Don't block the 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 the UPS near kitchen sink, laundry, wash bowl, bath tub.

Do's related to battery

- ✓ Wear safety gloves and goggles.
- ✓ Use D.M. water only for battery refilling.
- ✓ Install battery in proper ventilated area.
- ✓ Apply petroleum jelly to terminals of batteries.
- ✓ Place battery horizontally & handle with care.
- ✓ Keep out of reach of children.
- ✓ Connect correct polarity of wires from UPS with battery.

Don'ts related to battery

- ✗ Don't add impure or mineral water in battery.
- ✗ Don't add acid to the battery as it can cause damage.
- ✗ Don't keep near a moisture area or in direct sunlight.
- ✗ Don't keep the cell caps loose or open.
- ✗ Don't increase the length of battery wire.
- ✗ Don't place the battery at height.
- ✗ Never short the terminals of the battery.
- ✗ Don't over fill the battery cells.
- ✗ Keep away flammable things from the battery.
- ✗ Don't dispose of batteries in fire.
- ✗ Don't open or mutilate batteries.
- ✗ Don't keep tools or metal parts on top of batteries.

PRODUCT DESCRIPTION

LUMINOUS ZELIO+ Sine Wave UPS provides grid quality back-up power to the load and home appliances when there is a power failure. Normally, the UPS operates on mains, delivering power to the load. When the mains power fails, the load automatically transfers to UPS. The load is automatically transferred back to mains when it restores and charging is commenced to keep the battery at optimal level. The Zelio+ is equipped with a number of outstanding features such as:

- Provides grid quality sine wave.
- Intelligent back-up and battery management system.
- Automatically learns the battery capacity (Charge & Discharge cycle).
- Highly efficient and equipped with in-built protections.

PHYSICAL DESCRIPTION

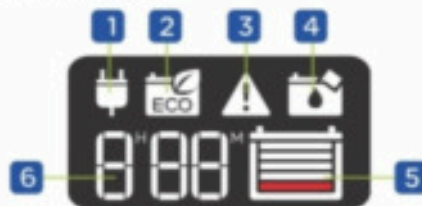
This section describes the front panel and back panel of the UPS.

Front Panel: It contains the LCD display and power switch.



1. **Power switch:** This switch is for output power ON/OFF. If the switch is OFF, the UPS will not work. If the switch is ON, UPS will work (power LED will glow indicating UPS ON).
2. **LCD Display:** It displays & indicates the various status of the UPS.

Display and Visual Indications:



1. **Mains ON :** Glows when mains input is available.
2. **Mode Selector :** Displays the UPS status on ECO mode.
3. **Fault Indicator :** Glows in case of any fault.
4. **Water Level Indicator :** Glows when water level in battery is low.
5. **Battery Charge Indicator :** Displays the battery charge level.
6. **Status Display :** Displays the following parameters:
 - Battery charge and discharge time. (in Hours & Minutes)
 - Battery type - Tubular, Flat & SMF
 - Faults & Protections

Audio Indications:

There is a buzzer sound for the following parameters & stage of UPS:

- Battery low pre-alarm & battery low · Overload · Over temperature
- Wrong wiring · Short circuit

DISPLAY DESCRIPTION:



1. **Mains ON :** When mains input is available, then the respective symbol will glow.



2. **Mode Selector :** When UPS is working in ECO mode, this symbol will glow.



3. **Fault Indicator :** When any fault is there, this symbol will glow.



when water level sensor is connected).

4. Water Level Indicator : When water level of the battery is low, this symbol will glow i.e. it is the time to fill D.M. water in battery. Water level indication enables after 1 min of sensing. It does not work when SMF battery is selected.(Glow when water level sensor is connected).



5. Battery Charge Indicator : It shows the different level of battery charge status. As per battery charge level, the bar strength increases or decreases. Bar rolls down intermittently as per load applied.



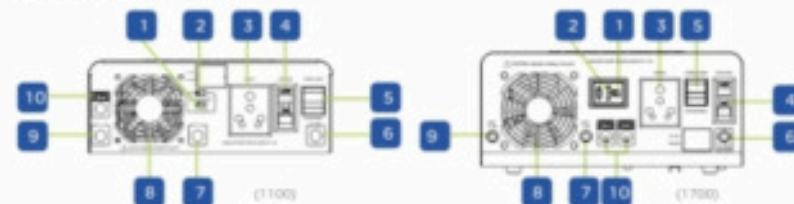
6. Status Display : When battery is connected, the selected battery icon is shown for some time i.e., TUB, FLA or SMF. Next, it displays the charge and dis-charge time i.e., the remaining or backup time for charging & discharging respectively. (Max time limit - 9Hrs 59Min) it indicates the following parameters:

6. Status Display : When battery is connected, the selected battery icon is shown for some time i.e., TUB, FLA or SMF. Next, it displays the charge and dis-charge time i.e., the remaining or backup time for charging & discharging respectively. (Max time limit - 9Hrs 59Min) it indicates the following parameters:

Condition	Description	Display Icon
Battery Low	When battery charge is low	
Overload	Excess load is applied	
Mains MCB Trip	Input mains MCB is tripped	
Short Circuit	Any short-circuit occurred	
Wrong Wiring	Output is wrongly connected	
Over Temperature	UPS is heated over range	

Note : In low battery, display will OFF after 5 minutes. Display will get reset/ON, when there is mains supply or by resetting the power switch. At full charge, display LCD gets OFF when power switch is made OFF.

BACK PANEL : It contains many components i.e., switch, socket, MCB, Fan and connector.



1. **Battery Selector :** This switch selects as per battery type

Battery Type	Switch Position
Tubular	T/TUB
Flat Plate	F/FLAT
SMF	S/SMF

2. **Mode Selector :** This switch selects as per the UPS/REG or ECO mode. UPS/REG mode is selected when computer is to be run.

Mode	Switch Selection	Voltage Range
ECO	ECO	100 - 300 \pm 10V
UPS/REG	UPS/REG	180 - 265V \pm 5V

By default, unit is in ECO mode when battery is reset.

3. **Output :** Socket to connect the output of UPS to load

4. **Input MCB :** Provided to connect the input mains.

5. **Normal/By-pass Mode Switch :** Provided to by pass the mains.

Mode	Switch Selection	Function
Normal	OFF	Load on mains input/UPS
By-Pass	ON	Load on direct mains input

6. **AC input :** The mains input cord is connected at this point.

7. **Battery (-ve) :** The battery negative lead is connected at this point.

8. **Fan :** The assembly for fan.

9. **Battery (+ve) :** The battery positive lead is connected at this point.

10. **Water Level Indicator* :** The connector for battery water level sensor is connected at this point.

There are two sensor jack (For Zelio+ 1700 only):

S1 for Battery 1 and S2 for Battery 2

Note: Connection to both the sensor is necessary for display indication.

***Water Level Sensor is available separately with retailer for purchase and is not a part of the standard equipment.**

INSTALLATION AND OPERATION

For the integrity of the installation, please review all the safety precautions mentioned in this manual before installation process. Observe all the warnings and labels on the equipment. Do not try to install the system yourself. Only a trained LUMINOUS engineer is authorized to install the system. If the system is found tampered by any unauthorized person, the warranty would expire immediately.

Unpacking and Inspection

- Check the condition of packaging box before unpacking the unit
- Check the warranty card and product manual inside the box
- Check the physical damage of the system during transit
- In case of any damage or any problem, inform the concerned engineer

Placement

- Place unit on smooth surface in clean, dry and well-ventilated area

STEPS FOR UPS INSTALLATION:

- To be done by a competent & knowledgeable person.
- Switch OFF the supply to the distribution point to which the UPS is to be connected.
- 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 correct polarity.
- Keep the front switch of UPS in OFF position.
- Keep input MCB in OFF and by-pass switch in normal position
- Switch ON the front switch & measure the output voltage at output socket, it should be as per specification & switch off the UPS.
- Connect the Load wire to the line point (right hole) of output plug & insert the output plug into socket located on the rear panel of UPS.
- Switch ON the front Switch of the UPS.
- Gradually put the load on UPS.
- Connect input plug to commercial mains socket in correct polarity.

Note: Do not switch ON the UPS power switch if any fault is indicated. In case of CBL warning indication, correct the wiring, then switch ON the UPS power switch. The water level measuring device shall be mounted near the positive (+) battery terminal.

INSTALLATION DIAGRAMS

1). BATTERY INSTALLATION

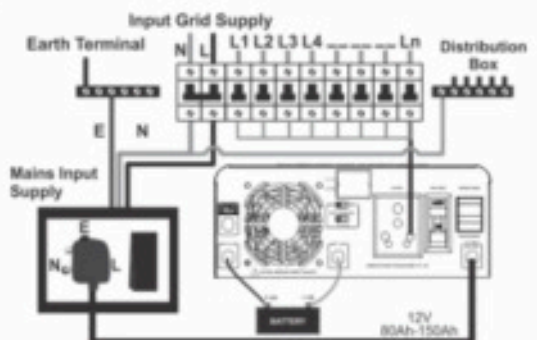
CAUTION: Battery polarity must be checked before connections.

Installation shall be done by qualified technician.

- Take precautions while connecting the battery cable to the battery post, avoid short circuit by spanner etc.
- Battery terminals and thimble etc., should be cleaned and properly fastened.

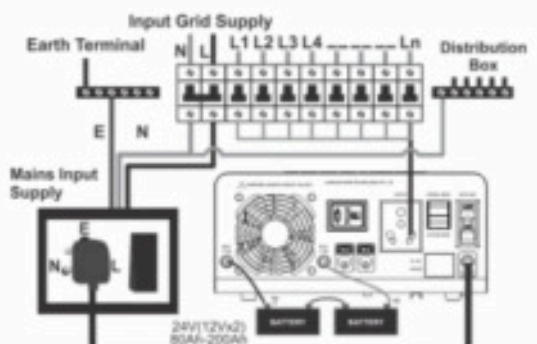
2). CONNECTION DIAGRAM OF UPS WITH MAINS & BATTERY

a) Zelio + 1100



Load Connection (should not be greater than system capacity)

b) Zelio + 1700



Load Connection (should not be greater than system capacity)

IMPORTANT INSTRUCTION

Automatically learns the battery capacity:

- Select the battery type (TUB, FLA or SMF) and mode (UPS/REG or ECO mode)
- Charge battery to 100% (all battery bars glow permanently/ no blinking)
- Discharge battery till display shows battery low indication (Lbt).
- Now the system displays actual time remaining for charge/ discharge.

Note: Actual/accurate value is achieved after 3 cycles (charge & discharge).

SPECIAL FEATURES

- Intelligent battery management system that displays remaining time of charge and discharge as per load.
- Intelligent back-up management that optimizes voltage regulation to increase back-up time if the mains cut is more.
- Automatically learns battery capacity through charge/discharge cycle.

PROTECTION FEATURES

LUMINOUS ZELIO+ SINE WAVE UPS is equipped with many in-built protections, which are as follows: (respective indication is shown on the display).

1. Short-circuit : Protects against short circuits in the system.
2. Overload : Prevents both UPS & Battery from damage during an overload condition.
3. Wrong wiring : Protects the system in case of wrong wiring connected at the output. Note that the UPS must not be switched ON in this case.
4. Over-temperature : Prevents burn-outs due to excessive heating by shutting down the UPS in case of high temperature.
5. Battery deep discharge : Protects battery from deep discharge & hence enhances life of the battery.

TROUBLESHOOTING

This section provides with troubleshooting tips to identify and solve most of the common problems that might occur.

PROBLEMS	POSSIBLE CAUSE(S)	ACTION RECOMMENDED
Mains supply is normal but... a) mains indicator is OFF or UPS is working on battery b) the mains ON indicator is glowing but no output	<ul style="list-style-type: none"> • Line plug is loose • Dead wall socket • MCB Trip • Mains input too low or high • Loose output plug 	<ul style="list-style-type: none"> • Fit plug properly • Check socket • Check MCB • Wait for mains to normalise • Fit plug properly
If the display is showing Battery Low (Lbt)	<ul style="list-style-type: none"> • Battery may be discharged 	<ul style="list-style-type: none"> • Recharge battery when mains is available
If the display is showing OVERLOAD (oLd)	<ul style="list-style-type: none"> • UPS tripped due to excess load 	<ul style="list-style-type: none"> • Reduce the load and reset the power switch

For any other problem, please contact our authorized service person.

WARRANTY

LUMINOUS POWER TECHNOLOGIES Pvt. Ltd. provides warranty to the purchaser of ZELIO+ Sine Wave UPS that it is free from all defects in workmanship and parts during the warranty period. With in the warranty period of 24 months from the date of purchase, the company or its authorized service centre shall repair or replace components that prove to be defective if used within specifications.

The company reserves the right to decide as to whether the repair work should be carried out in the company's service centre or at site or at any other place.

Note : The warranty is only valid if warranty registration form is duly signed by the authorized dealer.

Warranty shall not be applicable under the following conditions:-

- If instructions provided in the manual by the LUMINOUS are not followed.
- If any part has been subjected to misuse, neglect or accidental damage.
- Any tampering of serial number/Mfd. Code and if original seal is found broken or tempered.
- If the unit is found to have been affected by careless use, use on an incorrect voltage, lightning, act of God or exposure to abnormal conditions or household pests.
- If service is carried out by any unauthorized person or agency.

LUMINOUS POWER TECHNOLOGIES Pvt. 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.

Liability Exclusion:

The manufacturer will not be liable for any damages, caused by use other than as intended or as mentioned in this manual or if recommendations of the manufacturer are neglected. The manufacturer shall not be liable if there has been service or repair carried out by any unauthorized person, wrong use & installation or bad system design.

IMPORTANT:

In an event the unit requiring servicing at our authorized service centre, the following procedure should be adopted:

- The unit must be securely packed and dispatched on Freight-prepaid basis duly insured.
- One of our Service/Sales Executives should be informed of the Goods Receipt No. and date of dispatch along with the name of the carrier.
- The above procedure should only be adopted on the advise of one of our Service/Sales Executives or Dealer.
- We reserve the right to charge the consignee for any damage incurred during transit.

SPECIFICATIONS

MODEL		1100	1700
Apparent Power		900VA	1500VA
Active Power		756	1260
Input	UPS/REG Mode		
	Rated voltage	220V AC	
	Under voltage(UV)	180±5V	
	UV Restoration	190±5V	
	Over voltage(OV)	265±5V	
	OV Restoration	250±5V	
	ECO Mode		
	Under voltage(UV)	110±10V	
	UV Restoration	120±10V	
	Over voltage(OV)	285±10V	
OV Restoration	275±10V		
Output	Rated voltage	220±10V AC	
	Voltage (Mains)	Same as Input	
	Frequency (UPS/REG)	50 ± 0.5Hz	
	Frequency (Mains)	Same as Input (45-55Hz)	
	Overload	Greater than 105% (5 attempts & then trip)	
	Transfer Time	less than 20ms	
Battery	Type/Voltage	Tubular, Flat or SMF / 12V	
	Number	One	Two
	Charging Current	15A	17A
	Protection	Low Battery (5 attempts & then trip)	
Physical	Net Weight (Kg)	10.0	14.3
	Gross Weight (Kg)	11.0	15.4
	Dimension _(mm, WxDxH)	275x248x120	310x290x135
Environmental	Enclosure	Indoor	
	Operating Temp.	0 - 45°C	
	Storage Temp.	0 - 55°C	
Front & LCD Display	Humidity	0 - 95% RH non-condensing	
	Power ON/OFF	Indicates when power switch is ON	
	Mains ON	Indicates when input is available	
	Mode selector	Indicates when ECO mode is selected	
	Fault Indicator	Indicates when any fault happens	
	Water indicator	Indicates when battery water level is low	
	Charge Indicator	Indicates the charge strength in battery	
	Time HMM	Shows charge & discharge back-up time	
Alarms	Battery selection	Shows selected battery i.e., tub, FLA or Snf.	
	Faults & Protections	Shows faults & protections i.e., Lbt, oLd, btP, SCt, Cbl & otP.	
Alarms	Low Battery Prealarm	Beeps	
	Low Battery Trip	Beeps	
	Overload	Beeps	
	Wrong wiring	Beeps	
	Over temperature	Beeps	
	Short circuit	Beeps	

Due to continuous improvement, specifications might change without notice.

EQUIPMENT DETAILS AND INSPECTION

SERIAL No. :	Space for Bar code
MODEL	
ZELIO+ 1100 <input type="checkbox"/>	
ZELIO+ 1700 <input type="checkbox"/>	

WARRANTY REGISTRATION FORM**CUSTOMER DETAILS**

Name of purchaser:

Date of purchase:

Address of purchaser:

City: State:

Pin Code: Contact Details:

Email:

Occupation:

Birthday (optional): ___ / ___ / ____ (DD/MM/YYYY)

Please rate how you felt? (Tick appropriate)

During the sales presentation:
Good Satisfactory BadAt the time of installation :
Good Satisfactory Bad

The product has been installed to my satisfaction :

Yes No

Date: Customer signature

The warranty card is valid only if it is filled completely and signed & stamped by the dealer.

TO BE FILLED BY THE DEALER

NAME: ZELIO+ Sine Wave UPS

MODEL : 1100 1700

SERIAL No. :

Space for Bar code

BATTERY DETAILS :

MAKE :

MODEL :

SERIAL No. :

DATE OF INSTALLATION : (Authorized Signatory)

DEALER DETAILS

Name:

Address:

City: State:

Pin Code: Contact Details:

E-mail:

(Dealer Signature, Stamp & Date)

SERVICE

In the unlikely event if you are facing a problem that has not been sorted out by troubleshooting, kindly adopt the following procedure: Complaints may be logged on our 24-hour service call-desk number 1860 500 3939 or 1800 103 3039.



1860 500 3939* | 1800 103 3039*

care@luminousindia.com

*TOLL FREE NUMBER / 24 HR HELP DESK NUMBER