

MAXLion

Lithium-ion Inbuilt Inverter



700VA, 1000VA
& 2400VA

USER MANUAL

Customer Care No. - 9667 123 456

E-mail: customer.care@genusinnovation.com

CON0000007180

WARRANTY CARD

MODEL NO.		SERIAL NO.	
DATE OF PURCHASE		DEALER NAME	
CUSTOMER NAME		CONTACT	
ADDRESS			

- Genus Innovation Ltd. Warrants to the original purchaser provided the product is still possession of and used by the original purchaser from the date of purchase.
- The warranty stands on all parts (except LED, Switches, External body of system) for a period of 3 years & for battery 5 years.
- The warranty will not apply to defects arising in company's opinion by reasons of accident, abuse, misuse, neglect, improper installation (if not undertaken by the company or its representative), fire, flood or other act of GOD any other natural calamities. Any other unauthorized repairs done or carried out will have to be borne by the purchaser. The problem of fuse & MOV will not be included in the warranty of the product. The services given for the same will be a paid service.
- The company in no way will be held liable for any loss or injury or damage caused to any form of life for any reason whatsoever.
- The warranty will not apply if any original seal are found broken or tampered.
- The warranty will not apply if point to point wiring not found.

LIMITED WARRANTY STATEMENT

- Genus Innovation Ltd., represents and warrants that the Inverter/HUPS ("PRODUCT") is free from defects in material and workmanship.
- The warranty of the PRODUCT extends for a period of 36 months commencing from the date of installation or 42 months from the date of manufacturing whichever is less.
- During the warranty period Genus Innovation Ltd. or its authorized service network will repair or replace the PRODUCT or any relevant part (Except LCD/LED's, Switches and External Body) thereof in the event found to be defective. The repaired PRODUCT or the product / part provided as a replacement for a defective PRODUCT/ part shall be free from defects. The END USER/Consumer/Purchaser of the PRODUCT of his/her assignee ("CONSUMER") shall not be charged (whether for parts, labour or otherwise) for the repair or replacement of the defective product during the warranty period. All parts/boards or equipments shall become the property of Genus Innovation Ltd.
- The warranty will be void if installed solar panels are more than the maximum recommended capacity (Voc & Power).
- The warranty in respect of a repaired or replaced PRODUCT/part shall extend for the remaining warranty period of the repaired PRODUCT or replacement thereof to the CONSUMER.
- The CONSUMER shall have no coverage or benefits under this warranty in the event that any of the following conditions are applicable:
 - a) The PRODUCT has been subject to abnormal use or conditions, improper storage, exposure to excessive moisture or dampness, exposure to excessive temperature (beyond specification), unauthorized modification, unauthorized repair (including but not limited to the use of unauthorized spare parts), abuse accident, acts of God, spills of food or liquids, improper installation and breakage or damage.
 - b) The CONSUMER has not notified the defect of the PRODUCT to Genus Innovation Ltd, during the applicable warranty period.
 - c) The PRODUCT serial number code or the accessory date code has been removed, defaced or altered.
 - d) The PRODUCT has not been with or connected to an accessory:
 - Not supplied by Genus Innovation Ltd or its affiliates.
 - Not fit for use with the PRODUCT
 - Used otherwise than is the manner intended.
 - e) All plastic surfaces and all other externally exposed parts that are scratched, or damages due to abnormal customer use.
- In order to the derive benefit of this warranty in respect of any defects in the PRODUCT, the CONSUMER shall ship the PRODUCT or part thereof at its cost to the authorized service center of Genus Innovation Ltd. The Genus Innovation Ltd. shall bear the cost of shipping the PRODUCT or part there of back to the CONSUMER after the completion of the service under this limited warranty.
- NO OTHER EXPRESS WARRANTY IS APPLICABLE TO THE PRODUCT. THE DURATION OF ANY IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MARKETABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY HEREIN GENUS INNOVATION LTD. SHALL NOT BE LIABLE FOR THE LOSS OF USE OF THE PRODUCT INCONVENIENCE LOSS OR ANY OTHER CONDQUENTIAL DAMAGE ARISING OUT OF THE USE OF OR INABILITY OF USE OF THIS PRODUCT OR FOR THE BREACH OF ANY EXPRESS OR IMPLIED WARRANTY INCLUDING THE IMPLIED WARRANTY OF MARKETABILITY OR MERCHANTABILITY OR FITNESS APPLICABLE TO THIS PRODUCT.
- It's a hereby expressly clarified that all warranties (express of implied) in respect of the PRODUCT are provided by the Genus Innovation Ltd.
- All disputes are subject to jurisdiction of JAIPUR only.

OVERVIEW

At the very outset, allow us to congratulate you on your excellent choice of Lithium Inverter. In a world of me-too products, you will find Genus Pure Sine Wave Lithium Inverter a generation ahead of the entire category. That's because our breakthrough chip embedded sine wave technology delivers the same current as you get from your mains.

The distinguishing features of Genus Pure Sine Wave" Lithium Inverter are:

- Sine Wave Output suitable for PCs
- DSP Based Intelligent Control Circuit
- LED + LCD Dual Display (Message and Faults)
- DSP Based Smart Charger
- Smarter Overload Sensing & Short Circuit Protection
- Easy to Service
- Battery State Monitoring
- ASIC Technology
- Great Power Saving
- Future Expandability possible
- Eco - Friendly and High Safety

This manual has been specially created to give you a thorough understanding of your Lithium inverter and its optimum use. Do spare some time to read it carefully. In case you need help at any time, please feel free to contact our dealer or mail us at customer.care@genusinnovation.com Any suggestions, comments or grievances are welcomed, after all, the ultimate "Quality Manager" of any product is the customer. Your insights guide our innovations.

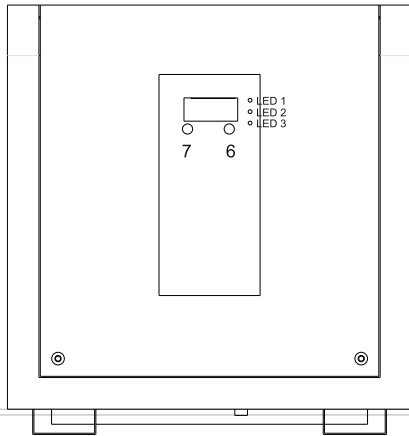
KNOWING YOUR LITHIUM INVERTER

Now let's begin the journey to explore various aspects of our Genus Pure Sine Wave Lithium inverter Welcome aboard. In its most basic form, a Lithium inverter transforms Direct Current (DC) to Alternating Current (AC). The battery pack with the Lithium inverter acts as a reserve to ensure continuous supply of power whenever mains supply from utility power is not available

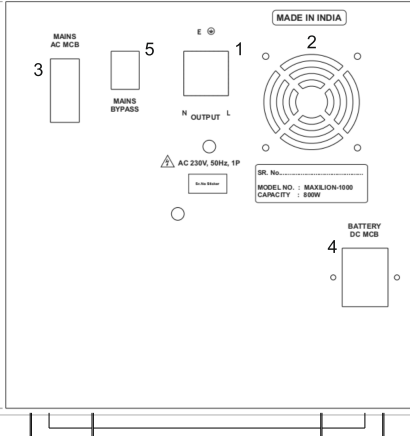
FRONT & BACK PANEL DESIGN

On the front panel of the Lithium Inverter there are 3 switches and 4 LED's and on the back panel of Lithium inverter all wiring related points like TB, socket given. MCB and By pass switch also given.

FRONT

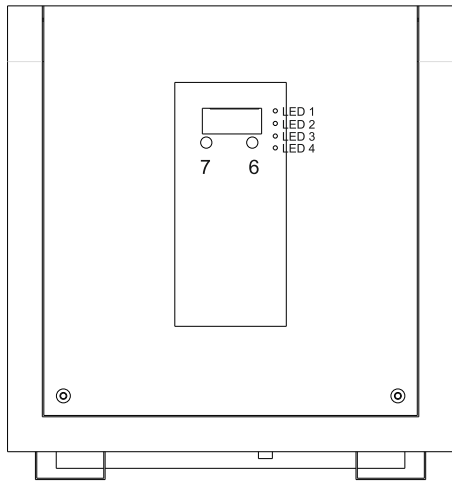


BACK

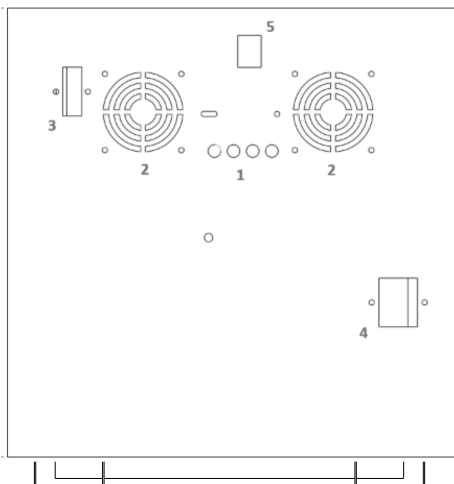


For MaxiLion 700/1000

FRONT



BACK



For MaxiLion 2400

POSITION	FUNCTION	REMARK
1	Output Socket	Connect your load wire here to get the output from Lithium Inverter
2	Cooling Fan	To maintain temperature by forced cooling; Avoid blockage to this point
3	Back Side	Input AC Mains Circuit Breaker (Fuse/MCB)
4	Battery DC Input Circuit Breaker (MCB)	Use for protection from overload and short circuit - AC input Mains supply end
5	Mains Bypass	Use for protection from overload and short circuit - DC inputs supply end
6	UPS/NOR Mode selection switch	Use Mains bypass in case of system failure
7	Front side	Use to select between UPS or Normal (inverter) mode
	Power ON-OFF Switch	Use for Load ON-OFF during backup mode

* Above Picture is for reference purpose, Actual product may differ.

Dual Display Indication and Representations			
Maxillion 700/1000	Condition	LED	LCD Slides
	Backup Mode	LED 1: OFF LED 2: Blinking LED 3: OFF	Load Status Load Voltage Load Current Load Percentage
	Mains Available	LED 1: Continuous Glow LED 2: Continuous Glow LED 3: OFF	Mains Voltage Charging Current
	Mains Out of Range	LED 1: OFF LED 2: Blinking LED 3: OFF	Mains HI (If Mains voltage is more then specification) Mains Low (If Mains voltage is Low then specification)
	UPS/Normal Mode	As Backup/Mains Mode	UPS ON (For UPS mode) UPS OFF (For Normal Mode)
	Battery Full Charged	LED 1: Continuous Glow LED 2: Continuous Glow LED 3: OFF	Battery Charged
	Mains Fuse Blown/ MCB Trip	LED 1: Continuous Glow LED 2: OFF LED 3: Continuous Glow	MAINS FUSE TRIP
	Over Temperature (When Mains Available)	LED 1: Continuous Glow LED 2: OFF LED 3: Continuous Glow	OVER TEMP
	Over Temperature (When Mains Not Available)	LED 1: OFF LED 2: Blink LED 3: Continuous Glow	OVER TEMP
	Short Circuit	LED 1: OFF LED 2: Blink LED 3: Continuous Glow	SHORT CIRCUIT
	Low Battery Warning	LED 1: OFF LED 2: Blink LED 3: Continuous Glow	Battery Voltage
	Low Battery Cut	LED 1: OFF LED 2: Blink LED 3: Continuous Glow	BATTERY Low TRIP
	Over Load Warning	LED 1: OFF LED 2: Blink LED 3: Continuous Glow	LOAD 135%
	Over Load Trip	LED 1: OFF LED 2: Blink LED 3: Continuous Glow	OVERLOAD TRIP

Dual Display Indication and Representations			
Maxillion 2400	Backup Mode	LED 1: OFF LED 2: OFF LED 3: Blinking LED 4: OFF	Load Status Load Voltage Load Current Load Percentage
	Mains Available	LED 1: Continuous Glow LED 2: OFF LED 3: OFF LED 4: OFF	Mains Voltage Charging Current
	Mains Out of Range	LED 1: OFF LED 2: OFF LED 3: Blinking LED 4: OFF	Show Mains Voltage out of specifications
	UPS/Normal Mode	As Backup/Mains Mode	UPS ON (For UPS mode) UPS OFF (For Normal Mode)
	Battery Full Charged	LED 1: Continuous Glow LED 2: OFF LED 3: OFF LED 4: OFF	Battery Charging current less the 3 Amp
	Mains Fuse Blown/ MCB Trip	LED 1: Continuous Glow LED 2: OFF LED 3: OFF LED 4: Continuous Glow	00.00
	Over Temperature (When Mains Available)	LED 1: Continuous Glow LED 2: OFF LED 3: OFF LED 4: Continuous Glow	TEMP
	Over Temperature (When Mains Not Available)	LED 1: OFF LED 2: OFF LED 3: Blink LED 4: Continuous Glow	TEMP
	Short Circuit	LED 1: OFF LED 2: OFF LED 3: Blink LED 4: Continuous Glow	SC
	Low Battery Warning	LED 1: OFF LED 2: OFF LED 3: Blink LED 4: Continuous Glow	Battery Voltage
	Low Battery Cut	LED 1: OFF LED 2: OFF LED 3: Blink LED 4: Continuous Glow	Lo
	Over Load Warning	LED 1: OFF LED 2: OFF LED 3: Blink LED 4: Continuous Glow	127.5
	Over Load Trip	LED 1: OFF LED 2: OFF LED 3: Blink LED 4: Continuous Glow	OL

Note:- LED 2 will blink when you press switch from front side, for only switch operation indication.
Display Colour will Change as:
Green - When Mains/Grid Available
Yellow - When Backup Mode
Red - When any faulty condition occur

NON-OBSERVANCE OF THIS USER MANUAL

- Trouble-free and safe operation of this inverter presumes proper, professional and workmanlike transportation, storage, mounting and installation as well as careful operation and thorough maintenance.

Notice !

- Genus Lithium Inverter is not liable for the consequences arising from faulty installation of the Lithium Inverter. Among these consequences are: -
- Damage to the display and keyboard foil, deterioration of the readability.
- Fading of the print on the housing, the look of the housing deteriorates. Therefore, choose the place of installation for the inverter so that the device is not directly or indirectly exposed to UV radiation: -
- The device must not be exposed to direct sunlight.
- The device must be protected from reflections from glass facades.

EXPLANATION OF THE SYMBOLS USED ON THE NAMEPLATE

Attention & Danger !

O/P Socket, AC Fuse, AC Input Power Cord carrying high voltage, and it remain even after being disconnected. Please be sure to Wait until the capacitor have fully discharged (discharge period)

Attention

* Do not operate near water or place with excessive humidity, moisture or fume.

CONCEPT OF CHARGING

Five State ATM Pulse Charging

Bulk : Batteries are charged at maximum allowed continuous constant charging current at constant voltage for speedy charging battery up to desired battery voltage

Boost : The charger checks the charging current when the battery voltage reaches to desired battery voltage for 12.8V. The boost mode of the charger will be activated, which will boost the battery up to 20% more than its rated voltage (Refer specification for boost voltage)

Taper : When the voltage level of battery is 20% more than its rated voltage, the taper mode of the charger will be activated, which will keep the charging current about 4AMP to achieve the specific gravity of electrolyte for fully charged battery.

Float : In float stage,the charger keeps the charging voltage and current level at its trickle charging set point for 12.8V. (Refer specification for float voltage)

Pulse (Reset) : To maintain the float level, the charger resets to zero current at desired float voltage for some time and starts again with pulse charging for <1AMP current at same voltage. This keeps the battery in full charge condition even when not in use

Special Notice:

The Home UPS charger is for use with nominal battery supply voltage of 12.8V.

No AC or DC disconnects are provided as an integral part of this UPS. Both AC and DC disconnects must be provided as part of system installation.

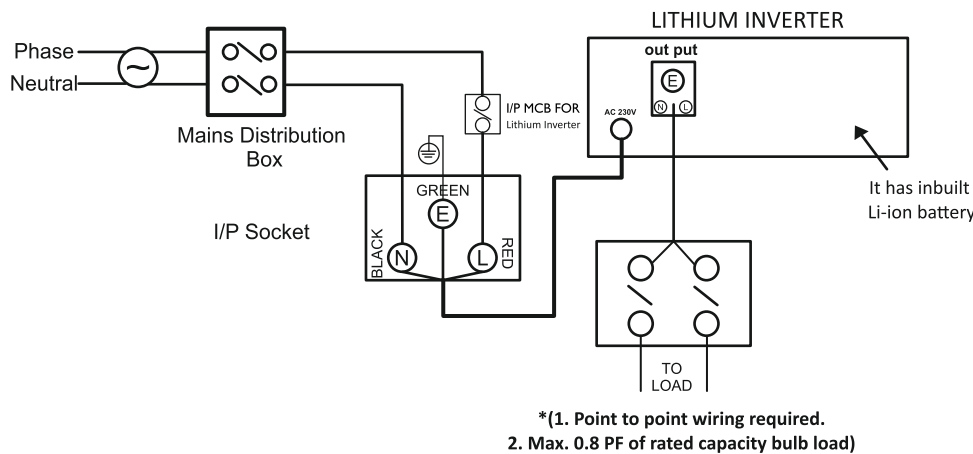
No over current protection for the battery supply is provided as an integral part of this UPS Over current protection for the battery cables must be provided as part of the system installation.

No over current protection for the AC output wiring is provided as an integral part of this UPS. Overcurrent protection for the AC output wiring must be provided as part of the system installation.

Grounding Instructions: This UPS must be connected to a grounded, permanent wiring system.

GETTING STARTED

INSTALLATION DIAGRAM



Installing steps for your Lithium Inverter

To be done by an professional service person.

Note :-

Environment:- Lithium Inverter are sophisticated device and must be treated accordingly. Keep the Lithium Inverter in non-condensing, well- ventilated environment, ensure that there is no ingress of moisture of foreign material.

Location:- Do not Locate the Lithium Inverter in the same compartment in which non-sealed batteries, flammable or any kind of gases/fume generating materials. Because they generate gases, which are very corrosive to the electronic equipment and everything else, Always ensure there should be some distance between Maxilion and the back wall so that hot air from fan get some area to dissipate

Step 1:- Switch off the supply to distribution point to which the Lithium Inverter unit to be connected. Make absolutely sure with the measurement that there is no power.

Step 2:- Connect AC input supply to the power cord/terminal of Lithium Inverter such that the phase is connected to L(RED), Neutral is connected to N(Black) and Earth is connected to E(Green). Make sure AC supply/Grid/Mains switch is in OFF Condition.

Step 3:- Connect output Load wires to the socket/terminal of Lithium Inverter, Such that the phase is connected to L(RED), Neutral is connected to N(Black) and Earth is connected to E(Green).

Step 4:- Turn ON Battery DC MCB (Input Circuit Breaker) located at the rear panel of Lithium Inverter.

Step 5:- Switch ON Power ON/OFF Switch located at the front panel of the Lithium Inverter and check at display Load LED indication and also at LCD representation and also verify load is in running condition.

Step 6:- Check Input AC Mains Circuit Breaker (Fuse/MCB) is in ON Condition, if you found OFF then turn it ON.

Step 7:- Switch ON AC supply/Grid/Mains switch and check at display mains LED indication and also at LCD representation.

CAUTION

- 1.Before buying a Lithium Ion battery other than Genus, the consumer should match the specifications of the battery with the specifications of the system(UPS).
- 2.Wrong specifications of battery may cause technical problems, when used with the system. Refer to Genus Technical Specifications or you can contact to the Genus Technical Team to know the suitable Li-ion battery.
- 3.Under warranty, If the fault in the system is due to other component such as Lithium Ion Battery (other than GENUS provided) including BMS and installation or other component malfunction , service visit and component replaced will be on chargeable basis.
- 4.If the Lithium Ion Battery BMS gets disconnected or In order to Revive the Deep Discharged Battery from the system, user have to provide GRID to the system for at least 15 min. Further time depends on BMS and Battery Condition.



**No user serviceable part inside.
Do not operate near water or place near excessive humidity wet or fume.
Hazardous live parts inside this system are energized from battery supply, even when the input AC power is disconnected.
Observe correct polarity of wires.
Call authorised service engineer, if required.**



RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER.

NOTE : O/P-1, 2 & O/P TB ARE INTERNALLY PARALLEL CONNECTED TO RUN THE LOAD CUMULATIVELY AS PER SYSTEM RATING

TROUBLESHOOTING

SYMPTOMS	REMEDY / RECTIFICATION
Grid is available, display is showing Mains Fuse Blown / AC MCB Trip	Reduce / disconnect the load and replace the glass fuse or reset the AC MCB given at rear side of Lithium Inverter
Grid is available, but unit is operating in backup mode and display is showing low battery indication / Mains MCB Trip	Wait Till grid supply available in Operating range with Input
Back-up mode but no power	Remove corrosion and make proper contact with input terminal pins.
	Check display if low battery condition is present, remove all load and switch OFF/ON the power switch. Allow the battery to charge when the mains/sun light is resumed before running the Lithium Inverter on battery again
	Check display if overload/short-circuit condition is present, reduce load and ON/OFF power switch.
Lithium Inverter trips frequently at back-up mode	Reduce the load and reset the Lithium Inverter
There is not output power	Check condition of batteries and recharge
	Check and clean all AC output connections
Lithium Inverter shuts down after 20 seconds no display at all	Check for proper AC Input and Output wiring
Unit Overheats	Reduce load and let the unit cool down contact authorized service engineer / centre

TECHNICAL SPECIFICATIONS

MODEL	Maxi Lion 700	Maxi Lion 1000	Maxi Lion 2400
System Rating(KVA/KW)	700 VA	1000 VA	2400 VA
Nominal Input Battery Voltage	12.8V	12.8V	25.6V
	Mains (Grid) Mode Normal Mode (Wide Window)		
Grid Range	90 VAC-290VA ± 15VAC		
	Mains (Grid) Mode UPS Mode (Narrow Window)		
Grid Range	180VAC-265VAC ± 5VAC		
	Battery Charging		
Grid Charging Current to Battery	15 Amp	18 Amp	25 Amp
	Modes		
Power Switch	Via Switch (Front Side)		
UPS/NORMAL Mode	Via Switch (Front Side)		
	Output Parameters		
Wave form type	Pure Sine Wave		
Output Voltage Regulation throughout Battery range/load	220V±10%		
Output Frequency	50Hz±0.5Hz		
Peak Efficiency (with linear load)	> 73%		> 78%
Distortion (THD)	< 3% (At Linear Load)		
Overload Protection	Provided at >100% with manual reset		
Low Battery Protection	Provided at <11.3 V with manual reset		
Short circuit Protection	Provided at >300% with manual reset		
Over Temperature Protection	Provided at >90 deg. C		
	Change Over Time (Approx.)		
In UPS Mode	<12millisecond		
In Normal Mode	<50 millisecond		
	Battery Parameter		
Boost Voltage	14.0V ± 0.2V	28.0V ± 0.4V	
Float Voltage	13.9V ± 0.2V	27.8V ± 0.4V	
Low Battery Warning	12.0V±0.2V	24.0V ± 0.4V	
Low Battery Cut	11.8V±0.2V	23.6V ± 0.4V	
Battery Type	Lithium-ion (* as per system specifications)		
	Environment		
Forced cooling	Through DC Cooling FAN		
Humidity	0-90% non condensing		
Operating & Storage Temperature	0-40 deg. C		
	Display Parameters		
Display Type	LCD		
DUAL DISPLAY LCD+LED (GRAPHICAL REPRESENTATION) (Maxi Lion 700/1000)	LCD shows - Mains Voltage, Load voltage, Battery voltage, Battery current, protection display, Mains HI, Mains Low status		
	LED 1 - Mains (constant glow when mains available)		
	LED 2 - Power Switch (constant glow when mains available , blink when		
	LED 3 - Fault (constant glow when any protection occur)		
DUAL DISPLAY LCD+LED (GRAPHICAL REPRESENTATION) (Maxi Lion 2450)	LCD shows - Mains Voltage, Load voltage, Battery voltage, Battery current, protection display, Mains HI, Mains Low status, Load Percentage		
	LED 1 - Mains (constant glow when mains available)		
	LED 2 - Switch Press (Blink When Any Switch Press)		
	LED 3 - Power Switch (constant glow when mains available , blink when		
	LED 4 - Fault (constant glow when any protection occur)		
	Switch		
Switches	Switch 1 : Power ON/OFF		
	Switch 2 : UPS/NOR Mode		



Genus Innovation Limited
(A Kailash Group Company)

Plot No. 22, IP-IV, Begumpur Industrial Area, Bahadradab, Haridwar-249402 (Uttarakhand), India
Helpline: 9667 123456 | www.genusinnovation.com,

*Specifications are subject to change without any prior notice.