



KENT Solar MPPT Inverter

S1-3600



August 2026

User Manual

SALIENT FEATURES

- Less No load current
 - Great Power Saving upto 30%
 - System efficiency more then 88%*
 - Backup time is more than 12 to 15%
 - Silent operation and Pure Sine Wave Output
 - Battery Charging at very low voltage till 90V
 - Compatible with all type of batteries (LA/SMF/ TUB/Li-Ion)
 - Changeover time less than 10ms (for UPS application)
 - Triple protection (Overload, Short Circuit and Wiring Fault)
 - SMPS based battery charger increase Battery Life up to 40%
 - Independent charger feature charge that battery when battery is deep discharged
- 

Dear Customer,

Thank you for deciding in favor of KENT product. In doing so you have purchased an innovative, high quality product with unique equipment features and a high constant efficiency. This user manual contains explanations on using the KENT product. You will learn to recognize the many possibilities of the product. Information is provided on safety and installation. Please observe the safety precautions exactly to ensure increased safety at the operating site of the KENT.

WARNING! Before installation of product, read and save these safety instructions.

IMPORTANT SAFETY INSTRUCTIONS

Read and save this owner's guide for future reference. This chapter contains important safety and installation instructions for the product. Each time, before using the product, read all instructions and cautionary markings on or provided with the product and all appropriate sections of this guide

Safety Precautions to be followed while Installation, Operation & Maintenance for product as High voltage is present inside unit. Incorrect installation or use may result in risk of electric shock or fire. No user serviceable parts in this unit.

- Do not expose the product to rain, snow, spray, or bilge water. This product is designed for indoor use only.
- Do not disassemble the product. Internal capacitors remain charged after all power is disconnected.
- Disconnect both AC and DC power from the product before attempting any maintenance or cleaning or working on any circuits connected to the product. See note below.
- Do not operate the product with damaged or substandard wiring. Make sure that all wiring is in good condition and is not undersized.

ELECTRICAL SHOCK HAZARD

DANGER

Statement of Hazards: Contains statements of avoidance or Strict Compliance. Failure to follow these instructions will result in death or serious injury. Note: Turning off the product using the on/off switch on the front panel will not reduce an electrical shock hazard.

FIRE AND BURN HAZARD

- Do not cover or obstruct the air in take vent openings and/or install in a zero-clearance compartment.
 - Do not use transformer less battery chargers in conjunction with the PCU due to overheating.
- 

EXPLOSION HAZARD

- Charge only properly rated (such as 24V) lead-acid, Li-Ion rechargeable batteries because other battery types may explode and burst.
- Do not work in the vicinity of lead-acid batteries. Batteries generate explosive gases during normal operation. See note #1.
- Do not install and/or operate in compartments containing flammable materials or in locations that require ignition-protected equipment. See note #2.
- Failure to follow these instructions will result in death or serious injury.

NOTES:

1. Follow these instructions and those published by the battery manufacturer and the manufacturer of any equipment you intend to use in the vicinity of the battery. Review cautionary markings on these products and on the engine.

2. This product contains components which tend to produce arcs or sparks.

Locations include any space containing gasoline-powered machinery, fuel tanks, as well as joints, fittings, or other connections between components of the fuel system.

PRECAUTIONS WHEN WORKING WITH BATTERIES NOTES:

- Locate the KENT product unit away from batteries in a well ventilated compartment.
 - Always have someone within range of your voice or close enough to come to your aid when you work near a lead-acid battery.
 - Always have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.
 - If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters your eye, immediately flood it with running cold water for at least twenty minutes and get medical attention immediately.
 - Use extra caution to reduce the risk of dropping a metal tool on the battery. It could spark or short circuit the battery or other electrical parts and could cause an explosion.
 - Batteries can produce a short circuit current high enough to weld a ring or metal bracelet or like to the battery terminal, causing a severe burn.
 - When removing a battery, always remove the negative terminal from the battery first for systems with grounded negative. If it is grounded positive, remove the positive terminal first. Make sure all loads connected to the battery and all accessories are off so you don't cause an arc.
- 

MAINTENANCE AND SERVICE INSTRUCTIONS

- To reduce risks of electric shock, disconnect all wiring before cleaning. Always maintain caution during maintenance & service. Even after the unit is disconnected from the Solar Panel / mains power supply (building wiring socket outlet), components inside the product system are still connected to the battery and are still electrically live and dangerous.
- Before carrying out any kind of servicing and/or maintenance, disconnect the battery and verify that no current is present.

CAUTION

- Risk of damage to the product Never allow battery acid to drip on the product when reading gravity, or filling battery.
- Never place the product unit directly above batteries; gases from a battery will corrode and damage the product.
- Do not place a battery on top of the product. Failure to follow these instructions can damage the unit and/or Damage other equipment.

INSTALLATION INSTRUCTIONS

Mount the product

- Insure the connected load, should be according to product capacity before ON the switch.
- Overview of Installation Steps

Mount the product

- Connect the DC cables (Battery)
- Connect the SPV cables (Solar)*
- Connect the AC cables(Mains)

Mount the product

- Make sure that the product switch is in the centre position.
- Select an appropriate mounting location and orientation. The product must be oriented in under a horizontal surface.
- Insure the connected load to the product before on the front switch.

Connect the DC Cables (Battery)

- DC power from Battery connections to the product must be positive to positive and negative to negative.

Connect the SPV cables (Solar)*

- DC power from solar panel connections to the product must be positive to positive and negative to negative.



- A reverse polarity connection (connecting positive to negative) can cause permanent damage to the product. Damage caused by a reverse polarity connection is not covered by the warranty or may DC fuse burnt.
- Failure to follow these instructions can damage the unit and/or damage other equipment.
- Make sure the product's ON/OFF switch is in the ON position.
- Product 's positive [RED] DC Cable to properly connected positive terminal of the battery.
- Product's Negative [Black] DC Cable to properly connected Negative terminal Of the battery.
- Do not install product near flammable materials like plywood, chemicals, gasoline, etc.
- Always ensure you connect the product system to an earthed shockproof socket outlet.
- Ensure proper Tools / connections for Solar Input to product and AC Output from product.
- Please make sure the battery inter connections (Series / Parallel in case of need) were done properly as per system voltage requirement.
- Connect the Battery, Solar Panel and AC mains as per the instruction given in Pic Rear View.
- Please make sure the switch in the front panel was in ON position.
- Connect Battery terminals with battery by ensuring correct polarity (Wrong Polarity connection will lead to permanent failure of the product)
- Connect PV Terminals with solar panel by ensuring correct.
- Connect the loads with product with Output Socket provided for AC Output, Kindly make sure the AC socket used to draw AC power suits the existing AC socket and free from damage.
- Switch on the PCU by operating switch in front panel to PCU Mode and ensure the Display as in.

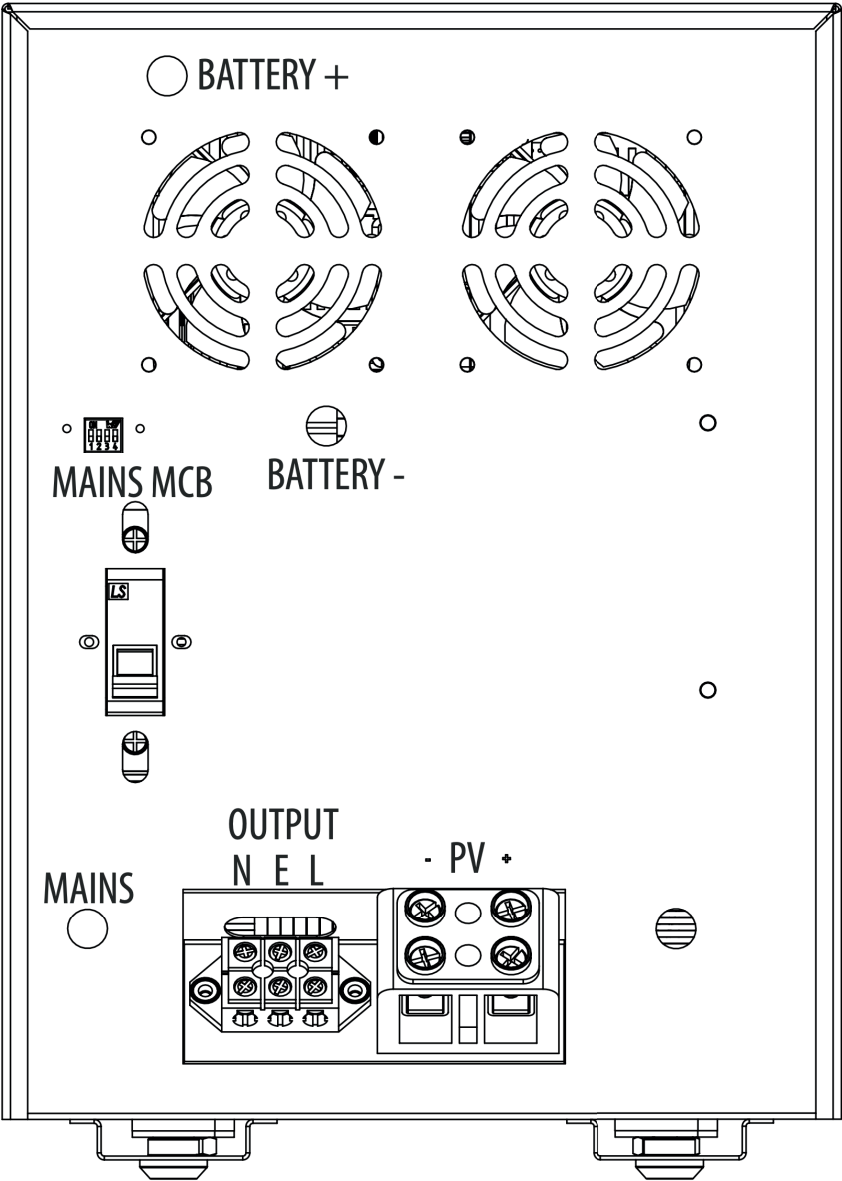


DISPLAY MESSAGES*

WELCOME TO KENT	Isolar 00.0 A Usolar 000.0 V	GRID NOT AVAILABLE
Website www.kent.co.in	Ibatt 00.0 A Ubatt 00.0 V	BACKUP MODE SOLAR PCU ON
SYSTEM **SETTINGS**	BATTERY CHARGING DISABLE	BATT VOLT 23.2V AC LOAD 50%
WIDE-UPS MODE VOLTAGE 90-290V	SAVING 00000 UNITS	OUTPUT VOLT 218V OUTPUT Freq 50Hz
BATT-TYPE SWITCH LI-ION BATTERY	GRID DISCONNECT BATT LIMIT 85%	// GRID MODE MESSAGES//
MODE PRIORITY SOL>>GRID>>BATTE	BATT CAPACITY Ah BATT CAP— 100Ah	GRID AVAILABLE GRID CONNECTED
PRESENT SOC— 30%-SOC	SOLAR PCU OFF GRID FAILS	GRID ON 226VOLT/50.0Hz
SOLAR POWER NOT AVAILABLE	// BACKUP MODE MESSAGES//	GRID CHARGING ENABLE
		GRID CHARGING CURRENT—25.9A

*Display messages may vary according to models.

PCU REAR VIEW
S1-3600



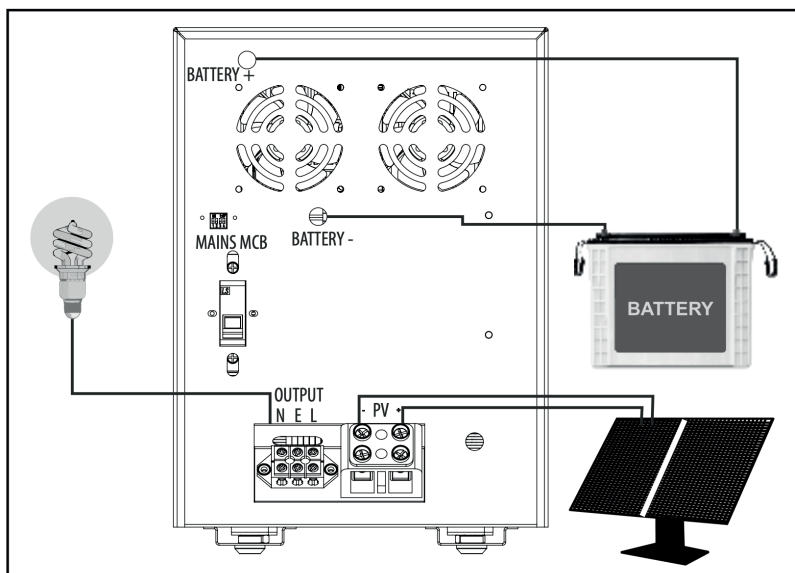
Back Panel

- Output Socket : Output socket for 230V/16A AC for connecting the UPS Load.
- Mains Lead : Mains Lead/Terminal Block also current is 7.5A to 30A.
- Positive Battery Wire (RED):Positive Battery wire must be connected to positive terminal of battery.
- Negative Battery Wire (Black) : Negative Battery wire must be connected to negative terminal of battery.
- Mains AC Fuse : Mains AC fuse is for protect the user appliances from any type of short circuit or excess current in mains mode.

Note:

- Any other Loads connect to the PCU please check with Manufacture.
- Because of a polity of continuous product improvement, the specifications are subject to change without notice. Typical Loads Suitable for Usage
- CFL Lamp / LED Light • Incandescent Lamp • Computer • TV • Fluorescent Lamps
- Table Fan/Ceiling Fan

HOW A SOLAR SYSTEM WORKS



Operational Instructional

- Do not disconnect Solar Panel Input cable/mains cable of the PCU system and also the power socket outlet during operations since this would nullify the grounding of PCU system and all connected loads.
- The PCU has its own internal power source (batteries). The output terminals may be electrically live even when the PCU is not connected to the Solar Panel/AC supply. Hence handle with caution.
- In case of any Error observed please note down the error code which will get generated and displayed in front panel display which will help the service engineers for a quick fix.



TROUBLE SHOOTING

Mains Mode: If following issues have occurred in case of mains available, the corresponding Cause and actions should be taken given in the table:

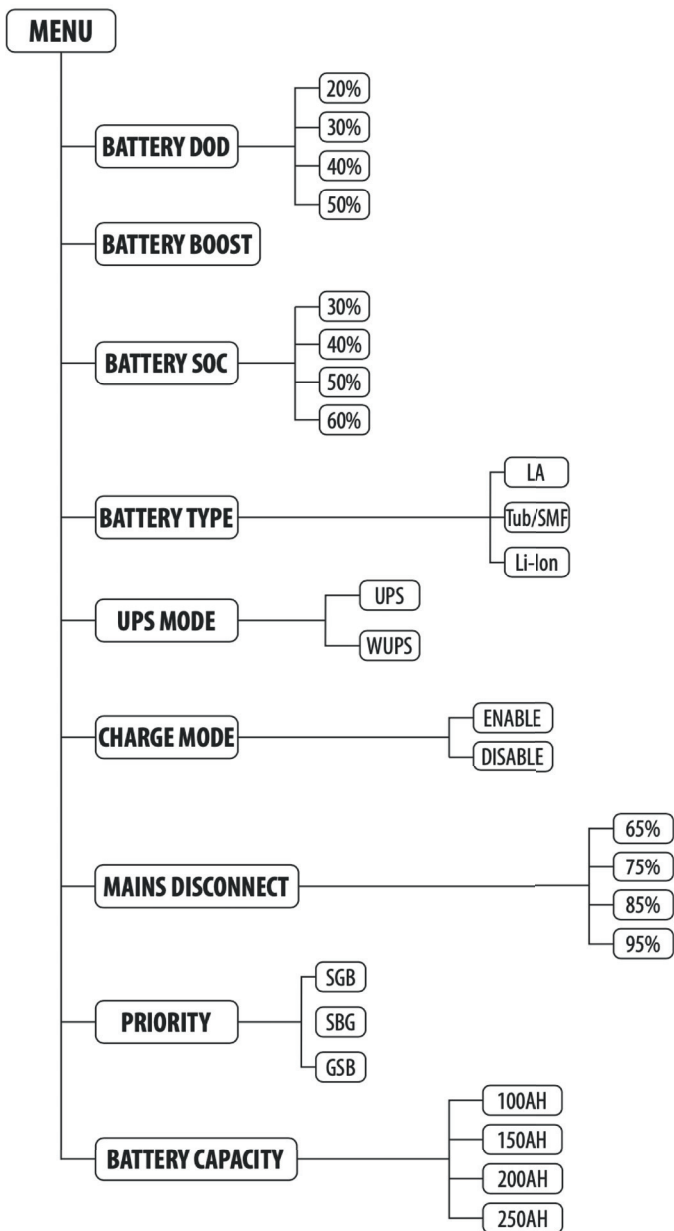
S.No.	Problem	Cause	Action to be taken
1.	Mains not Available	PCU is either working on backup mode or Mains is not available	Wait for main supply available
2.	Mains not Available	a. Input wire plug loose b. Input voltage too low	a. Ensure the input plug is properly installed b. Wait for voltage normalize of within in range
3.	Mains Fuse Blown/ MCB Trip	a. Fuse plug is loose. b. AC fuse is damage/blown	a. Fit the fuse plug properly b. Change/Replace the AC Fuse
4.	Mains available & charging current not showing	a. Salvation on battery terminals b. Battery wire loose	a. Clean the battery terminals for proper contacts b. Tight the battery terminals properly

Backup Mode : If following issues have occurred in case of Backup mode, the corresponding Cause and actions should be taken given in the table:

S.No.	Problem	Cause	Action to be taken
1.	Overload Reduce Load	Output load is greater then system capacity	Reduce the load immediately
2.	High Temperature	High Temperature Protection as system temperature goes high	Check the FAN is ON or system has been installed cool and ventilated place
3.	Short Ckt.	Short Circuit at the output at the system of excess load	Check the output appliances and output wiring short
4.	Wiring Fault	System Wiring Fault	Please ensure the input and output connections is properly connected
5.	Battery Low	System has been shutdown due to low battery	Wait for mains supply and change the battery
6.	Solar PCU OFF	a. Front Switch is OFF b. Front Switch is ON	a. Switch ON the front switch b. Check the system wiring and output plug is properly installed

Press menu button for 5 Second to select battery depth of discharge and battery type

बैटरी टाइप और डिस्चार्ज बैटरी की स्थिति (गहराई) जानने के लिए 5 सेकण्ड के लिए मेन्यू बटन दबायें



Setting Changing Steps	
1. Press menu button for 5 sec to enter into system setting	
2. Select the appropriate setting which want to change using up and down key	
3. Press menu button for 5 sec to enter into the selected setting	
4. Select the appropriate setting which want to set using the up and down key	
5. Press menu button for 5 sec to set the setting	

Setting Description and Use	
DOD: Depth of Discharge	
20%	Grid connected if battery reach to 25V each battery
30%	Grid connected if battery reach to 24V each battery
40%	Grid connected if battery reach to 23V each battery
50%	Grid connected if battery reach to 22V each battery
SOC: State of Charge**	
30%	Grid connected if battery remains 70% of the capacity
40%	Grid connected if battery remains 60% of the capacity
50%	Grid connected if battery remains 50% of the capacity
60%	Grid connected if battery remains 40% of the capacity
Mains Disconnect***	
65%	Mains will disconnect once the battery is charged to the set percentage
75%	
85%	
95%	
Battery Boost	Battery boost can be configured using this feature. It functions only in solar mode
Battery Type: Different type of battery selection	
LA	Lead Acid
Tub/SMF	Tubular
Li-Ion	Lithium-Ion
UPS Mode: Different type of UPS mode	
UPS	Narrow input mains range
WUPS	Wide input mains range
Charge Mode: Selection of the battery charging through mains	
Enable	Grid charging enable
Disable	Grid charging disable
Priority Mode: Different solar priority mode	
S>>G>>B	Solar>>Grid>>Battery
S>>B>>G	Solar>>Battery>>Grid
G>>S>>B	Grid>>Solar>>Battery

Battery Capacity: Different battery capacity type**
100Ah***
150Ah***
200Ah***
250Ah***

* Please check the technical specification available on selected models

** Please check the technical specification available with Li-Ion models only

*** Battery selection is close approximation of the battery SOC simulation. You can also connect the other rating of the batteries. SOC might not work properly

PRODUCT SPECIFICATION	
Model Name	51-3600
Grid input mode	
Grid AC low cut UPS mode	165VAC ± 10VAC
Grid AC low cut recovery UPS mode	175VAC ± 10VAC
Grid AC high cut UPS mode	265VAC ± 10VAC
Grid AC high cut recovery UPS mode	255VAC ± 10VAC
Grid AC low cut WUPS mode	90VAC ± 10VAC
Grid AC low cut recovery WUPS mode	110VAC ± 10VAC
Grid AC high cut WUPS mode	295VAC ± 10VAC
Grid AC high cut recovery WUPS mode	285VAC ± 10VAC
Input Frequency Range	48Hz to 52Hz
Voltage Output in Grid Mode	Same as input
Grid Charging Enable/Disable	Yes Provided,you can set by front switch
Frequency Output in Grid Mode	Same as input
Battery	
Battery Type	LA / Tubular / SMF/Li-ION
DC input voltage	24V
Battery Quantity 12V 100Ah to 220Ah	2
Float charging voltage	27.4V±0.2V
Boost charging voltage for LA Battery	28V±0.3V
Boost charging voltage for Li-ION Battery	28V±0.3V
Boost charging voltage for Tubular and SMF Battery	28.8V±0.3V
Bulk Absorption Battery Voltage	29.6±0.2V
Battery deep Discharge Recovery	Yes (Independent Charger to Recover Deep Discharge Battery)
Charging Current By Grid	25A±3A
Backup Mode	
Output voltage	220VAC±10%
Output frequency	50Hz ± 0.2 Hz
Output waveform	Pure Sine Wave ≤ 5% THD
No Load current	<1.8A
Discharging current @ full load	9A ± 1A
Low Battery Warning	21.6V±0.2V
Low Battery Cut	20.8V±0.2V
Change over time UPS mode	< 10msec
Change over time WUPS mode	< 25msec
Switching Element	MOSFET
Cooling	Temp. Controlled Fan
Protections	
Overload in backup mode	Yes provided, system will indicate on display at 101% load
Short Circuit in Backup Mode	System will shutdown after 3 - retries in case of output short circuit
Short Circuit in Grid Mode	Grid MCB will trip
Back feed	System will shutdown in case of back feed and there is no retry
Over temperature	Yes provided, if heat sink temperature goes above 100°C System will shut down
Reverse Battery	DC fuse will blown
Phase to Phase protection in Grid mode	Yes provided by electronic
Solar Charge Controller	
Solar Charge Controller type	MPPT
Max Panel wattage can be connected	3000WATT
Maximum PV Voltage	105±2V
Maximum Battery current	70Amp
Efficiency	> 93%
Reverse PV protection	Yes provided, it will also display on LCD panel
Switches	Menu(Select)up,Down,Esc.
Reverse current flow to PV	Yes provided
Sharing of current when PV and Grid both are available	If PV power is not sufficient enough to charge the battery, system will start sharing battery charging from PV and grid.
Mode Option	1. Solar >> Grid >> Battery 2. Solar >> Battery >> Grid 3. Grid>> Solar >> Battery
DOD definition(Depth of Discharge)	Grid will be connect when battery voltage reach at defined value of the battery voltage.
Grid Disconnect SOC (State of charge) **	65%- of battery capacity*** Default SOC is 40%
	75%- of battery capacity*** Default SOC is 30%
	85%- of battery capacity*** Default SOC is 30%
	95%- of battery capacity*** Default SOC is 30%
SOC (State of charge)	30% of battery capacity - Grid will connect back utilizing 30% of the battery
	40% of battery capacity - Grid will connect back utilizing 40% of the battery
	50% of battery capacity - Grid will connect back utilizing 50% of the battery
	60% of battery capacity - Grid will connect back utilizing 60% of the battery
DOD (Depth of Discharge)	20%- if battery voltage is 25.0v±0.2V
	30%- if battery voltage is 24.0v±0.2V
	40%- if battery voltage is 23.0v±0.2V
	50%- if battery voltage is 22.0v±0.2V
Display and Alarms	
LCD Initial Display	Welcome,Website, System Setting, UPS / WUPS mode, Voltage range 90-290VAC / 170-265VAC Battery Type Selected LA / SMF/Li-ION, Mode Priority (SO)>>GRID>>BATT), Present SOC/DOD Solar Power available, Isolac Solar, lbatt, Vbatt, Battery Charging Enable, Saving Unit, Grid Disconnect Batt Limit, Batt Capacity Ah 100Ah, Solar PCU of
LCD Status Display	Grid Available, Grid ON, Input Voltage, Input Frequency,Battery Charging, Battery Charged Charging Current, Backup Mode, Solar PCU ON/UPS OFF Battery Voltage, Load %, Output Voltage, Output Frequency
LCD Fault / Protection Status Display	Grid Fuse Bown / MCB Trip, Short Circuit, Overload, Battery Low, High Temperature, Back feed
Buzzer	Grid Fuse Bown / MCB Trip, Short Circuit, Overload, Battery Low, High Temperature, Back feed
Safety	
HV Test Input to Earth	Leakage current <5mA when 1.5kV applied for 1 min
HV Test Output to Earth	Leakage current <5mA when 1.5kV applied for 1 min
IR Test Input to Earth	>5MΩ between @ 500VDC
IR Test Output to Earth	>5MΩ between @ 500VDC
Earth Leakage current in Grid mode	< 2.5mA
Earth Leakage current in Backup mode	< 2.5mA
Environment	
Operating Temperature	0°C to 50°C
Storage Temperature	0°C to 50°C
Operating Relative Humidity	90% Non-Condensing



Contact us at:
KENT RO SYSTEMS LTD.

E-6, Sector-59, Noida, U.P. - 201 309, India. Call: 92-789-12345.

E-mail: sales@kent.co.in | Website: www.kent.co.in

*T&C Apply. This warranty is only applicable to the products sold in India.