

RITE-POWER

PORTABLE BATTERY POWERED GENERATORS

RITE-POWER PORTABLE POWER STATION
5KVA 7700WH & 10KVA 15400WH

Operator's Manual



Product Resources

This user manual covers the Rite-Power RP10000PPS7700 & RP20000PPS15400

The information contained in this manual is based on products manufactured up to the time of publication. Ritelite (Systems) Ltd reserves the right to change any of this information without notice.

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IMPORTANT INFORMATION ABOUT YOUR RITE-POWER PORTABLE BATTERY POWERED GENERATOR

Use this page to record important information about your RITE-POWER unit.

UNIT PRODUCT REFERENCE	
UNIT SERIAL NUMBER	

This information can be found on your RITE-POWER data plate which is found next to the mains outlet socket on the side of the units.

NOTE: Below is an example of a RITE-POWER data plate.

RITELITE (SYSTEMS) LTD

RITE-POWER 10000 PORTABLE BATTERY POWERED GENERATOR			
PRODUCT CODE	RP10000PPS7700/230V		
INPUT VOLTAGE	190-260V AC 50/60HZ		
MAX INPUT POWER	3000W (13A)		
OUTPUT VOLTAGE	230V AC 50HZ		
MAX CONTINUOUS OUTPUT POWER	5kVA (4000W)		
IP RATING	IP44	MANUFACTURE DATE	Feb 2024
DIMENSIONS	840mm (L) x 765mm (W) x 790mm (H)	WEIGHT	147Kg
SERIAL NUMBER	<input style="width: 100%;" type="text"/>	Made in the UK	

Ritelite (Systems) Ltd, Meadow Park, Bourne Road, Essendine, Stamford, Lincolnshire, PE9 4LT, England
Tel. +44 (0) 1780 758585 | E-mail. sales@ritelite.co.uk | Web. www.ritelite.co.uk

You will be required to supply the products serial number when contacting Ritelite (Systems) Ltd or one of Ritelite's approved dealers about parts and service.

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Section 1: INTRODUCTION & APPLICATIONS FOR USE

The RITE-POWER generators are designed as an industrial portable power generator supplying continuous AC mains power up to 5000VA – RP10000 model & 10000VA – RP20000 for equipment requiring 230V AC 50Hz. They have the ability to sustain short term peaks of power above 5000VA up to 9000 watts – RP10000 and 18,000 watts – RP20000 for a few seconds depending on ambient temperatures.

In addition, the units can be plugged in to an existing mains or generator supply allowing recharging of the batteries whilst also supplying out to loads presented to them (as long as it is less than the max available input power). If the output loads then exceed the max available input (units are limited based on the mains input plug max current rating, this can be configured by Ritelite differently on request) then the units will stop charging and start generating power using their batteries to potentially support loads up to the generators rated maximums as they combine the max available input power with their own internal generation, until the batteries are depleted of charge.

They use bespoke Lithium batteries with a dedicated battery management system to supply a pure sine wave inverter producing clean reliable power giving near silent pollution free operation.

They are housed in a ruggedised waterproof casing using stainless steel and aluminium construction to create a strong and lighter corrosion resistant product suitable for both indoor and outdoor environments. Forklift pockets are integrated to aid both safe lifting and secure strap down points. Two fixed and two swivel with brake industrial casters are fitted to give excellent manoeuvrability on most surfaces, an optional wheel kit can be purchased to aid moving the unit on rougher ground.

Locking IP67 IEC 60309 industrial input and output sockets for charging and taking power from the units are provided along with (depending on model and customer requirements) two IP54 BS1363 13A outlet sockets. A dual 5V 4A USB socket is provided for phone charging and powering other similar devices. The RJ45 socket marked 'data' is purely for manufacturers configurable options and not for general use.

On the front panel there is a generator auto start socket provided, this when connected to a suitable ICE (internal combustion engine) generator with an input to trigger starting will signal the generator to start when either the batteries fall below a point of needing charge or the output load on the RITE-POWER generators rises above 75% of their continuous rating. Note the thresholds for these can be configured by Ritelite (systems) Ltd based on the customers' requirements.

A display on the top of the units indicates run times to empty based on the current load, recharge times to full based on the available charging rate, other information pertaining to the battery voltage, current, state of charge and capacity. A simple control panel on the front has a switch to select system off, charging only or charging plus assisted output to a load. There are 8 LED's on the panel showing mains in and charging status plus whether the generator is working over and above the mains input with warning conditions to signal overload, over temperature or low battery.

All users must read, understand and obey any instructions and information contained herein these operating instructions before use. Only trained or competent personnel should use the RITE-POWER generator.

This manual should always stay with the RITE-POWER generator.

APPLICATIONS FOR USE

The RITE-POWER generator is designed for use in the following applications only. It should not be used for any other purpose. If in any doubt about applications for use, please contact either Ritelite (Systems) Ltd or Ritelite (Systems) Ltd's distributor for more information.

- Powering resistive load equipment up to the max continuous load the generator can support.
- Powering capacitive load equipment up to a max continuous load the generator can support.
- Powering Inductive loads (Items with motors in) up to a max continuous load the generator can support.






Failure to follow the instructions and safety rules in this manual may result in death or serious injury.

Section 2: SAFETY RULES

It is important that every user understands and observes the safety rules before setting up or using the RITE-POWER Portable Battery Powered Generator.

The Manufacturer, Ritelite (Systems) Ltd cannot anticipate every possible circumstance that might involve a hazard. The warnings in this manual and on labels affixed to the RITE-POWER generator will therefore not cover every eventuality. If using a procedure or operating method not specifically recommended by the manufacturer then the user must verify that it is safe for others and that it does not make the equipment unsafe.

Throughout this manual and on labels on the RITE-POWER generator, DANGER, WARNING and CAUTION blocks are used to alert personnel to special instructions about a particular operation that may be hazardous if performed incorrectly or carelessly. Observe them carefully. Their definitions are as follows:

 DANGER	 WARNING	 CAUTION
Indicates a hazardous situation which, if not avoided, will result in death or serious injury.	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

These safety alerts cannot eliminate the hazards that they indicate. Common sense and strict compliance with the instructions within this manual are essential to preventing accidents.

WARNING

When using the RITE-POWER generator indoors or outdoors, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury including the following:

- a) Ensure the IP rating of the connecting plug to coupler application is suitable for the prevailing conditions.
- b) Read and understand the implications from the MSDS (Material Safety Data Sheet) for the product, for both use and transport/shipping. The MSDS can be viewed the following link or by scanning the QR code on the right:
<https://ritelite.co.uk/product-resources/rite-power/>
- c) Do NOT allow the RITE-POWER generator to become submersed under water or allow any liquid to enter inside the product.
- d) Use only with an extension cord appropriate for outdoor use.
- e) Do NOT use damaged cables or connectors.
- f) All cables and equipment must be double insulated.



GENERAL SAFETY RULES & POTENTIAL HAZARDS WHEN SETTING UP AND USING THE RITE-POWER PORTABLE POWER GENERATOR

FALL HAZARDS

- Do NOT place the RITE-POWER generator anywhere it could fall on to personnel.
- Do NOT stand on the RITE-POWER generator or use it as any form of step.

TIP OVER HAZARDS

- Where ground or the area is uneven place the RITE-POWER generator on its wheels with the brakes on to ensure it can't fall over or roll away.
- Prior to setting up, check the area for any possible hazardous conditions.
- Do NOT place ladders or scaffolding against any part of the RITE-POWER generator.
- Do NOT use the RITE-POWER generator on a moving or mobile surface without strapping it down to prevent unexpected movement.

- Use the integrated handles to safely move the RITE-POWER generator when using its casters.
Note – *these are not designed as lifting points.*
- Use the integrated forklift pockets to safely lift and move the RITE-POWER generator.
- Do NOT use the RITE-POWER generator for any purpose other than that for which it is designed.

ELECTROCUTION HAZARDS

- Do NOT allow the inside of the RITE-POWER generator to come into contact with water or any other liquids.
- Ensure the RITE-POWER generator is not being set up in a potentially explosive environment – the RITE-POWER generator is not an ATEX approved product.
- The RITE-POWER generator is not designed to be submersed under water.
- Do NOT use if any parts become significantly damaged which may compromise the IP rating of the product.
- Do NOT use if any damage to the sockets on the product occurs.
- If any significant damage occurs the RITE-POWER generator must be returned to Ritelite (systems) Ltd or one of its authorized dealers for repair.
- Do NOT use plugs or cables that are cut or damaged in any way.
- Do NOT connect the RITE-POWER generator output to any other 'live' or one that could potentially become live from another mains supply system such as a grid or generator supply, it could damage the unit.
- Do NOT allow minors or persons of reduced competency to use the RITE-POWER generator, it is NOT a toy.
- Do NOT connect the RITE-POWER generator between its mains input and mains outlet sockets, it will damage the unit.

BODILY INJURY HAZARDS

- It is recommended that the user wears gloves whilst manoeuvring or connecting the RITE-POWER generator.
- In slippery or uneven terrain, it is recommended that two people manoeuvre the product at all times.
- The RITE-POWER generator is designed to be simple to operate by one person, however there may be situations where it is recommended that two people manoeuvre the product.
- Do not manoeuvre the RITE-POWER generator product for long distances in extreme temperatures.
- Where possible the RITE-POWER generator should be set up away from personnel or moving vehicles.

CRUSHING HAZARDS

- Ensure the RITE-POWER generator is set up on a firm and horizontal flat surface.
- Keep hands and fingers away from any potential pinch points.
- Never place the RITE-POWER generator above personnel where it could fall on them.

COLLISION HAZARDS

- Use common sense and planning when transporting/carrying the RITE-POWER generator on any incline or slope.
- On slippery or uneven terrain, it is recommended that two people manoeuvre the product at all times.
- Make sure when loading the RITE-POWER generator into a vehicle or trolley that it is securely mounted/retained so it cannot fall off or move in such away that it could harm other items or personnel.



DAMAGED MACHINE HAZARDS

- Do NOT use a damaged RITE-POWER generator or one that isn't working properly.
- Conduct a thorough pre-operation inspection prior to each use.
- Be sure that all labels are in place and legible.
- Do NOT use if there are any visible damaged parts. Contact your original point of purchase or Ritelite (Systems) Ltd to arrange for spares or repair options.
- Do NOT use any type of abrasive or strong chemicals to clean the RITE-POWER generator.
- Do NOT attempt to defeat / modify any of the wiring or protection fuses.
- If the RITE-POWER generator is found to be damaged it must be clearly marked 'Danger Do Not Use' and taken out of service.

IMPROPER USE HAZARD

- Never leave a RITE-POWER generator unattended unless a full risk assessment for the application it is being used for has been undertaken by a competent person. Unauthorized personnel could attempt to operate the RITE-POWER generator without proper instruction potentially causing injury to themselves or others.
- The RITE-POWER generator is to be used only for its prescribed purpose. Any use other than that mentioned is considered to be a case of misuse.
- The user/operator, and not the manufacturer shall be liable for any damage or injury resulting from such cases of misuse.
- It is imperative to observe the local accident prevention regulations.
- The same applies for the general rules of occupational health and safety.
- The manufacturer is not liable for indirect consequential damage and financial loss.
- The manufacturer shall not be liable for any changes made to the device nor for any damage resulting from such changes.
- The RITE-POWER generator is not designed to be setup/used on a live public highway.

Section 3: TECHNICAL SPECIFICATIONS

RITE-POWER MODEL	KEY SPECIFICATION
<p style="text-align: center; font-size: 2em; font-weight: bold;">10000</p> 	<p>7700 watt hour battery capacity 4000W continuous power Pure sine-wave inverter energy 230V Integrated charger 147kg Dimensions: 84 x 77 x 79cm Rated IP44</p>
<p style="text-align: center; font-size: 2em; font-weight: bold;">20000</p> 	<p>15400 watt hour battery capacity 8000W continuous power Pure sine-wave inverter energy 230V Integrated charger 265kg Dimensions: 115 x 78 x 78cm Rated IP44</p>

Custom battery generator options are available, these may differ in specification to the above.

PHYSICAL

Case Material: Powder coated aluminium with stainless steel chassis.

Protection Class: IP44 - (Subject to the product being set up vertically on its supporting casters and not submersed in liquid above its base).

Operating temperature range: 0 deg - +55°C -charging.

Operating temperature range: -20 deg - +60°C discharging.

Recommended storage temperature range: -5 to +45°C

Humidity (non condensing): Max 95%

Weight (as per individual product specification labels)

Overall dimensions (as per individual product specification labels)

ELECTRICAL

AC Input voltage range 187-265 V AC

AC Input frequency range 45-65Hz

Output - 230V AC +/- 2% 50HZ +/- 0.1%

Maximum Efficiency 96%

Continuous output power at 25°C – 5000VA (RP10000) – 10000VA (RP20000)

Peak power 9000W (RP10000) – 18000W (RP20000)

Zero load power consumption - 18W (RP10000) – 38W (RP20000)

Mains output sockets where fitted depending on model and customer requirements (refer to product):

IEC 60309 230V 16A 3P IP67
IEC 60309 230V 32A 3P IP67
IEC 60309 230V 63A 3P IP67
IEC 60309 230V 125A 3P IP67
BS1363 230V 13A 3P IP54

Mains inlet socket depending on model and customer requirements (refer to product):

IEC 60309 230V 16A 3P IP67
IEC 60309 230V 32A 3P IP67
IEC 60309 230V 63A 3P IP67

CHARGING

Via 16A, 32A or 63A mains inlet socket – depending on model/customer requirements.

Note – *The RP10000 & RP20000 are normally configured to limit the max charging rate and / or inbound mains supply for pass through based on the maximum rating of the mains input plug supplied with the product (this is purely done due to the practicalities of most users having access to a limited mains supply), the control panel will display 'ACT' if so.*

If the unit has been requested to have user control over the max mains inlet supply current the limit can be set by the knob on the control panel, as this is turned to the left or right you will see the numbers on the display decrease or increase accordingly. This can be useful to turn down the input current limit if trying to recharge from say a much smaller ICE generator.

Note if a user sets the input current limit higher than the capability of the supply it will most likely blow a fuse/circuit breaker in the supply/plug or potentially cause overheating of plugs or cables not designed for these power levels. It is the responsibility of the equipment owner to train users accordingly to set up a safe system and prevent damage to equipment.

PROTECTION SYSTEMS

- Short Circuit Protection – The RITE-POWER generator will shut down until the fault is removed. It will signal this by lighting the red overload LED continuously.
- Overload Protection – The RITE-POWER generator will allow a degree of overloading depending on the level and current unit temperature conditions. If the overloading persists beyond a point The RITE-POWER Generator will shut down until the load is reduced. It will signal this by flashing the red overload LED continuously.
- Over Temperature Protection – The RITE-POWER generator will allow a degree of over temperature but if this persists the unit will shut down until it has cooled sufficiently to allow it to function again. It will signal this by lighting the red LED.
- Low Battery Voltage – The RITE-POWER generator will signal this by flashing the red LED continuously.

- Low Battery Shut Off – The RITE-POWER generator has shut down due to insufficient battery capacity. It will signal this by lighting the red LED continuously.

Note in most cases the RITE-POWER 10000/20000 will automatically reset itself after a fault condition has been removed, in some cases it may be necessary to switch off then back on the main battery isolator or the system control panel switch if accessible.

The RITE-POWER 10000/20000 generators are fitted with an appropriate circuit breaker on both the inbound side but also one each per socket on the outbound side. This means a fault on one socket/circuit doesn't stop all the other sockets continuing to supply power, very much like a fuse board in the home.

However, all these protection systems can't mitigate against all dangers and situations. Please see the following HSE document 482/2 https://www.hse.gov.uk/foi/internalops/ocs/400-499/oc482_2.htm or check local regulations based on your country/area the generator is in use.

Appropriate risk assessments should be made to protect all users and those likely to come in to contact with the mains power generated by the RITE-POWER Generator. There should be particular onus on regular inspection of cables, plugs, sockets and equipment connected by a competent person to make sure any likely hazards are significantly reduced. Appropriate cables, plugs, sockets and equipment must be used for the environment in which the RITE-POWER Generator is to be used.

GUIDANCE ON EARTHING AND PROTECTING USERS

The RITE-POWER battery generator references the neutral to the earth system. This allows the RCBO fitted help protect users as much as reasonably possible in the event of a fault occurring with cables and/or equipment connected to the output.

In addition, there is an external earth point (Next to the outlet socket) on the product that can be connected to true earth using a suitable recognised earth cable, please seek the advice of a qualified electrician if this is to be done. Feasible methods for true earth connections are:

- 1) An earth rod driven to a depth of not less than 1 metre.
- 2) The earth terminal of an adjacent fixed installation.
- 3) Permanent structural steelwork.
- 4) Exposed reinforcement bars in concrete foundations or structures.
- 5) A suitable metal structure known to be earthed.

It should be stressed that it is paramount to use equipment and cables suitable for the environment they are to be used in to make sure a user can be afforded the maximum protection against the likelihood of electrical shocks especially in harsh environments where cables and equipment are subjected to far more physical damage.

Consideration should be given for environments where water is present or could be present from rain or other liquids from elsewhere. Equipment and cables, plugs and sockets should be examined regularly for signs of damage, both physically or through water ingress. Regular PAT (Portable Appliance Testing) should be done according to the associated risks in the environment the equipment is to be used.

The RITE-POWER Generator and equipment powered from it should be inspected before and after use and those inspections documented. If any damage or concerns are highlighted, then the RITE-POWER Generator and/or equipment must be taken out of service and marked up accordingly so it can't be used until repair/inspected by a suitable qualified person.

Section 4: SETTING UP THE RITE-POWER GENERATOR

Inspect the proposed area for use.

An inspection of the proposed area in which to set up the RITE-POWER generator is necessary to ensure it is suitable for safe operation. This inspection should be performed by the operator prior to using the RITE-POWER generator.

The area should be free from moving vehicles, machinery, pedestrians or other factors which may mean the RITE-POWER generator could form a hazard.

Set the RITE-POWER generator up in such a way that it cannot obstruct walkways or areas that form emergency exit routes.

Do not leave unattended if there is potential for minors or non-competent persons to tamper with the RITE-POWER generator whilst in use.

WARNING

Operators should be aware of the following possible hazardous situations. The operator should also remember these hazards, watch and avoid them while moving, setting up and operating the RITE-POWER generator.

- **Forming a trip hazard**
- **Mains electricity at 230V AC (depending on model) is produced by this product.**
- **Minors or non-competent persons**
- **Debris either on proposed site or on route to site**
- **Inadequate surface support to withstand the RITE-POWER generator weight**
- **Water which could allow the RITE-POWER generator to be submersed**
- **All other possible unsafe conditions**

Section 5: OPERATING INSTRUCTIONS

Do not use the RITE-POWER generator for any purpose other than that for which it is designed – as a portable mains electricity generator.

If more than one operator is expected to set up or use a RITE-POWER generator at different times, each operator is required to follow all safety rules and instructions in the operator's manual. That means every new operator should perform a pre-operation inspection and function tests before using the unit.

5a) PRE-OPERATION INSPECTION

Always perform a pre-operation inspection.

The Pre-operation inspection is a visual inspection performed by the operator prior to each use of the RITE-POWER generator. This inspection is designed to discover if anything is obviously wrong with a unit prior to use.

A damaged or modified RITE-POWER generator must never be used. If any damage is discovered the RITE-POWER generator must be removed from service until it has been repaired and appropriate clear labelling added to warn and prevent its use.

Maintenance and repairs can be executed only by authorised personnel. If any person maintaining or repairing the device is in any doubt, they should contact their supplying dealer or Ritelite (Systems) Ltd.

Check the following parts or areas for any signs of damage or missing parts.

- Cables (for kinks, frays, abrasions, bare conductors showing)
- Plugs and Sockets for physical damage
- Catches and locking mechanisms.
- Make sure the case is free from cracks or areas of damage where water could enter
- Make sure all labels and warnings are present and readable on the product as detailed on the following pages.

RITE-POWER 10000

RITE-POWER 10000 PORTABLE BATTERY POWERED GENERATOR

RITELITE (SYSTEMS) LTD	
RITEPOWER 10000 PORTABLE BATTERY POWERED GENERATOR	
PRODUCT CODE	RP10000PP5700/230V
INPUT VOLTAGE	110-230V AC 50/60HZ
MAX INPUT POWER	3000W (13A)
OUTPUT VOLTAGE	230V AC 50HZ
MAX CONTINUOUS OUTPUT POWER	5000W
IP RATING	IP44
MANUFACTURE DATE	04/2023
WEIGHT	11.5kg (25.3lb)
WARRANTY	3 YEARS
SERIAL NUMBER	00000000000000000000
Made in the UK	CE

Product contains a lithium battery which must be disposed of correctly

ENSURE ISOLATOR IS TURNED ON BEFORE DISCHARGING OR CONNECTING UNIT TO MAINS POWER FOR CHARGING.

ENSURE ISOLATOR IS TURNED ON BEFORE DISCHARGING OR CONNECTING UNIT TO MAINS POWER FOR CHARGING.



WARNING
HAZARDOUS VOLTAGE, POTENTIAL SHOCK HAZARD, NO USER SERVICEABLE PARTS INSIDE, DO NOT REMOVE COVER.



OUTPUT
230V AC 50Hz
Max continuous output 5000W (Without mains input)



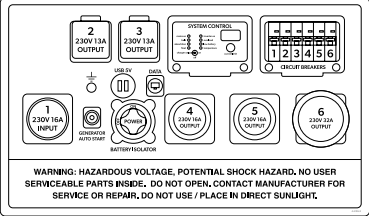
LIFTING & STRAPPING POINT

ENSURE UNIT IS SWITCHED OFF AFTER USE TO PREVENT UNNECESSARY BATTERY DISCHARGE. RECHARGE AFTER USE. DO NOT LEAVE FOR EXTENDED PERIODS IN A DISCHARGED STATE. CHECK CIRCUIT BREAKERS ARE ON FOR OPERATION.

READ INSTRUCTIONS BEFORE USE

CHECK VOLTAGE OF LOAD IS COMPATIBLE WITH INVERTER OUTPUT - 230V AC

- 1 Connect load to output terminals (Mains) before use. Do not connect to input.
- 2 Ensure unit battery is fully charged. Check meter on the control panel for 100% charge. Do not charge from mains supply through unit. Unit is not designed to accept power and through sockets. (i.e. a full 100% charge will be achieved by the accompanying RPS10).
- 3 Ensure energy meter is 0.
- 4 Ensure correct charging arrangement.
- 5 Ensure correct wiring to load.
- 6 Ensure correct wiring to load.
- 7 Ensure correct wiring to load.
- 8 Ensure correct wiring to load.
- 9 Ensure correct wiring to load.
- 10 Ensure correct wiring to load.



WARNING: HAZARDOUS VOLTAGE, POTENTIAL SHOCK HAZARD, NO USER SERVICEABLE PARTS INSIDE. DO NOT OPEN, CONTACT MANUFACTURER FOR SERVICE OR REPAIR, DO NOT USE / PLACE IN DIRECT SUNLIGHT.

RITE-POWER 20000

RITE-POWER 20000 PORTABLE BATTERY POWERED GENERATOR

RITELITE (SYSTEMS) LTD	
RITEPOWER 20000 PORTABLE BATTERY POWERED GENERATOR	
PRODUCT CODE	RP20000PP15400
INPUT VOLTAGE	110-230V AC 50/60HZ
MAX INPUT POWER	7500W (32A)
OUTPUT VOLTAGE	230V AC 50HZ
MAX CONTINUOUS OUTPUT POWER	10kVA (8000W)
IP RATING	IP44
MANUFACTURE DATE	04/2023
WEIGHT	26.5kg
SERIAL NUMBER	00000000000000000000
Made in the UK	CE

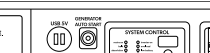
Product contains a lithium battery which must be disposed of correctly

ENSURE ISOLATOR IS TURNED ON BEFORE DISCHARGING OR CONNECTING UNIT TO MAINS POWER FOR CHARGING.

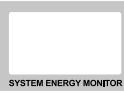
ENSURE ISOLATOR IS TURNED ON BEFORE DISCHARGING OR CONNECTING UNIT TO MAINS POWER FOR CHARGING.



WARNING
HAZARDOUS VOLTAGE, POTENTIAL SHOCK HAZARD, NO USER SERVICEABLE PARTS INSIDE, DO NOT REMOVE COVER.



OUTPUT
230V AC 50Hz
Max continuous output 10000W (Without mains input)



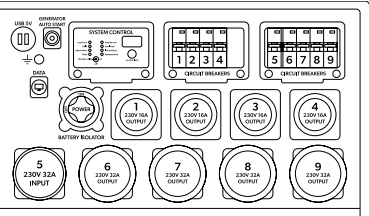
LIFTING & STRAPPING POINT

ENSURE UNIT IS SWITCHED OFF AFTER USE TO PREVENT UNNECESSARY BATTERY DISCHARGE. RECHARGE AFTER USE. DO NOT LEAVE FOR EXTENDED PERIODS IN A DISCHARGED STATE. CHECK CIRCUIT BREAKERS AND BATTERY ISOLATOR ARE ON FOR OPERATION.

READ INSTRUCTIONS BEFORE USE

CHECK VOLTAGE OF LOAD IS COMPATIBLE WITH INVERTER OUTPUT - 230V AC

- 1 Connect load to output terminals (Mains) before use. Do not connect to input.
- 2 Ensure unit battery is fully charged. Check meter on the control panel for 100% charge. Do not charge from mains supply through unit. Unit is not designed to accept power and through sockets. (i.e. a full 100% charge will be achieved by the accompanying RPS20).
- 3 Ensure energy meter is 0.
- 4 Ensure correct charging arrangement.
- 5 Ensure correct wiring to load.
- 6 Ensure correct wiring to load.
- 7 Ensure correct wiring to load.
- 8 Ensure correct wiring to load.
- 9 Ensure correct wiring to load.
- 10 Ensure correct wiring to load.



WARNING: HAZARDOUS VOLTAGE, POTENTIAL SHOCK HAZARD, NO USER SERVICEABLE PARTS INSIDE. DO NOT OPEN, CONTACT MANUFACTURER FOR SERVICE OR REPAIR, DO NOT USE / PLACE IN DIRECT SUNLIGHT.

Note All labels shown above show the general layout and information of all labels on the RP10000/20000, the information contained within them may vary slightly depending on model and customer specification.

5b) USING THE RITE-POWER GENERATOR

Chose a suitable location, heeding the warnings in sections 4 & 5 of this manual.

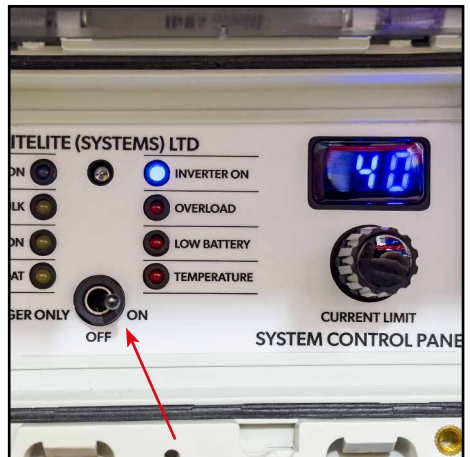


1. Check there is sufficient battery capacity for the task in hand, this is indicated by the display on the top of the unit showing the battery capacity in a percentage, where 100% is full capacity.

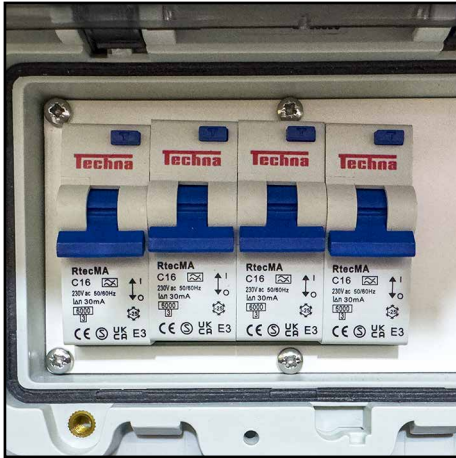
2. Check the device to be powered is within the maximum constraints of the RITE-POWER generator, see technical specifications contained within this manual and on the RITE-POWER generator. Heed the notes in the section Applications and Restrictions of use with regard to Inductive, Resistive and capacitive loads and their limitations.



3. Switch the red battery isolator knob to 'on'.



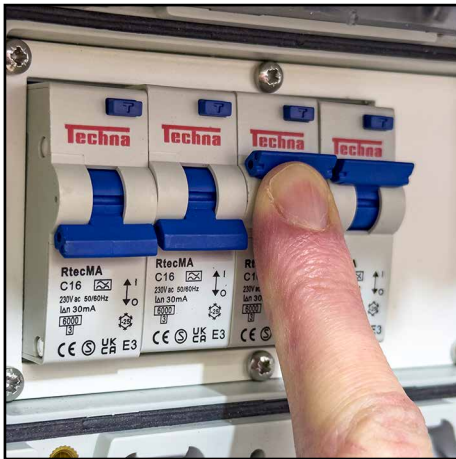
4. Check the system control panel switch is set to 'on' and the 'inverter on' or 'mains on' LED on the system control panel is lit.



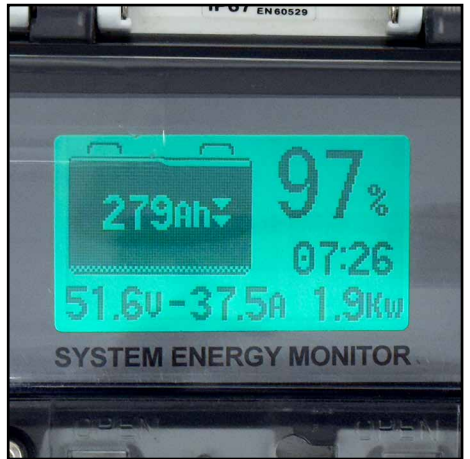
5. Check the output circuit breakers are set to off or 0.



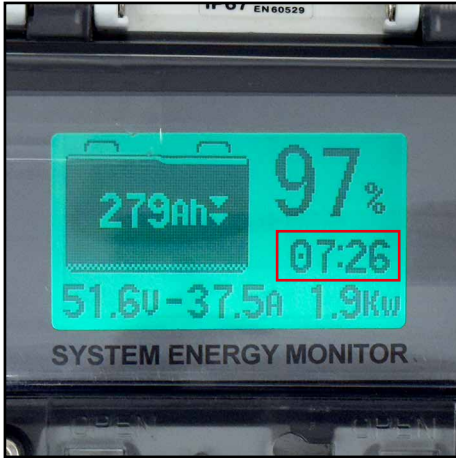
6. Make connections to the relevant outlet sockets and make sure the plugs, couplers and cables are suitable for the loads demanded.



7. Once all connections are made and it is verified everything is checked and safe, switch on the corresponding circuit breaker(s) for the connected sockets.



8. In use note the fall of the battery capacity percentage so power isn't suddenly lost unexpectedly.



9. Note the estimated run time on the display, this will vary according to the load driven by the RITE-POWER generator.

Note The display will automatically light up when the unit is switched on and go dark when the unit is switched off to conserve power when not in use.

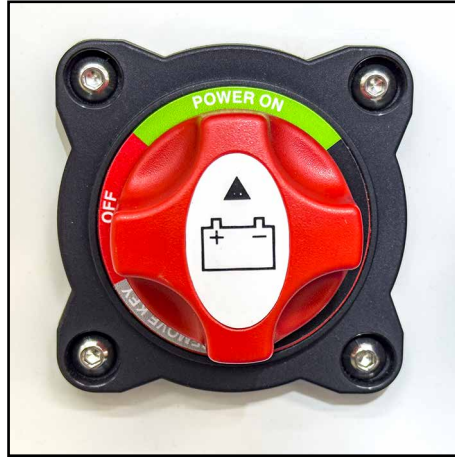


10. At the end of use the Rite-Power battery generator should be switched off.

5c) RECHARGING THE RITE-POWER GENERATOR

The RITE-POWER generator should be placed on charge to return it to full capacity once used. Choose a suitable location to recharge the unit away from any aforementioned hazards. Ideally the RITE-POWER generator should be charged in a cool ventilated environment.

Note – It is good practice to always keep the RITE-POWER generator fully charged up so it is always ready for use.



1. To recharge, first turn the red battery isolator knob to the on position.

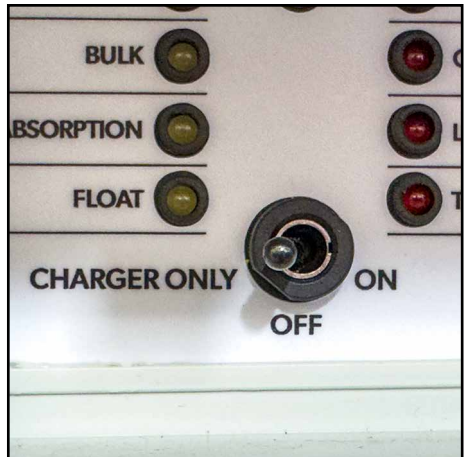
2. Check that the mains supply has suitable capacity for the battery generator:

- RP10000 – 16A 230V
- RP20000 – 32A 230V

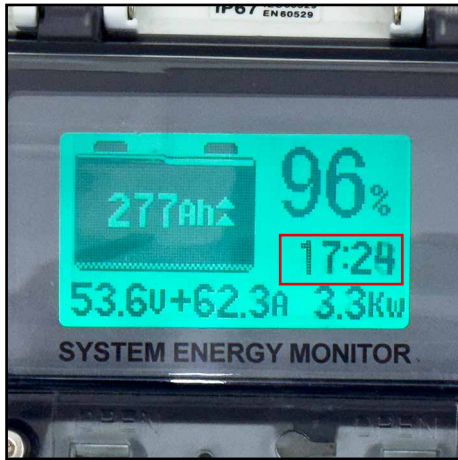
See specifications in the electrical section for the min and max allowable input voltage.



2. Connect a mains cable to input socket 1, make sure the same type of locking couplers are used to guarantee and maintain a secure connection.

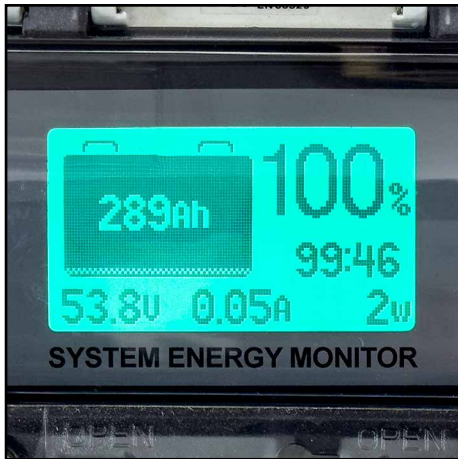


3. The switch on the system control panel should now be set to 'charger only' or 'inverter on' position.



4. Switch power on at the supply and check the input circuit breaker 1 is set to on *. After a few seconds the Rite-Power system energy monitor will start to show energy flowing in to the batteries, recharging them. The back light will also pulse to indicate this. You can monitor progress on the display which will show the battery capacity percentage increase and the estimated time to fully charge decrease accordingly.

**If the display is blank this only happens if the battery has been left in an over discharged stage. As soon as mains power is connected to the unit and all appropriate switches turned on (Isolator, system control switch and mains input circuit breaker) the display should light up and charging will commence. It is good practice to always keep the RP10000/20000 charged up ready for use.*



5. Once fully charged the display will show 100% and the power on the display should be zero or only a few watts.



6. The Rite-Power generator can then be either left connected to the mains or switched off and disconnected.



7. To prevent unauthorised use the battery isolator switch knob can also be removed. Push in and turn anti-clockwise to the off position then remove. To refit align the arrows, push in and twist clockwise to the off position.

Note – The RP10000 & RP20000 are normally configured to limit the max charging rate and/or inbound mains supply for pass through based on the maximum rating of the mains input plug supplied with the product (this is purely done due to the practicalities of most users having access to a limited mains supply), the control panel will display 'ACT' if so.

If the unit has been configured at point of order to have user control over the max mains inlet supply current the limit can be set by the knob on the control panel, as this is turned to the left or right you will see the numbers on the display decrease or increase accordingly. This can be useful to turn down the input current limit if trying to recharge from say a much smaller ICE generator.

Note if a user sets the input current limit higher than the capability of the supply it will most likely blow a fuse/circuit breaker in the supply/plug or potentially cause overheating of plugs or cables not designed for these power levels. It is the responsibility of the equipment owner to train users accordingly to set up a safe system and prevent damage to equipment.

ADDITIONAL FUNCTIONALITY

5d) 'PASS THROUGH' POWER TRANSFER SYSTEM

This allows an RP10000 or RP20000 battery generator to receive mains power in from either a nominal 230V AC source (the source must be the same voltage input range as the battery generator*) and pass it through to the output sockets of the battery generator to drive a load. If the load is less than the maximum input rating of the generator (fundamentally determined by the max rating of the inlet socket fitted and the MCB/RCBO protecting it) then any spare capacity will be used to recharge the batteries within as required. For example if the inlet is rated at 32A 240V this gives a theoretically maximum of 7680 watts, if the load is 4680 watts then the balance of 3000 watts will be available to recharge the batteries at this rate if required. If the load reduces the charge rate will increase up to the maximum allowable charging speed. Note if the output load is greater than the maximum input rating of the generator (when connected to a mains supply) then the generator will produce its own power (up to its maximum) to supplement this as long as there is available capacity in the batteries to do so. So an example would be the aforementioned maximum of 7680 watts with inbound mains supply plus the maximum the generator can produce 9000 watts (RP20000) = 16680 watts. The generator does allow some short term peaks but this varies on size and duration, it is best not to use the generator biased mainly at this level as it's likely overloading will lead to cutting out which in turn causes nuisance for users relying on the power.

This functionality offers many benefits:

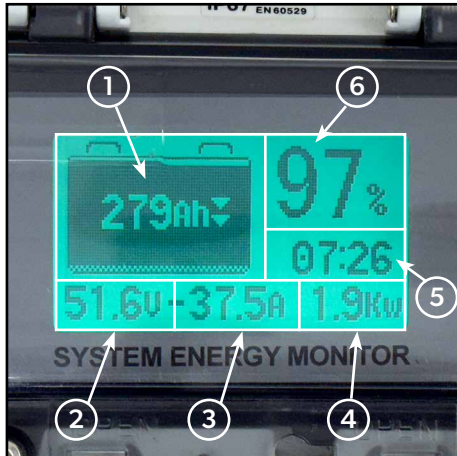
1. As a UPS (uninterrupted power supply) so power is maintained to users if the mains power supplying the generator fails or becomes intermittent. This power may come from a permanent source or a ICE (internal combustion engine) generator. Switch over time is typically 20 milliseconds.
2. As a buffer, where short term peaks over and above the maximum input supply occur the generator can supplement these up to its maximum, this could potentially be useful where the supply is limited to say 3000w or a smaller petrol/diesel generator. Note any excess from the inbound supply will be used to replenish the battery charge level.
3. The battery generators are fitted with an inbound current limiter which can be locked as an option by Ritelite (Systems) Ltd (this would be locked to the maximum input rating of the inbound socket fitted) or left for user adjustment via the front panel. This can be useful if the mains grid or generator supply to the input socket is restricted to say 10A, the current limiter can be turned down to this and will be shown on the display adjacent to the adjustment knob. If the adjustment is factory locked the display will show 'AC1' and cannot be changed.
4. In addition, you can link multiple battery generators together which have this functionality, effectively this will give a longer duration to run the load and as the first supplying battery generator runs out of charge this will automatically cause the next in line to take over and so on. All that's required is a suitable 3 core mains cable with a male plug to female coupler in the appropriate voltage type linking the units. Switch over time is typically less than 20 milliseconds.
5. Generator auto start – Both the RP10000 & RP20000 generators are fitted with the ability to trigger a conventional ICE (Internal Combustion Engine) generator to automatically start. Both come with a cable which plugs in to the front panel of the generator and provides switching contacts as follows:
 - Brown core = Common
 - Blue core = Normally Open
 - Yellow/Green = Normally closedIf connected to a generator that supports a remote start to RP10000/20000 will trigger that generator to start if the battery capacity falls below around 10% or the load on it rises above 75% of its capacity. If the

* See data plate on RP10000, RP20000

ICE generator is connected to supply power to the input socket of the RP10000/20000 then this can be used to recharge and/or supply any loads connected to it.

Note – Due to the reaction time of the ICE generator to start up once triggered there is a chance that a sudden large load increase could overwhelm the RP10000/20000, this should be factored in when setting up a system. Please contact Ritelite (Systems) Ltd at point of ordering if a different auto start trigger point is required.

ADDITIONAL INFORMATION ON SETTING UP A SYSTEM



SYSTEM ENERGY MONITOR KEY

1. Battery capacity (Ah)
2. Battery voltage (V)
3. Current draw (A)
4. Wattage (W or kW)
5. Estimated run / recharge time
6. State of charge

The display also shows various other parameters such as wattage, this can be a useful gauge to understand what different powers are consumed by different equipment and the runtime that might be expected.

5e) PACKING AWAY & TRANSPORT

CAUTION

In slippery or uneven terrain, it is recommended that two people manoeuvre the product at all times.

TRANSPORT AND LIFTING INSTRUCTIONS

- The transport vehicle/trolley must be parked on a level surface.
- The transport vehicle/trolley must be secured to prevent rolling while the RITE-POWER generator is being loaded.
- Be sure the vehicle/trolley capacity, loading surfaces/storage area and chains or straps are sufficient to withstand the RITE-POWER generator weight. See the data plate on the RITE-POWER generator for their exact weight.
- The RITE-POWER generator must be secured when transported in any vehicles with straps of ample load capacity.
- The RITE-POWER generator must NOT be transported within the passenger area of any vehicle.

- Observe the specific transport requirements and check the MSDS (Material Safety Data Sheet) when transporting the product by vehicle. This is available online at the following link: <https://ritelite.co.uk/product-resources/rite-power/> or by scanning the following QR code:



**LIFTING UNIT WITH FORK LIFT
POCKETS**



LIFTING UNIT WITH STRAPS



LIFTING AND STRAPPING POINTS

When transporting, units should only be strapped down through the lifting and strapping points. These are located above the four wheels.

5f) STORAGE / TRANSPORT MODE

When planning to not use the RITE-POWER generator, recharge fully so the display shows 100%. Set the system control panel switch to off, turn the red isolator switch (marked with a battery symbol) anti clockwise to off. Note this knob can be turned left further and withdrawn to prevent unauthorized use of the battery generator.

For certain transport conditions it may be required to discharge the batteries in the system to below a specific level, use the battery energy monitor display to indicate what level the battery is at.

- Always store the unit in a secure location away from minors or persons of reduced competency, it is NOT a toy.
- Always store in a cool, dry location.
- Check and test regularly that the batteries are charged and the unit works as intended.

Section 6: TROUBLESHOOTING

The following notes are here for help and guidance to get the best from your RITE-POWER generator. They describe possible errors/faults, what might cause them and how they are rectified.

Note: *The battery should always be recharged fully after every use.*

This is good practice to ensure that the unit is always ready for use, especially if required for emergencies, the battery generator should be recharged regardless every 3 months.

No output voltage from battery generator:

1. System control switch set to off – Turn to on, either ‘inverter on’ or ‘mains on’ if a mains input supply is available.
2. Main Isolator set to off – Turn on main isolator.
3. Corresponding output socket or master RCD/RCBO is set to off – Turn on associated RCD/RCBO as required.
4. Battery level is too low to allow the battery generator to produce power – recharge the battery generator, make sure the inbound socket RCD/RCBO is set to on, the main isolator is set to on and the system control switch is set to ‘charge only’ or ‘on’, make sure the current limit control knob is set higher than zero, ideally at the same current as the inbound socket rating, for example 16A.
5. In all cases check the system control panel for any warning LED’s such as ‘overload’, ‘temperature’ or ‘low battery’, a flashing LED indicates a warning that power will be lost soon if the issue isn’t rectified, a constant on LED indicates the fault is present and power out is lost.
6. Make sure the unit is operated out of direct sunlight and away from other sources of heat that could reduce the performance of the battery generator.

Batteries won't recharge:

1. System control switch set to off – Turn to on, either 'inverter on' or 'mains on'.
2. Main battery isolator set to off – switch on for recharging/operation.
3. Inbound supply RCD/RCBO set to off – switch on for recharging.
4. System control panel current limiter knob set to zero – turn to increase digital display read out to the inbound socket max, e.g 16A.
5. Check there is a mains supply present to the inbound socket and all power supplying it have switches/circuit breakers on.
6. Check inbound mains supply is within the operating voltage range of the battery generator (see specifications).
7. Batteries maybe too hot or too cold – move to a suitable environment within the ambient operating temperature range of the battery generator. Note – this may take a while for the batteries to acclimatize and depends on the level of work the batteries have been recently subjected to.
8. Make sure the unit is operated out of direct sunlight and away from other sources of heat that could reduce the performance of the battery generator.

Battery generator won't trigger remote ICE (internal combustion engine) generator to auto start :

1. Check the connections to the ICE generator are wired correctly – Brown wire = common, Blue wire = Normally Open, yellow/green wire = Normally closed relay connections.
2. Check the System Control Panel current limiter knob is set to within the constraints of the connected ICE generator.
3. Check the control cable plug on the front panel of the battery generator is inserted and turned clockwise to lock it and therefore make a connection.
4. Note the battery generator triggers the ICE generator auto start if the load imposed on it rises over 75% of its rated capacity (e.g an RP10000 will be set to trigger at >3000 watts and a RP20000 >6000 watts). It will also trigger an ICE generator to start if the battery capacity level falls to less than 10%.

Section 7: MAINTENANCE

Although the Rite-Power 10000/20000 generators are designed to be maintenance free it is recommended basic checks are done as listed below.

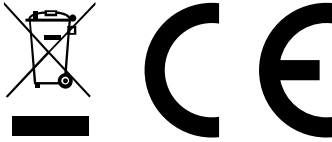
- It is recommended that a regular inspection of the complete product is carried out to look for signs of wear and tear and identify possible maintenance required. This should be done by a competent person on at least an annual basis depending on the type of use.
- The RCBO's should be checked once a month to make sure they function correctly. To do this switch on the RITE-POWER generator, check the red battery isolator knob and the system control switch are set to on, the system control panel will show 'mains on' LED lit or 'inverter on' LED lit depending on if the mains inbound supply is connected. Either way the RCBO's can be tested. Make sure the main on/off button on the RCBO is set to 'on' or '1' then press the 'Test' button, the switch should reset to 'Off' or '0'. If it doesn't, have the RITE-POWER generator serviced/checked by a competent electrician or qualified person.
- It is recommended that gloves are worn during operation/setting up, breaking down, cleaning and maintenance to protect the user. The unit can be wiped clean to remove any dust and dirt, any cleaner should be non abrasive. Pressurised water jets should not be directed through air vents into the unit. All protection covers for the system energy monitor, circuit breakers and system control panel should be present and kept fully closed after access is required to prevent ingress of dust and moisture.
- Never allow the inside (top enclosure) of the RITE-POWER generator to become wet, it will potentially damage the electronics contained within. If any wetness is discovered the unit must NOT be switched on under any circumstance and the manufacturer Ritelite (Systems) Ltd or its authorised dealer must be contacted for guidance with regards to repair.
- All fasteners, locking mechanisms and latches to be checked for correct operation prior to use.
- Any damaged parts that could pose a risk to the user/personnel must be replaced.
- The RITE-POWER generator must be taken out of service if, during use, repair or maintenance serious damage is discovered. The unit should then be marked 'Danger Do Not Use' with a suitable sign/label.
- The RITE-POWER generator must be taken out of service if, during use, or repair and maintenance serious damage is discovered.
- The RITE-POWER generator can only be put back into use after it has been properly repaired and examined and signed off by authorised personnel.
- The use of spares other than original parts from Ritelite (Systems) Ltd will invalidate any warranty.

7a) ADVICE ON DISPOSAL OF RITELITE PRODUCTS AT END OF LIFE

For our latest advice on the disposal of Ritelite products at end of life please visit the link below.
<https://www.ritelite.co.uk/disposal-advice>

7b) DISCLAIMER OF WARRANTY

For details about the warranty offered on Ritelite products please visit the link below.
<https://www.ritelite.co.uk/warranty-information>



The contents of this manual are subject to change without prior notice. We take no responsibility for errors or admissions.

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