Portable Power Box

PPB-6-15-US-B



OPERATOR'S MANUAL

Rev 0924

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INTRODUCTION

Thank you for purchasing a MAKINEX product.

This manual provides information and procedures to safely operate and maintain the Portable Power Box. For your own safety and protection from injury, carefully read, understand and observe the safety instructions described in this manual.

Keep this manual or a copy of it with the machine. If you lose this manual or need an additional copy, please contact MAKINEX. This machine is designed and built with user safety in mind; however, it can present hazards if improperly operated and serviced. Please follow the operating instructions carefully. If there are any questions regarding operating or servicing of this machine, please contact MAKINEX.

The information contained in this manual was based on machines in production at the time of publication. MAKINEX reserves the right to change any portion of this information without notice.

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Any type of reproduction or distribution not authorised MAKINEX represents an infringement of valid copyrights and will be prosecuted. We expressly reserve the right to make technical modifications, even without due notice, which aim at improving our machines or their safety standards.

DISCLAIMER

MAKINEX and its affiliates take no responsibility for any damage, injury or death resulting from the incorrect or unsafe use of this product. Use of this product should be undertaken by competent persons only. It is the operator's responsibility to ensure that the following safety procedures are followed. If you are unsure, do not operate this product.

Record the model and serial numbers as well as date and place of purchase for future reference. Have this information available when ordering parts and when making technical or warranty enquiries.

MAKINEX SUPPORT
Refer to contact details on pg. 23
MODEL NO.
PPB-6-15-US-B
SERIAL NO.
DATE OF PURCHASE
PURCHASE LOCATION

ABOUT THIS MANUAL

This manual uses the following symbols to help differentiate between different kinds of information. The safety symbol is used with a key word to alert you to potential hazards in operating and owning power equipment. Follow all safety messages to avoid or reduce the risk of serious injury or death.

KEY TERMS

 **READ CAREFULLY**	**READ CAREFULLY** – refers to ***important information*** that should be paid careful attention.
 **CAUTION**	**CAUTION** - indicates a potential hazardous situation which, if not avoided, ***may*** result in minor or moderate injury
 **WARNING**	**WARNING** – indicates a potentially hazardous situation which, if not avoided, ***could*** result in death or serious injury
 **DANGER**	**DANGER** – indicates an imminently hazardous situation which, if not avoided, ***will*** result in death or serious injury
 **PROHIBITED**	**PROHIBITED** – identifies actions that ***should never*** be carried out by anyone interacting with the machine.

These safety warnings do not eliminate all possible hazards that could occur therefore it is essential to use common sense and to strictly follow any instructions to prevent accidents.

SAFETY INFORMATION

 **WARNING**	Read this manual **thoroughly** before operating your Portable Power Box. Failure to follow instructions could result in serious injury or death

 **DANGER**	**RISK OF ELECTRICAL SHOCK** Electrical shock can cause burnt marks, cardiac arrest or even death.

- **ALWAYS** switch off the inverter and all the circuit breakers when the Portable Power Box is not in use.
- **ALWAYS** unplug all external connection cables or wires before attempting to clean the Portable Power Box.
- **ALWAYS** connect the earth wire to ground during operation.
- **ALWAYS** keep children and pets away from the Portable Power Box.
- **DO NOT** alter or disassemble the Portable Power Box.
- **DO NOT** operate the machine with missing or broken parts.
- **DO NOT** operate the product if your hands are wet.
- **DO NOT** operate the product when fatigued or under the influence of alcohol or drugs.
- In case of fire, use dry powder fire extinguishers. **DO NOT** use water fire extinguishers, which may cause electrical shock.

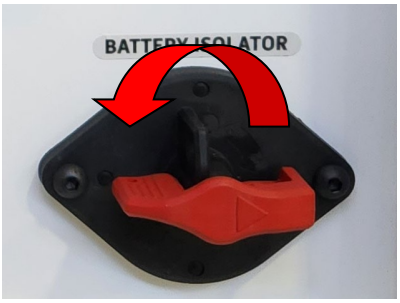
EMERGENCY INFORMATION

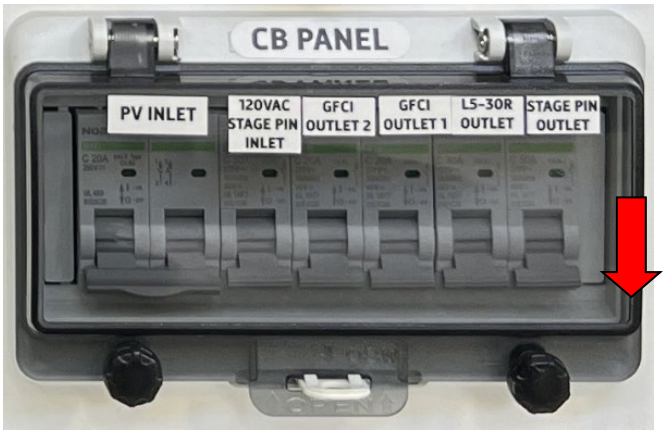
In the event of an emergency follow the steps below:

1. To disable the product, turn off the on/off switch. See picture below. This will cut off the power to the inverter immediately.



2. Further to the above, switch off all the circuit breakers (push down) and isolator. The isolator is shown below in the “ON” position. Rotate anticlockwise 90 degrees to turn to “OFF” position.





Always ensure all safety information found in this manual, page 6, is observed.

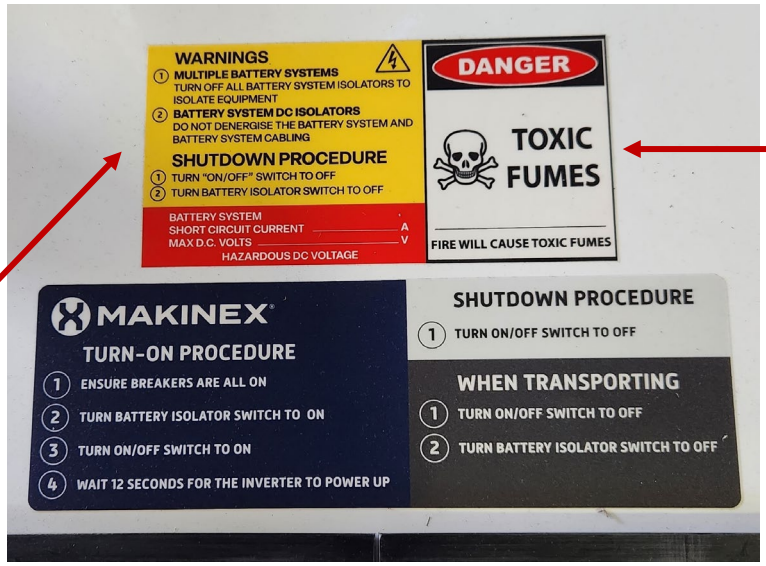
SAFETY DECALS





LIFTING POINT

EARTH STUD







PPB-6-15-US-B

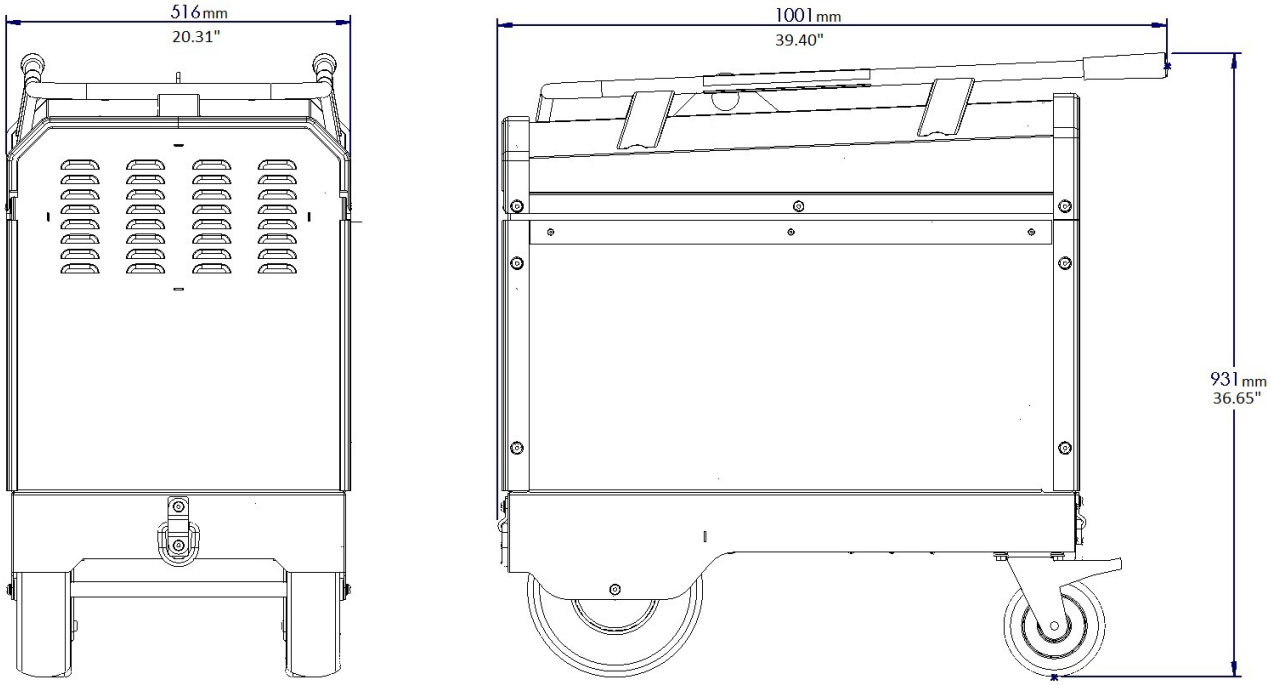
PPB46
6kW | 15 kWh | 1P
MAKINEX
RENEWABLES
ES
UN No.:3480
PORTABLE POWER BOX
DO NOT FORK HERE
SHUTDOWN PROCEDURE
WHEN TRANSPORTING
TURN-ON PROCEDURE
SHUTDOWN PROCEDURE
WARNINGS
DANGER
TOXIC FUMES
AC CHARGING 15A INPUT 120V
AC CHARGING 50A INPUT 120V
USB OUTPUT
AC OUTPUTS
PV CHARGING INPUT
BATTERY ISOLATOR
BATTERY MONITOR
CB PANEL
OFF
ON
STAGE PIN OUTPUT 120V

PRODUCT DESCRIPTION AND SPECIFICATION

The Makinex PPB-6-15-US-B is the future of portable temporary power. They are relatively small, emit no fumes, produces little noise and are safe for indoors or confined space.
Built with safety in mind, the unit is complete with circuit breaker protection and offers the latest technology in battery storage.
Easily manoeuvrable with durable frame, weather resistant and minimal maintenance.
Designed for inductive load environments in construction, hire, commercial and film/events with products such as drop saws, cement mixers, brick saws, misting stations, coffee machines, lights & fans.

MACHINE SPECIFICATIONS	
MODEL	**PPB-6-15-US-B**
WEIGHT	488 lbs
WIDTH	20.31"
HEIGHT	36.65” (including the handles)
LENGTH	39.40”
RATED POWER	6.5kW
OUTPUT	120V Single Phase, 6548W Pure Sine Wave
AC CHARGING	110 - 120V, 60 Hz
AC CHARGING TIME	15 kWh - 9 hrs from 120V AC 2.5 hrs from 120V Stage Pin
PV CHARGING	Max Input Voltage 250V DC 20A
BATTERY CAPACITY	14.4kWh, 300Ah
BATTERY VOLTAGE	48V ~ 56V
WORKING ENVIRONMENT TEMPERATURE	32°F ~ 104°F
STORAGE AMBIENT TEMPERATURE	86°F

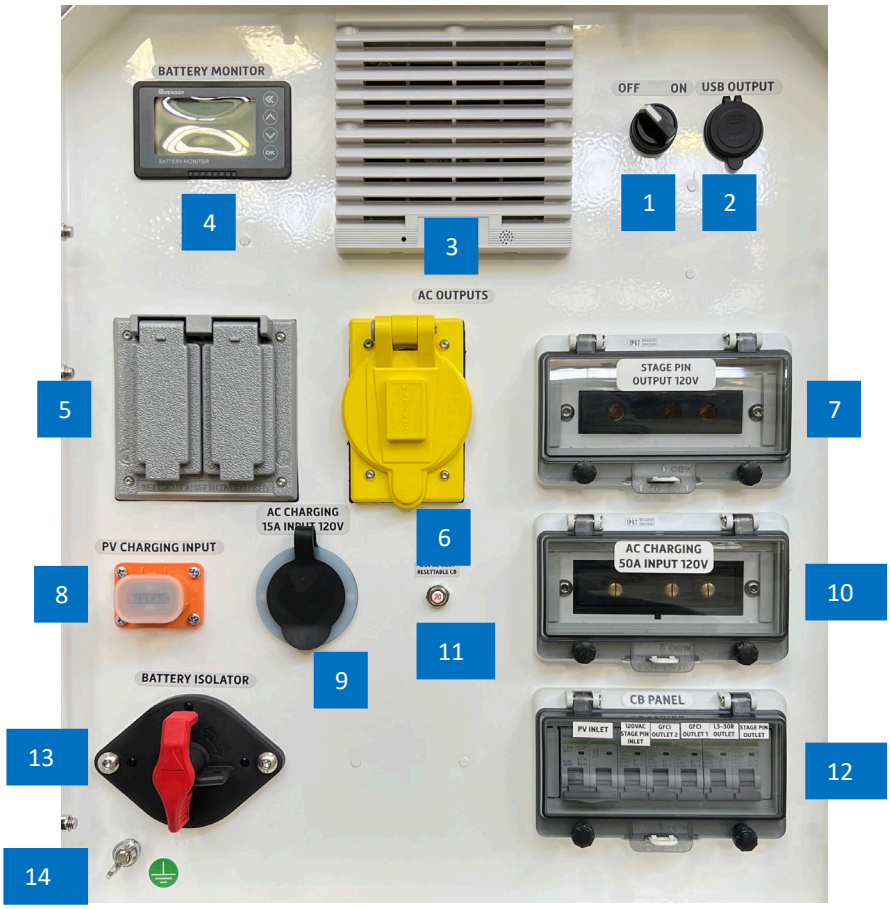
OVERALL MACHINE DIMENSIONS



OPERATING YOUR PORTABLE POWER BOX

1. CONTROL INTERFACE

Below is the control interface of the Makinex Portable Power Box



1 – On/off switch	**8 –** PV Inlet Socket
2 – USB outlets (type A + type C)	**9 –** 120V AC 20A Inlet charging socket
3 – Cooling fan	**10 –** 120V AC 50A Stage Pin charging socket
4 – Battery monitor	**11 –** Resettable breaker for 120V AC Input
5 – 4 x 120V AC 20A GFCI outlet sockets	**12 –** Circuit breakers
6 – 120V AC 30A outlet socket	**13 –** Battery DC isolator
7 – 120V AC 50A Stage Pin Outlet	**14 –** Earth stud

2. STARTUP OPERATION

2.1 Ensure all breakers (14) are switched ON.

2.2 Turn the “On/Off” switch (1) to the ON position.

2.3 Turn the “Battery Isolator”(12) switch to the ON position.

2.4 Wait for display to turn on and let the machine warm up for 1 minute.

2.5 The PPB can now be used by plugging devices into outlets 5 and 6 or only 7.

 **WARNING**	**WARNING** – DO NOT use 120V Stage Pin output simultaneously with other outlet sockets. Could result in inverter overload.

3. SHUTDOWN OPERATION

3.1 Turn the “On/Off” switch (1) to the OFF position.

3.2 Unplug all outlet sockets

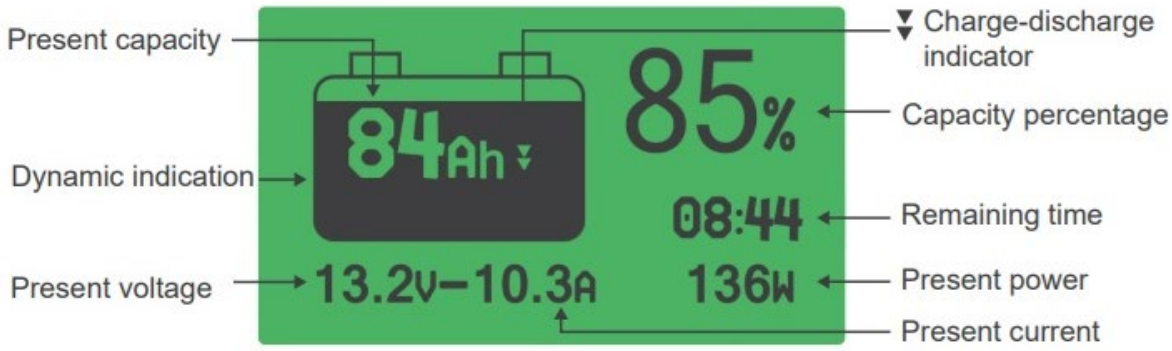
4. WHEN TRANSPORTING

4.1 Turn the “On/Off” switch (1) to OFF position.

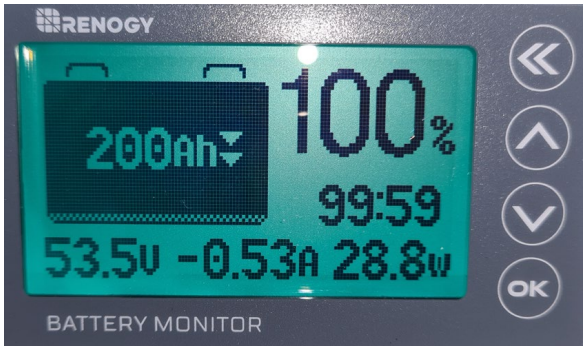
4.2 Turn off all breakers (14) and switch “Battery Isolator” (12) to OFF position.

5. BATTERY MONITOR

5.1 Interface description



For example, the below LCD display means:



Picture for reference only

- Battery capacity is 300Ah and it is 100% charged.
- The present battery voltage is 53.5V.
- The present current is -0.53A.

  Note: The “-” symbol means amp draw from batteries. In other words, batteries are powering loads connected to the Portable Power Box.

- Present power consumption is 28.8watt.
- Remaining time is 99 hours and 59 minutes.

  Note: It means with the present power consumption, the battery can last for 99 hours and 59 minutes.

6. CHARGING THE PRODUCT

6.1 Turn the “Battery DC Isolator” to the ON position.

6.2 Connect the charging cable to either the 120V or 120V Stage Pin Inlet Socket on the Makinex Portable Power Box and the AC wall outlet or generator (only for the stage pin connector).

WARNING	**WARNING** – DO NOT attempt to charge from both 120V inlet at the same time.

6.3 Turn on Inlet Circuit Breaker.

6.4 Turn the “On/Off” switch to the ON position.

6.5 Battery is now being charged.

The LCD display on the Battery Monitor will be blinking during charging operation.

You will also see the real time battery voltage and charging current on the LCD display.

6.6 When charging is completed, switch off the Inlet Circuit Breaker. Remove the charging cable.

7. TRANSPORTING THE PRODUCT

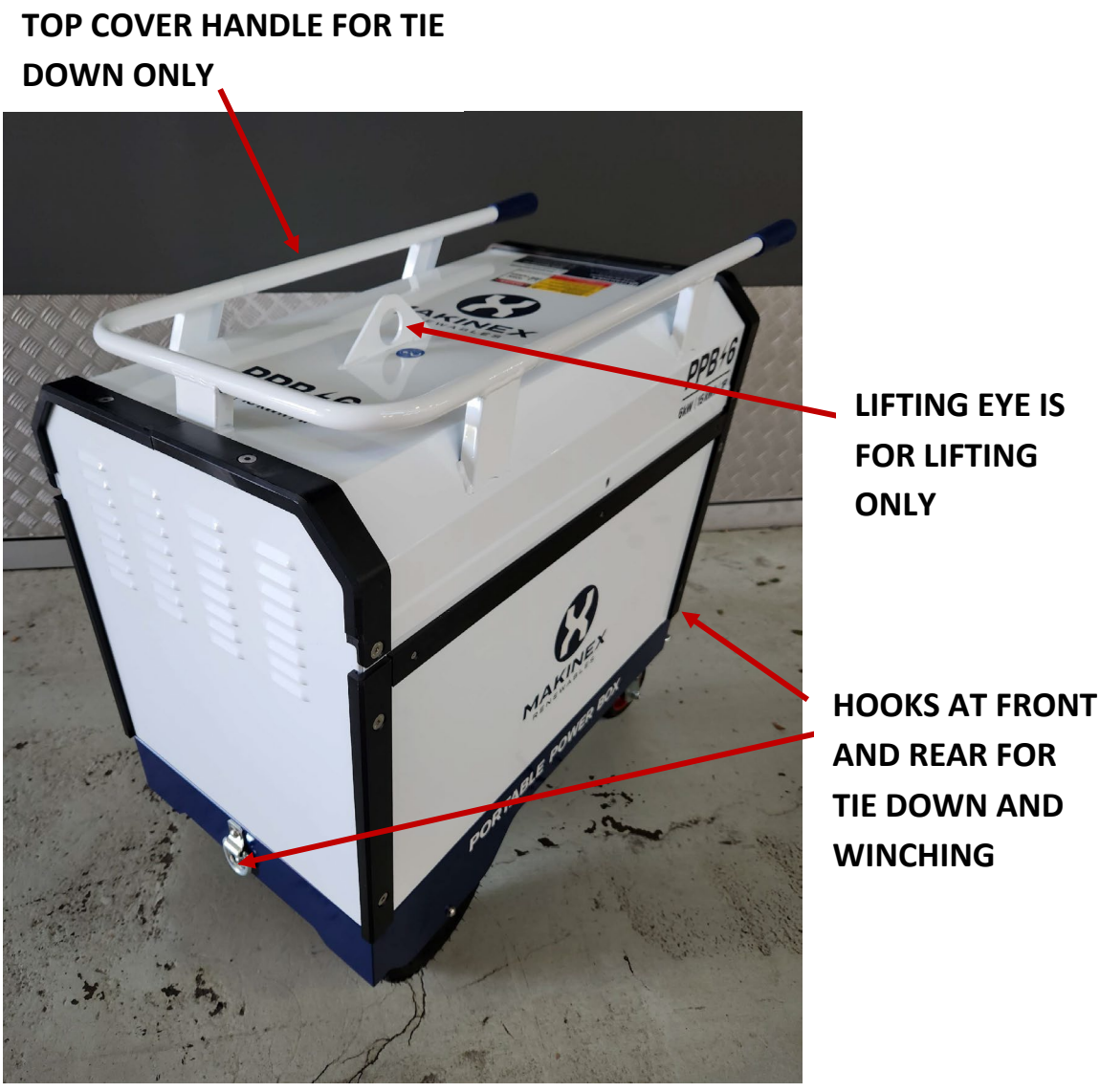
7.1 Lifting Point – Use the lifting eye on the top cover of the PPB to lift the unit. The label adjacent to the lifting eye indicates the total weight of the unit. Please ensure the lifting equipment used is rated for this weight.

7.2 Tie Down Points – Use the front and rear hooks and the handle tube on the top cover to tie the unit down.

7.3 Winching points – Use only the front and rear hooks to winch the unit.

7.4 Forklift – The PPB cannot be moved using a forklift except using the lifting eye with a jib/hook attachment on the tines.

WARNING	**WARNING** – Do not lift the PPB by placing forklift tines underneath the PPB. This will damage the base.



8. PPB COVER

8.1 Install the PPB Cover when required eg. In the rain. Pull the PPB Cover out of the pouch that is attached to the PPB. When installing, ensure the clear side is on the I/O Panel side to allow access to power outlets. Once cover is over the unit, pull both zippers down all the way to ensure I/O Panel is protected.



PICTURE FOR REFERENCE ONLY

8.2 To remove cover, unzip the cover and fold cover tightly to allow cover to fit into pouch. Place folded cover into the pouch and ensure the pouch is closed to prevent the cover from being lost or misplaced.

MAINTENANCE

GENERAL MAINTENANCE

Always keep the unit clean. Clean the unit with cloth. Please DO NOT use pressure cleaner. Avoid exposing the product to heavy rain.

The Portable Power Box's warranty does not cover items that have been subjected to operator abuse or negligence. To receive full value from the warranty, the operator must maintain the Portable Power Box as instructed in this manual including storage.

STORAGE

Store the unit in a clean, dry and cool area. Keep the unit away from children and pets. The maximum storage period at room temperature is 6 months, every 6 months the unit must be used, and recharged when necessary.

Before storing, it is recommended to charge battery to 40-70% and voltage measured to be greater than 45V.

During storage, it is required that the battery be inspected monthly, if battery voltage to drop below 45V, it must be charged according to the charging procedure mentioned in "CHARGE THE BATTERY" section.

CHARGE THE BATTERY

When charging the unit, connect a charging cable from wall socket to the charging inlet. Refer the charging specifications to "Machine Specification" section.

After storage, inspect unit and if battery voltage is above 45V, connect to wall socket and charge normally. If battery voltage is below 45V, discharge battery to the cutoff voltage, then recharge. Validate battery voltage after charging.

TROUBLESHOOTING

PROBLEM	CAUSE	REMEDY
No LCD display after DC isolator switched on for 5 minutes.	Unsuccessful system boot-up	Switch off the DC isolator and switch it back on
	Battery fault	Battery fault is rare. Access battery and further diagnose required (1)
	Loose internal wiring	The occurrence is rare. Open the unit cover and check internal wiring (1)
	Outlet circuit breakers are OFF.	Turn on the circuit breakers
	Battery is flat.	Check the battery monitor display for the battery capacity percentage. Recharge battery
	On/off switch is OFF	Turn on the On/off switch
Not able to charge the unit.	Wall socket switch is OFF.	Turn on the wall socket switch
	240V AC Inlet circuit breaker is OFF.	Turn on the circuit breakers
	120V AC inlet circuit breaker is OFF	Press to reset if tripped
	Battery DC Isolator switch is OFF	Turn on the DC Isolator switch
	On/off switch is OFF	Turn On the On/off switch
	Battery fault	Battery fault is rare. Access battery and further diagnose required (1)
Inverter Fault (alarm warning).	Inverter module malfunction	Contact Makinex
	DC voltage is too low (battery is flat).	Charge the unit
	Pre-charging unit fault (main contactor not closed)	Contact Makinex
(1) operations which must be carried out at an authorised service centre		

LIMITED WARRANTY

To take advantage of the MAKINEX limited warranty, you must have maintenance performed according to the maintenance schedule (contained in relevant owner's manual supplied with this product), by an authorised MAKINEX dealer or MAKINEX service technician. You are free to have your MAKINEX product serviced by any suitably qualified mechanic or electrician (depending on the mechanical or electrical requirement) and this will not affect your statutory warranties, however, failure by the owner to have the recommended servicing carried out by an authorised MAKINEX dealer/service technician means that you cannot take advantage of the MAKINEX limited warranty.

In order to ensure your safety, we strongly recommend that you only use an authorised MAKINEX dealer for servicing. Only authorised MAKINEX dealers have access to all the special tools, technical information, parts and training required to maintain your MAKINEX product in peak operating condition.

MAKINEX warrants each new Portable Power Box to be free from defects in material and workmanship under normal domestic and industrial use and service for the period specified below, conditional to the limitations and exclusions printed on this page. This warranty applies only to new MAKINEX products distributed by us and by our authorised MAKINEX dealers.

WARRANTY: (Ex-factory/ Reseller premise)

- 1 year warranty on the inverter and the batteries.
- 1 year warranty on the outlet panel, enclosures and wheels.

Note: Maintenance is not warranty. Excludes service and consumables required at scheduled maintenance intervals)

WARRANTY EXCLUSIONS

This warranty does not cover the following repairs and equipment:

NORMAL WEAR

This warranty does not cover repair when normal use has exhausted the life of a part or the equipment.

INSTALLATION, USE, AND MAINTENANCE

This warranty will not apply to parts and/or labour if this portable power box is deemed to have been misused, neglected, involved in an accident, abused, loaded beyond its limits, modified, installed improperly or connected incorrectly.

OTHER EXCLUSIONS

This warranty excludes:

- Cosmetic defects such as paint, decals, etc.
- Failures due to acts of God and other force majeure events beyond the manufacturer's control.
- Problems cause by parts that are not original MAKINEX parts.
- Maintenance service costs
- Freight costs

OWNER'S RESPONSIBILITY UNDER LIMITED WARRANTY:

Strict adherence to the maintenance checks and with **proof of scheduled maintenance history** is required by an authorised agent or qualified mechanic. It is the consumer's responsibility to deliver the machine in question to our service premises or to the premises of our appointed agent at the consumer's expense for repair as applicable. Maintenance services are not covered under warranty.

Claim Procedure:

- Contact MAKINEX by phone or email informing us of your machines problem or defect.
- Once the extent of the claim has been assessed, we retain the right to compensate the consumer for such defect, or repair (parts & labour), or replace the machine under warranty.
- All warranties will be carried out by MAKINEX authorised staff or appointed agents at a premise to be determined by the Manufacturer.
- Transportation charges on product submitted for repair under this warranty are the sole responsibility of the purchaser. This warranty only applies to the original purchaser and is not transferable.
- Warranty repair will only be carried out by our representatives and not via client's choice of repairer. We will not accept back charges for any work not carried out by our representatives or accept any charges due to equipment being un-operational for any reason even during its warranty period.

CONTACT INFORMATION

For sales, service, warranty, and parts for all MAKINEX products; please refer below.

	SALES, SERVICE, SPARE PARTS & WARRANTY
AUSTRALIA	**SALES** **TEL** 1300 795 953 or +61 2 9460 8071 **WEB** www.makinex.com.au **SERVICE, SPARE PARTS & WARRANTY** **EMAIL** service@makinex.com.au
USA	**SALES** **TEL** +1 855-625-4639 **WEB** www.makinex.com **SERVICE, SPARE PARTS & WARRANTY** **EMAIL** service@makinex.com

Or your nearest MAKINEX distributor

We have very knowledgeable, experienced staff to assist you with help and advice.

PRODUCT RISK / HAZARD ASSESSMENT TABLE

Product Name: Portable Power Box Gen 4 (AU Units x11/USA units x11)	**Assessment By:** Andrew Reade/Hayden Ellis/Mike Stanford
Manufacturer: MAKINEX PTY LTD	**Document Revision Number: 2**
Operator Competency: PLANT LICENSE NOT REQUIRED	**08-Nov-23**

HAZARD	LIKELYHOOD		CONSEQUENCE		RISK		CONTROL ACTION
CRUSHING DUE TO -							
PRODUCT FALLING OVER	3	UNLIKELY	3	MINOR	4	MEDIUM	ENSURE UNIT IS USED ON FLAT, LEVEL SURFACE AND BRAKES ARE ENGAGED
WHEEL RUNNING OVER LIMB	3	UNLIKELY	4	NEGLIGIBLE	5	LOW	ENSURE APPROPRIATE SAFETY APPAREL IS WORN
SHEARING INJURY DUE TO -							
DROPPED DURING LIFTING	3	UNLIKELY	2	MAJOR	3	MEDIUM	FREQUENT INSPECTION OF LIFTING EYE AND PROPER LIFTING EQUIPMENT AND TECHNIQUE
ENTANGLEMENT DUE TO -							
ELECTRICAL LEADS	3	UNLIKELY	3	MINOR	4	MEDIUM	SITE SAFETY OFFICER TO INSPECT PLACEMENT OF LEADS
STRIKING DUE TO -							
PRODUCT ROLLING ON SLOPE / WIND	3	UNLIKELY	2	MAJOR	3	MEDIUM	ENSURE CASTOR WHEEL PARK BRAKES ARE ACTIVATED
PRODUCT NOT SECURED IN VEHICLE DURING TRANSPORT	3	UNLIKELY	2	MAJOR	3	MEDIUM	ENSURE PRODUCT IS PROPERLY SECURED IN VEHICLE WITH TIE-DOWN STRAPS/ROPES ETC.
DROPPED DURING LIFTING	3	UNLIKELY	2	MAJOR	3	MEDIUM	FREQUENT INSPECTION OF LIFTING EYE AND PROPER LIFTING EQUIPMENT AND TECHNIQUE
ABRASION DUE TO -							
LIMB TRAPPED BETWEEN MOVING PRODUCT AND FIXED OBJECT	3	UNLIKELY	3	MINOR	4	MEDIUM	ROUTINE MANAGEMENT OF PROPER USE
							ENSURE UNIT IS USED ON FLAT, LEVEL SURFACE AND CASTOR WHEEL PARK BRAKES ARE ENGAGED. ENSURE PRODUCT IS PROPERLY SECURED DURING TRANSPORT. ENSURE CASTOR WHEEL PARK BRAKES ARE FUNCTIONING PROPERLY
PINCH							
HANDS OR FINGERS CAUGHT IN LIFTING EYE WHEN ATTACHING HOOK	3	UNLIKELY	4	NEGLIGIBLE	5	LOW	FREQUENT INSPECTION OF HOOK ATTACHMENT TECHNIQUE AND USE OF SAFETY GEAR
SKIN OR LIMB CAUGHT IN BETWEEN PRODUCT AND FIXED OBJECT	3	UNLIKELY	4	NEGLIGIBLE	5	LOW	ENSURE UNIT IS USED ON FLAT, LEVEL SURFACE AND PARK BRAKE IS ENGAGED. ENSURE PRODUCT IS PROPERLY SECURED DURING TRANSPORT
SLIP/ TRIP/ FALL DUE TO -							
ELECTRICAL LEADS	2	LIKELY	3	MINOR	3	MEDIUM	SITE SAFETY OFFICER TO INSPECT PLACEMENT OF LEADS
ELECTROCUTION DUE TO -							
WET OUTLET SOCKETS	3	UNLIKELY	2	MAJOR	3	MEDIUM	FREQUENT INSPECTION OF ALL ELECTRICAL EQUIPMENT INCLUDING MAINS POWER LEADS WITH ALL EQUIPMENT TESTED AND TAGGED. PRODUCT MUST ALWAYS BE EARTHED
EXPOSED / DAMAGED LEADS	3	UNLIKELY	2	MAJOR	3	MEDIUM	FREQUENT INSPECTION OF ALL ELECTRICAL EQUIPMENT INCLUDING MAINS POWER LEADS WITH ALL EQUIPMENT TESTED AND TAGGED. PRODUCT MUST ALWAYS BE EARTHED

NOTES
THIS ITEM OF PLANT IS DESIGNED AND MANUFACTURED AS A CHARGING DEVICE FOR TESTED AND TAGGED EQUIPMENT ONLY.
THE PLANT IS NOT DESIGNED FOR, OR TO BE USED AS A DEVICE FOR POWERING EXTERNAL EQUIPMENT OR PLUGGING EXTENSION LEADS.

THIS DOCUMENT HAS BEEN PREPARED ACCORDING TO GUIDELINES AND RECOMMENDATIONS FOUND IN:
1. 'HAZPAK' PRODUCED BY THE WORK-COVER AUTHORITY AND
2. THE AUSTRALIAN STANDARDS 4024.1.4/5 - 1996 "SAFEGUARDING OF MACHINERY - PART 1: GENERAL PRINCIPLES"

THE TERMS **'VERY LIKELY'** , **'LIKELY'**, **'UNLIKELY'**, **'VERY UNLIKELY'** REFER TO PROBABILITY OF AN EVENT HAPPENING, BUT ARE QUALITATIVE AND BASED ON BEST ESTIMATION DUE TO CONSULTATION AND EXPERIENCE.
RISK LEVEL IS DETERMINED USING THE 'RISK TABLE' AS SUGGESTED IN 'HAZPAK'.
INHERENTLY, AS THE CONSEQUENCE INCREASES IN SEVERITY, RISK INCREASES - EVEN WHEN LIKELIHOOD IS LOW

CONSEQUENCE TERMINOLOGY IS DEFINED BY THE WORK-COVER AUTHORITY AS THUS:
NEGLIGIBLE = ABLE TO BE TREATED USING FIRST AID
MINOR = REVERSIBLE INJURIES REQUIRING SEVERAL DAYS OFF
MAJOR = NORMALLY IRREVERSIBLE INJURIES
FATALITY

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