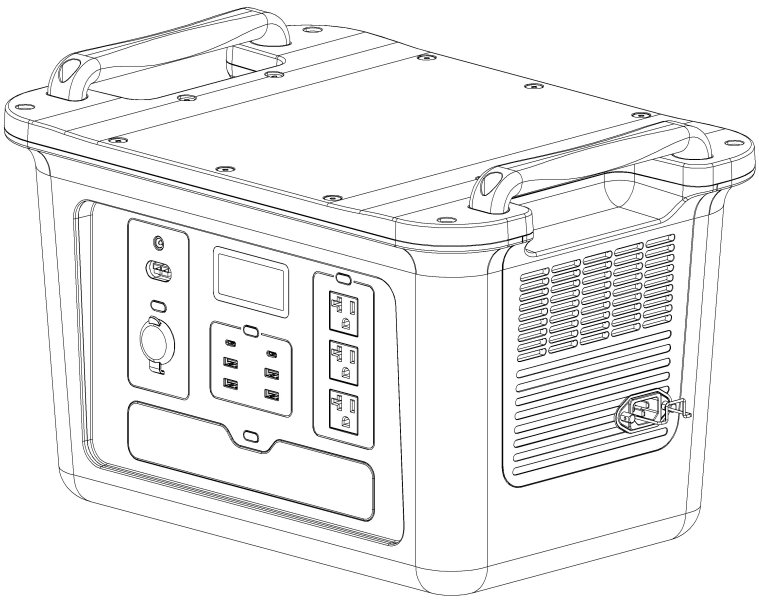
Users Guide & Testing Instructions

SaverCell Series
SaverCell 20

MEDI PRODUCTS

BACK-UP POWER SYSTEMS



Questions? 800-765-3237 or visit www.mediproducts.net

This Saver Cell Unit Includes:

- Saver Cell Power Cable
- User Manual, Spec Sheet, Warranty docs

Safety & Disclaimer:

Intended Use and Equipment & Wiring Connections:

1. **Power Specifications:**
    - Using the correct phase, voltage, and amperage in a battery backup system is essential for efficient operation, equipment compatibility, safety, extended battery life, warranty compliance, regulatory adherence, and reliable performance during critical situations. Incorrect parameters can lead to inefficiencies, damage to equipment, safety hazards, shortened battery life, voided warranties, regulatory penalties, and compromised reliability when needed most. Adhering to specified values is crucial for optimal system performance and overall effectiveness.
2. **Location Considerations:**
    - Lithium-Ion (Li-Ion) batteries are used in the system due to their advantageous characteristics. Li-Ion batteries offer high energy density, longer lifespan, lighter weight, and faster charging compared to traditional battery technologies. Their compact design and reduced maintenance requirements make them ideal for powering backup systems, providing reliable and efficient energy storage for various applications.

- It is strongly advised to avoid locating a battery backup system near explosive medical gas storage, open flame heaters, or spark-inducing equipment. Placing the system in close proximity to such hazards can pose a significant safety risk. Lithium-Ion batteries, commonly used in backup systems, can be sensitive to extreme conditions and may pose a fire hazard. Ensuring a safe distance from explosive materials, open flames, or spark-producing equipment helps mitigate potential dangers and ensures the secure operation of the battery backup system.

Statement of Liability for Medical Environments:

1. **Flammable Anesthetic Mixtures:**
    - Using the system is strictly prohibited in the presence of flammable anesthetic mixtures with air, oxygen, or nitrous oxide within a surgical environment. This restriction is in place to prevent potential ignition risks and ensure the safety of the surgical setting.
2. **Intended Use in Medical Settings:**
    - The system is not intended to support life or life-supporting equipment. Its purpose is for emergency power in non-life-threatening medical procedures, emphasizing its use in situations where backup power is needed but not for critical life support.
3. **Patient At ention and FDA Classification:**
    - Constant patient attention is crucial when using the system. While the system provides emergency power, it is essential to monitor patients closely to ensure their well-being, especially in medical settings. Regular supervision helps address any potential issues promptly and ensures a timely response to changing patient needs during power outages or emergencies.
    - It's important to note that a general-purpose medical battery backup system lacks FDA classification. This emphasizes the need for careful

consideration and evaluation of the system's specifications and intended use in medical settings, as it may not have undergone specific regulatory scrutiny for medical device classification by the U.S. Food and Drug Administration (FDA). Users should be aware of this when selecting and utilizing such systems in healthcare environments.

4. **Equipment-Specific Energy Sources:**
    - It is crucial to stress that life-supporting equipment, monitors, gas monitors, room lighting, and exit signs should have their own FDA-approved, appliance-specific battery backup systems. Relying on dedicated backup solutions ensures compliance with regulatory standards and enhances the safety and reliability of critical medical equipment in the event of power interruptions or emergencies.
5. **Responsibilities of Equipment Owner:**
    - Equipment owners bear the responsibility of monitoring, maintaining, and testing appliances, such as refrigerators and freezers. Regular monitoring ensures proper functionality, maintenance helps prevent issues, and periodic testing guarantees that appliances operate effectively. These responsibilities are essential to ensure the longevity and reliable performance of the equipment.
6. **Liability Clarifications:**
    - It is important to specify that consequential damages and the loss of perishable merchandise are not the liability of Medi-Products/Medicanix. Users should be aware that the manufacturer is not responsible for indirect damages or losses resulting from power outages, emphasizing the need for appropriate precautions and additional safeguards to protect perishable items.

7. **End User Responsibility:**

    - It is important to specify that consequential damages and the loss of perishable merchandise are not the liability of the battery backup manufacturer. Users should be aware that the manufacturer is not responsible for indirect damages or losses resulting from power outages, emphasizing the need for appropriate precautions and additional safeguards to protect perishable items.

Specifications

General Info:

- Net Weight:
  50.7 lbs. (23 kg.)
- Dimensions:
  Width: 18.50” Depth: 13.00” Height: 12.50” (47.00cm x 33.00cm x 31.75cm)
- Capacity:
  - 1800 Watt Hours

Output:

2000 Watts Max

Cycle Life

- 800 cycles @ 80% capacity

Environmental Conditions

Optimal Operating Temperature: 68°F to 86°F (20°C to 30°C)
Discharge Temperature: -4°F to 113°F (-20°C to 45°C)
Charge Temperature: 32°F to 113°F (0°C to 45°C)
Storage Temperature: -4°F to 86°F (-20°C to 45°C)

Protection

- Over Voltage Protection
- Overload Protection
- Over Temperature Protection
- Short Circuit Protection
- Low Temperature Protection
- Low Voltage Protection
- Over Current Protection

SaverCell Startup Procedure:

1. Initial Inspection:

- Place the SaverCell on a flat and stable surface.
- Inspect the SaverCell for any visible damage.

2. Power Station Connection:

- Ensure the SaverCell is not connected to any solar panels.

3. Power On:

1. Locate the power button on the SaverCell 20.
2. Press the circular power button to power the unit on.
3. Wait for the SaverCell to initialize.
4. Locate the secondary power button (AC Button above AC outlets) which turns on the unit's outlets.
5. Press the secondary power button to power the outlets. An "AC" icon should appear on the screen.

4. LCD Display Check:

- Check the LCD display or screen for the current battery level, input/output information, and other relevant details.

5. Connecting Refrigerator or Freezer:

- Connect your refrigerator or freezer to the available output ports on the SaverCell.
- Ensure the appliance that is being supported is on and operating.

6. Monitoring:

- Monitor the SaverCell' s status on the display.
- Ensure that the connected refrigerator or freezer is receiving backup power.

7. Always Plugged In:

- For continuous power support, keep the SaverCell always plugged into a power source.

8. Shutdown (when not in use):

- When you're not using the SaverCell, power off the connected refrigerator or freezer.
- Press and hold the power button on the SaverCell until it powers down.

Testing Procedures for SaverCell Battery Backup System:

Medi-Products emphasizes the importance of implementing rigorous testing standards for the SaverCell battery backup system. Regular testing, including weekly, monthly, and annual load tests, is crucial for ensuring the functionality and reliability of the power system. The following guidelines must be understood and adhered to:

Weekly Testing:

Objective: To verify the functionality of the transfer switch, auto-invert, and charge mode.

Procedure:

- Disconnect the power feeding the battery backup unit or unplug its power cord for a quick test.
- Confirm that the system switches to invert mode, drawing power from the batteries.
- Ensure that supported equipment remains operational during this period.

Runtime Information:

- Contact tech support with your power system's model and serial number, along with the refrigerator or freezer make and model, to determine the runtime.

  Note: Standard runtime for operating room equipment is 2 hours.

Duration:

- The test should not last more than 2 to 3 minutes.

Monthly Testing:

Objective:

- Conduct a load test to ensure the generator can last 25% of its intended runtime.

Frequency:

- Conduct the test no sooner than 20 days and no longer than 40 days from the prior monthly load test.

Runtime Calculation:

- The runtime is a predetermined amount calculated at the time of purchase based on the refrigerator's expected running time on battery backup.

Example:

- If the runtime is 12 hours, the monthly test duration is 3 hours.

Note:

- It is not necessary to perform the weekly test during the week the monthly test is conducted.

Caution:

Restoration:

- Reconnect the input power promptly and allow time for the battery bank to recharge, which may take several hours

Record Keeping:

Importance:

- Maintain detailed records of these tests for the protection of vaccines and valuable inventory.

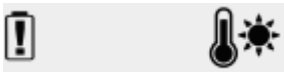
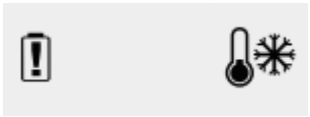
Resources:

- Utilize test logs provided in service manuals or available for download from the Medi-Products website.

Disposal Guidelines:

- If possible, fully discharge the battery before placing it in a designated battery recycling bin. Never throw it in regular trash due to potentially harmful chemicals. Follow local laws for battery recycling.
- If the battery can't be fully discharged due to a product issue, don't put it in a recycling bin. Contact a professional battery recycling company for proper disposal.
- Dispose of over-discharged batteries that can't be recharged through appropriate channels. Do not attempt to recycle them conventionally. Contact a professional battery recycling service to ensure safe and environmentally responsible disposal.

Troubleshooting

Indicator	Problem	Solution
Icons flash together RECHARGING TIME 	High-temperature charge protection	Charging can be resumed automatically after the battery cools down
Icons flash together 	High-temperature discharge protection	The power supply can be resumed automatically after the battery cools down
Icons flash together RECHARGING TIME 	Low-temperature charge protection	Charging can be resumed automatically after the battery temperature rises above 41°F
Icons flash together 	Low-temperature discharge protection	Charging can be resumed automatically after the battery temperature rises above 10°F
Icon flashes OVERLOAD	Battery overload protection short circuit protection during discharging	Remove high-power electrical appliances
Icon stays ON 	Battery failure	Contact SAVER cell customer service

Warranty Activation Form:

MEDI-PRODUCTS SAVERCELL™ Emergency Power System

MEDI-PRODUCTS warrants that your SAVERCELL™ Emergency Power System is assembled using high-quality components and workmanship and is free of defects in material and workmanship. This warranty shall remain in effect for two (2) years from the date of the original consumer purchase of the inverter. Warranty on the batteries is pro-rated over 30 months.

THIS WARRANTY DOES NOT COVER:

1. Replacement parts or labor furnished by anyone other than MEDI-PRODUCTS approved service agent. (All approved agents should be licensed electricians or bio-medical technicians or as specifically approved.)
2. Defects or damage caused by labor furnished by someone other than MEDI-PRODUCTS or approved service agent.
3. Any malfunction or failure of this product while it is in the possession of the owner during the warranty period if the malfunction or failure is not caused by a defect in material and workmanship of MEDI-PRODUCTS or if the malfunction or failure is caused by unreasonable use, including the failure to verify the equipment's utility and usefulness prior to emergency conditions.
4. Normal battery depletion.

ALSO:

1. This warranty is non-transferable to other owners of the product during the warranty period without the express written consent of MEDI-PRODUCTS.
2. MEDI-PRODUCTS reserves the right to repair, replace, or allow credit for any material returned under this warranty. Any damage caused by the customer will be charged or deducted from this allowance.
3. All warranty work will be performed at MEDI-PRODUCTS factory or using a valid Warranty Authorization Number (WAN) prior to repair. Products shall be delivered to MEDI-PRODUCTS factory freight prepaid and fully insured.

The inverter manufacturer's owner's manual is provided. The owner should become conversant with it and with this owner's manual. Before operating your SAVERCELL™, be sure to read these safety instructions.

TO INITIATE YOUR WARRANTY, PLEASE COMPLETE THIS FORM AND RETURN WITHIN 30 DAYS. It is recommended that you keep a copy of this activation form for your own records.

It is recommended that you keep a copy of this activation form for your own records.

Model Number: _____ Serial Number: _____

Date of Installation: _____ Facility Name: _____

Contact Name: _____ Phone Number: _____

Email Address: _____

Address Where System is Installed:

Weekly Test Log:

Date:	Test Start Time:	Test End Time:	Status:	Tested by:

Monthly Test Log:

Date:	Test Start Time:	Test End Time:	Status:	Tested by: