simpliphi POWER

Power. On Your Terms.

PowerBank™

OPERATION GUIDE & MANUAL

Optimized Energy Storage & Management for Residential & Commercial Applications Utilizing Efficient, Safe, Non-Toxic, Energy Dense Lithium Ferrous Phosphate (LFP) Chemistry

SimpliPhi Your Energy Security and Independence

and gain control of your own power.

SimpliPhi helps you manage your power as a personal resource. Anytime. Anywhere. SimpliPhi energy storage optimizes integration of any power generation source – solar, wind, generator – on or off grid and protects your home and mission-critical business functions from power outages and intermittency. SimpliPhi storage technology eliminates operating temperature constraints, toxic coolants and the risk of thermal runaway and fire. Safe lithium ferrous phosphate. No cobalt. No hazards.

SimpliPhi's battery technology utilizes the industry's most environmentally benign chemistry combined with proprietary architecture and power electronics (BMS) that eliminate the need for cooling or ventilation to create products that provide energy security and resiliency – all with a 98% efficiency rate.

SimpliPhi Power offers proprietary, commercially available energy storage and management systems that are safe, non-toxic, reliable, durable, efficient, highly scalable, and economical over the lifetime of the PowerBank.

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1.0 Important Safety Information

This section contains important safety instructions that must be followed during the installation and operation of the PowerBank. Read all instructions and safety information contained in this manual before installing or using this product.

1.1 Safety Instructions

1. Before using the PowerBank, read all instructions and cautionary markings on the PHI 2.7 Batteries within the PowerBank and on the PowerBank, and all appropriate sections of this manual.
2. The PHI 2.7 Batteries within the PowerBank must be fully charged before commissioning. Failure to do so will void the Warranty.
3. Use of accessories not recommended or sold by the manufacturer may result in a risk of fire, electric shock, or injury to persons and will void the Warranty.
4. Verify system settings are in compliance with the PHI 2.7 Battery Warranty and this PowerBank Manual (which take precedence). Violating Warranty conditions specified in these documents will void the Warranty on the PHI 2.7 Batteries within the PowerBank.
5. Consult the Integration Guide for inverter programming settings for relevant warnings and notices. Violating Warranty conditions specified in those Inverter Integration Guides will void the Warranty on the PHI 2.7 Batteries within the PowerBank, not just the inverter equipment. Consult SimpliPhi Power technical support regarding any inconsistencies with other referenced documents.
6. Although each PHI 2.7 Battery contains both a circuit breaker and an internal BMS with circuitry that protects the PHI 2.7 Battery cells from overcharge, over-discharge and extreme load amperage, the PHI 2.7 Batteries must always be installed with appropriate inverter charge controller settings and power electronics to protect the PHI 2.7 from open PV voltage and other high voltage charging sources. Do not attempt to replace existing power electronics without SimpliPhi's written approval. Failure to adhere to installation protocol will void the Warranty.
7. Verify polarity at all connections with a standard volt meter before 1) energizing the system and 2) turning the PHI 2.7 circuit breaker "ON/OFF" switch to the "ON" position. Reverse polarity at the PHI 2.7 Battery terminals will void the Warranty and destroy the PHI 2.7 Batteries.
8. PHI 2.7 Batteries pose some risk of shock or sparking during the installation and initial wiring and connection process. This is consistent with all other battery-based storage formats. Be sure to turn the built-in circuit breaker to the "OFF" position to minimize the risk of shock or sparks during the installation and commissioning of the system.
9. To avoid a risk of fire and electric shock, make sure that existing wiring is in good condition and that wire is not undersized. Do not operate the unit with damaged or substandard wiring.
10. Do not operate if the PHI 2.7 Batteries have been damaged in any way during shipping or otherwise.
11. Only use a SimpliPhi approved LFP battery charger if ancillary charging is required before installation, testing or troubleshooting. Failure to use a SimpliPhi approved LFP battery charger will damage the PHI 2.7 Battery and void the Warranty.
12. To reduce the chance of short-circuits, always use insulated tools when installing or working with this equipment.
13. Remove personal metal items such as rings, bracelets, necklaces, and watches when working with electrical equipment.
14. All electrical work must be performed in accordance with local, state and federal electrical codes.
15. The PowerBank is designed for indoor/compartment installation. Do not expose to rain, snow, moisture, or liquids of any type.
16. Do not dismantle the inverter; there are no user-serviceable parts contained in this product. Attempting to service the unit yourself could cause electrical shock. Internal capacitors remain charged after all power is disconnected.
17. Do not operate the inverter if it has been damaged.
18. Provide at least one inch of air space between batteries to provide optimum cooling.

1.2 Safety & Protective Features

1.2.1 CIRCUIT BREAKERS

PHI 2.7 Battery 80A Circuit Breaker

All PHI 2.7 Batteries within the PowerBank are outfitted with an 80A hydraulic/magnetic circuit breaker. This breaker increases safety during shipping and installations and allows the PHI 2.7 Battery to effectively be turned “OFF” or “ON.” The breaker works in conjunction with the built-in battery management system (BMS) and creates additional safety, efficiency and functionality to the overall power storage system.

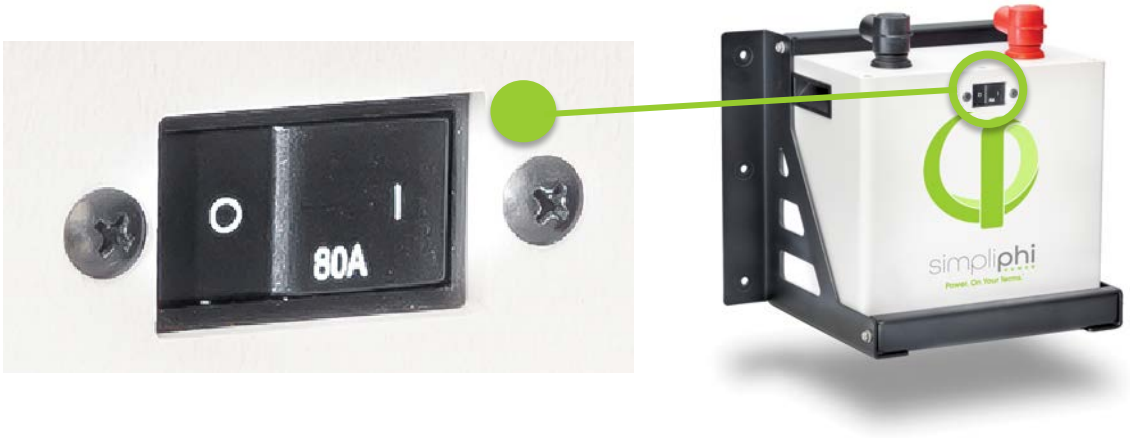


Figure 1.0 - PHI 2.7 kWh 48V Circuit Breaker

CAUTION: Circuit Breakers, Disconnects and Fuses should be employed throughout several points of a power storage and generation installation to effectively isolate and protect all components of the system to safeguard against faults, short circuits, polarity reversals or a failure of any component in the overall system. Fuses, breakers, wiring ratings and values should be determined by established standards and evaluated by certified electricians, licensed installers, and regional code authorities. Although each PHI 2.7 Battery contains both a circuit breaker and an internal BMS with circuitry that protects the Lithium Ferrous Phosphate cells from overcharge, over-discharge and extreme load amperage, the PHI 2.7 Batteries must always be installed with a charge controller and the appropriate settings to protect the PHI 2.7 Battery from open PV voltage and other high voltage charging sources. The PHI 2.7 Battery Management System (BMS) and internal circuit breaker alone will not protect the PHI 2.7 Batteries from these extreme electrical phenomena. Failure to adhere to installation protocol will void the Warranty.

CAUTION: Verify polarity at all connections with a standard volt meter before 1) energizing the system and 2) turning the PHI 2.7 circuit breaker “ON/OFF” switch to the “ON” position. **Reverse polarity** at the battery terminals will void the Warranty and destroy the PHI 2.7 Batteries.

PHI 2.7 Batteries pose some risk of shock or sparking during the installation and initial wiring and connection process. This is consistent with all other battery-based storage formats. Be sure to turn the built-in breaker to the “OFF” position to minimalize the risk of shock or sparks during the installation and commissioning of the system. Use of insulated gloves, clothing and footwear is always recommended when working in close proximity to electrical devices. Cover, restrain or remove jewelry or conductive objects (metal bracelets, rings, belt buckles, metal snaps, zippers,

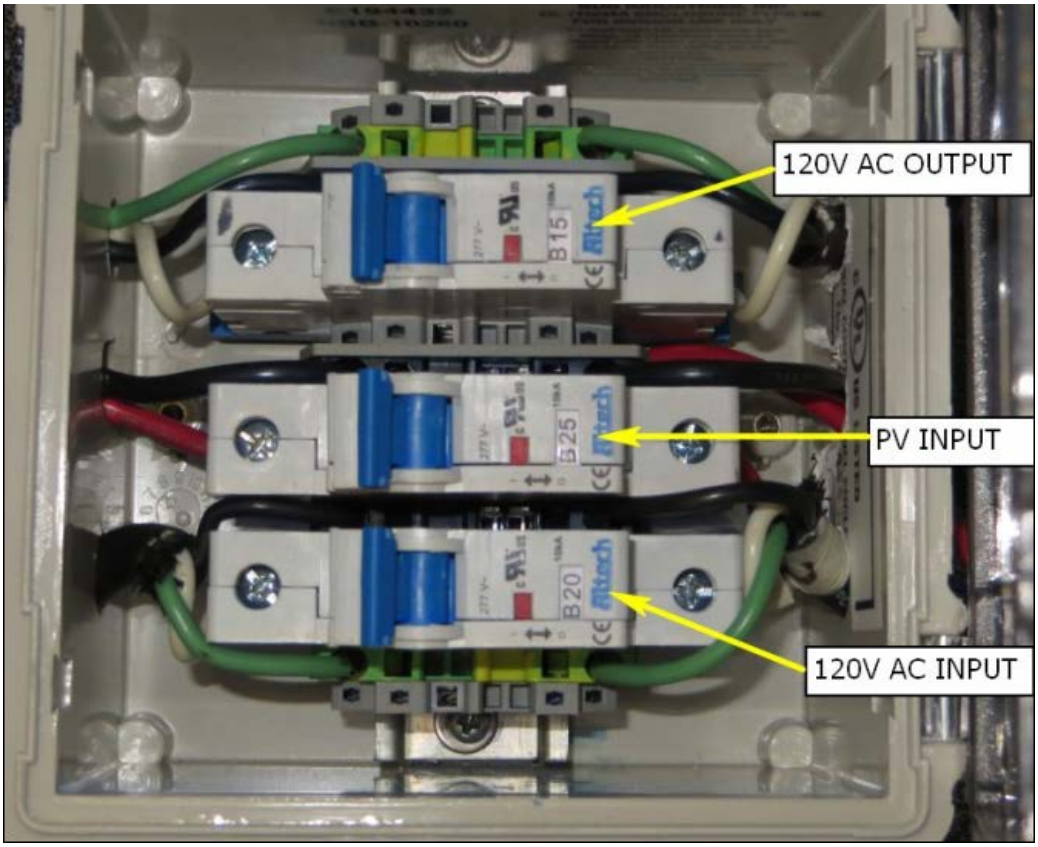
etc.) when working with any electrical or mechanical device. Cover or restrain long hair and loose clothing when working with any electrical or mechanical device.

PHI 2.7 Batteries do not vent any harmful gasses, and do not require special ventilation or cooling.

PHI 2.7 Batteries are not capable of thermal runaway. If the cells are severely damaged due to physical abuse incurred outside of warranted specifications, which can cause electrolyte leakage and other failures, as with any PHI 2.7 Battery, the electrolyte can be ignited by an open flame. However, unlike other lithium ion batteries (LCO) there are no hazardous or toxic materials in the electrolyte or the material components of PHI 2.7 Batteries.

Additional Circuit Breakers

The remaining three breakers are housed inside the PowerBank breaker box. These breakers serve as protection for AC output, PV or Solar Power Input, and AC Input for PHI 2.7 Battery charging or AC Pass through in a UPS mode. These breakers protect from over current, incorrect wiring polarity, or short circuit. The circuit breakers will protect against excessive load current and offer protection from short circuit scenarios. The circuit breakers also serve as a disconnect for trouble shooting and maintenance. Please see Figure 2.0 below for details.



- Red = “Closed” or “On”
- Green = “Open” or “Tripped”

Figure 2.0 – Additional PowerBank Circuit Breakers

1.2.2 CHARGING AT TEMPERATURES BELOW FREEZING

It is important to take necessary steps to determine the temperature of the PHI 2.7 Battery within the PowerBank prior to charging the battery, as the battery may otherwise be adversely impacted.

CAUTION: Do not attempt to charge the PHI 2.7 Battery below 32° F (0° C). Although cold temperatures do not harm PHI 2.7 Batteries, attempts to charge at subfreezing temperatures can adversely affect SOH and cycle life, and will void the Warranty. If the PHI 2.7 Battery must be charged below 32° F (0° C), the rate of charge must be at no more than 5% of the PHI 2.7 Battery's rated capacity (C/20).

CAUTION: Only use a SimpliPhi approved LFP charger if ancillary charging is required before installation, testing or troubleshooting. Failure to use a SimpliPhi approved LFP charger will damage the PHI 2.7 Battery and void the Warranty.

1.2.3 BATTERY MANAGEMENT SYSTEM (BMS)

PHI 2.7 Batteries are manufactured utilizing Lithium Ferrous Phosphate (LFP) cells, which are produced under exclusive patented licensed technologies, as well as proprietary materials, architecture, assembly methods and battery management system (BMS). This assures the highest grade and quality, longest cycle-life, greatest efficiency and freedom from material impurities, toxicity and hazardous risk.

Each PHI 2.7 Battery contains circuitry that protects the Lithium Ferrous Phosphate cells from overcharge, over-discharge and extreme load amperage. If the values specified are exceeded, the protective circuitry will shut down the flow of electricity to/from the PHI 2.7 Batteries. In some cases, this will result in the need to re-initialize an inverter charger. Often, inverter system settings will be saved within the inverter memory storage and will not need to be reset. This is not an absolute standard but is common amongst most inverter chargers and should be anticipated if the PHI 2.7 Batteries go into a state of self-protection and shut down the flow of electricity. Refer to SimpliPhi's inverter integration guides for inverter charge controller settings or contract the inverter manufacturer directly.

1.2.4 PHI 2.7 BATTERY CONNECTION TERMINALS

The PHI 2.7 Batteries are equipped with two 3/8'' threaded studs with a lock washer and nut. The red colored high temperature molded insert connection is for the positive lead. The black colored high temperature insert connection is for the negative lead.

CAUTION: Do not attempt to loosen the large brass nut at the base of the terminals.

CAUTION: Do not reverse polarity. It will void the Warranty. Use a volt meter to check polarity before connecting terminals.

Water Resistant Cable Boots are also included and will be in place when your units arrive. The boots are to be placed over the cable terminations and will stretch to form a water-resistant seal around the base of the molded inserts and terminal connections.

1.2.5 GROUND-FAULT CIRCUIT INTERRUPTER (GFCI)

The PowerBank features GFCI Protected AC outlets. Ground-Fault Circuit Interrupter or GFCI severely limits the risk of electric shock from the AC output. GFCIs are standard in all modern wiring installations. If the GFCI circuit is tripped, simply use the push reset to enable AC operation. The circuit will then be able to function, providing that the fault has been corrected.

1.3 Explosive Gas Precautions

This equipment is not ignition protected. To prevent fire or explosion, do not install this product in locations that require ignition-protected equipment. This includes any confined space containing vented batteries, or flammable chemicals such as, natural gas (NG), liquid petroleum gas (LPG) or gasoline (Benzine/Petrol).

Do not install in a confined space with machinery powered by flammable chemicals, or storage tanks, fittings, or other connections between components of fuel or flammable chemical systems.

1.4 Liability Disclaimer

The use of this manual and the conditions or methods of installation, operation, use, and maintenance of the PowerBank are beyond the control of SimpliPhi Power, Inc. The PowerBank is an electrical power device. As with all electrical power devices, care and caution must be taken. All users assume full responsibility and must take all advisable precautions against, shock, fire, or injuries inherent with DC and AC electrical systems. SimpliPhi Power, Inc. assumes no responsibility and expressly disclaims any liability for loss, damage, or expense whether direct, indirect, consequential, or incidental that may arise out of or be in any way connected with such installation, operation, use or maintenance. Due to continuous improvements and product updates, the images shown in this manual may not exactly match the unit purchased.

2.0 Product Description

2.1 Overview

The PowerBank is a battery powered AC generator and Uninterruptible Power Supply (UPS) that stores electricity for use when and where power from the grid is unavailable: remote, off grid, emergency and black-out scenarios. The PowerBank stores electricity from solar and wind chargers (DC input), conventional generators and the grid (AC input).

As a reliable primary or back-up power supply, the PowerBank is safe for indoor use, is non-toxic and does not require ventilation or cooling.

Fully charged, the PowerBank 5.4 delivers 5.4 kWh, a sufficient reserve to operate computers, appliances, AV equipment, power tools, fans, electric blankets and medical equipment for hours or days at a time.

Additional PowerBank features are:

- Mobile AC power for critical equipment in a home, office, hospital or emergency shelter.
- Uninterrupted Power Supply (UPS) and a standalone AC Power Supply. UPS feature ensures instant, reliable and uninterrupted power, even during extended blackouts.
- Utilizes state of the art Lithium Ferrous Phosphate battery energy storage technology. The technology is safe, environmentally responsible, and designed to offer years of service.
- Utility drawer for storing accessories such as an extra power strip to increase PowerBank outlets.
- Locking cabinets for security and heavy duty casters for safe and easy mobility.
- PHI 2.7 Batteries within the PowerBank power a Magnum Inverter Charger that delivers 1600W of 120V 60HZ modified sine AC power.
- Standard AC outlets with GFCI protection. These outlets also feature 2 USB 2 Amp outlets to charge cell phones, tablets and other portable devices.
- PHI 2.7 Batteries are charged by standard 120V 60Hz Grid Power via the Magnum Charger. Simply connect an extension cord from a wall outlet and to the AC inlet on the side of the PowerBank.
- PHI 2.7 Batteries can also be charged by using a 24V solar PV array, via the included Neutrik panel mount connector and the supplied PV Cable adaptor if your unit is so equipped.

- All the components of the PowerBank are protected by circuit breakers and disconnects.
- The PowerBank is a US designed and assembled product.

2.2 Standard Features

- 120V 60HZ Modified Sine AC with 1600W Power Rating
- 5.4 kWh Backup Energy Storage depending on model
- 4 AC Outlets featuring GFCI Protection
- 1 AC Inlet for Grid pass through and battery charging
- Two USB Outlets - 2 Amp 5 Volts
- Wired remote-control User Interface
- PV/Solar Panel DC Power Inlet via Neutrik Connector with PV Cable adaptor if so equipped accessory item
- Locking Cabinet Doors
- One Storage Drawer
- Bamboo Work surface
- High Strength Castors

2.3 Power Capacity

The PowerBank offers 5.4 kWh of DC Storage utilizing two PHI 2.7/24V Lithium Ferrous Phosphate Battery Modules.

2.4 Specifications

Please review Table 1.0 below for PowerBank specifications, including physical dimensions, Warranty period, and technical data.

Table 1.0 - PowerBank Battery Specifications

Specifications	PowerBank™5.4
Output	115 VAC modified sine wave, 15 Amps, 1,600 Watts
AC Input	100–120 VAC, 20 Amps
DC Input*	Maximum 1,000 Watts, 40 Amps @ 24 V
Battery	25.6 VDC nominal (20 to 28.8 Volts)*
Battery Units	(2x) PHI 2.7
Rated kWh Capacity**	5.4 kWh
Dimensions	Cabinet size: 36 H x 24 W x 18 D inches
Weight	215 lbs
Warranty Period	10 years

** Equivalent to 4 standard solar panels wired in parallel*
***Average discharge capacity during a one-hour period*

2.5 Appliances the PowerBank Can Operate

The PowerBank offers modified sine AC power. The Maximum AC power is limited to 1600 Watts. AC output current is limited to 15 Amps. This is sufficient to operate computers, appliances, AV equipment, power tools, fans and even electric blankets. The PowerBank also features redundant protection devices in case the load it is designed to support is exceeded.

2.6 Generalized Energy Consumption for Common Appliances

The PHI PowerBank is a portable battery powered generator of electrical power - wherever, whenever you need it.

The power required to run equipment in everyday situations varies with the electrical device. Appliances such as microwaves, irons, toaster ovens, and hairdryers require high current; They are using this power at relatively low volumes over time. Appliances such as televisions, computers, fans, and refrigerators use lower current for extended periods, using generally higher volumes over time. Please see Table 2.0 below for typical examples of consumption.

Table 2.0 - Typical Examples of Consumption (varies with appliance and usage)

High Current Devices	Watts	Time (Minutes)	Usage (WH)
Toaster Oven*	1100	30	150
Microwave	1200	15	300
Electric Kettle*	1200	7	130
Hotplate*	1160	15	290
Low Current Devices	**Watts**	**Time (Hours)**	**Usage (WH)**
Computer	50	3	150
Television	65	2	130
Radio	10	3	30
Lamp	40	5	200
Fan	35	3	105

**Thermostat regulated*

3.0 Pre-Installation

The information within this section covers pre-installation procedures & considerations, namely, PHI 2.7 Battery performance parameters to be aware of during the design process, guidance on system sizing, unpacking and inspection, as well as requisite installation location information.

3.1 PHI 2.7 Battery Performance Parameters and Sizing Calculations

The PHI 2.7 Batteries within the PowerBank are designed to operate at a continuous C/2 rate across a large operating temperature range, as seen in Table 1.0 of the PHI 2.7 Battery Installation Manual. The PHI 2.7 Batteries need no increase in sizing and no special compensations when determining the size of the energy storage and management system under the circumstances and conditions outlined in Table

1.0 of the PHI 2.7 Battery Installation Manual. See specific inverter manufacturer program settings for optimizing system integration.

PHI 2.7 Batteries do not need to be de-rated unless running continuously at more than 90% capacity, at temperatures below 0 degrees Celsius, or above 49 degrees Celsius. To achieve higher, warrantied cycles of 10,000+, the PHI 2.7 Batteries are typically operated at 80% maximum Depth of Discharge. Please contact SimpliPhi Power Technical Support if alternative settings are desired. Please also refer to operating temperatures and inverter settings in Programming section.

CAUTION: Do not combine PHI 2.7 Batteries with other brands or chemistries. This will void the Warranty.

CAUTION: Do not mix PHI 2.7 Batteries from different installations, clients or job sites. This will void the Warranty.

3.2 Unpacking & Inspection

Visually inspect the packaging and packing materials for any signs of damage or breach. Confirm the contents of the package are accounted for and in good shape. The PowerBank will include the following items:

- This PowerBank Manual
- Two PHI 24V 2.7 kWh Battery Storage Modules
- Magnum MM1524 AE 24V Inverter Charger
- Magnum wired remote Control Interface
- Assembled Steel Cabinet
- Bamboo Work Surface

3.3 Installation Locations

The PowerBank is designed to be moisture resistant. Please therefore keep the system away from excessive moisture, mist, rain or wetness.

As with all electrical devices, keep isolated from flammable materials or vapors.

The PowerBank is designed to be used anywhere you would generally plug a device into a wall outlet or extension cord. The PowerBank is a welcome addition to any commercial or residential facility. The PowerBank is perfect for use as an office or kitchen UPS. The PowerBank provides useful power for contractors on remote job sites or for any off grid work site.

4.0 Installation & Operation

This section covers how to setup and operate the PowerBank in Stand Alone/Off Grid Mode and Uninterrupted Power Supply (UPS) mode, initial inverter start up, power down procedure as well as PHI 2.7 Battery disconnect.

4.1 Initial Inverter Start Up

Switch the 80A circuit breaker on the PHI 2.7/24V module(s) to the “ON” position. The wired remote will begin to flash. After 5-10 seconds the inverter will be ready for service. Press the inverter “ON/OFF” switch. Connect your appliances or devices to the AC Outlets and use them as you normally would.

Figure 3.0 – Wired Remote

4.2 Stand Alone/Off Grid Mode

The PowerBank will provide 1500 watts of AC power as long as the PHI 2.7 batteries have sufficient charge. The PowerBank features a PV Inlet connector for remote Solar charging. Connect the PowerBank to a properly sized 24V PV array using the Neutrik panel mount connector and supplied PV adaptor cable if so equipped with PV adapter accessory item.

For Remote AC Power:

1. Locate the PowerBank where you need AC Power.
2. Switch the circuit breaker(s) on the PHI 2.7/24V module(s) to the “ON” position. If using the PowerBank with two 2.7/24V modules, make sure that both circuit breakers are in the “ON” position.
3. Turn the PowerBank inverter “ON” using the Magnum Controller Module.
4. Plug electronic devices & equipment into one of the PowerBank AC or USB DC power outlets.
5. Power is now available to run your AC or DC electrical devices and equipment.

4.3 Uninterrupted Power Supply (UPS) Mode

To operate the PowerBank in UPS (Uninterrupted Power Supply) Mode, please follow the instructions listed below.

1. Plug a standard extension cord into the PowerBank “Charge Input" and into a standard 115VAC AC wall outlet.
2. Plug electrical devices & equipment into one of the PowerBank AC or USB DC power outlets.
3. Turn the PowerBank inverter “ON” using the Controller Module.
4. Press Charge Button to "ON"
5. Press Inverter button to "ON"
6. AC Power will now be available from the PowerBank AC Outlet.
    - This AC power will come from the grid.
    - The AC Grid automatically charges the PowerBank whenever the PHI 2.7 Batteries need to be re-charged.

Should the Grid fail, the PowerBank will provide UPS functions that power your equipment.

4.4 Power Down Procedure

When the work is done and it's time to cease operations, turn the Inverter off at the remote control panel. Disconnect all equipment or loads.

- In a UPS Application, leave the AC Grid connection in place to charge the PHI 2.7 Batteries as needed.
- In remote power applications, turn the PHI 2.7 Battery circuit breakers to “OFF”.

4.5 Battery Disconnect

Use the 80Amp Breaker(s) on the PHI 2.7/24V modules as a Battery Disconnect to isolate the PHI 2.7 Batteries from the inverter for maintenance or long periods of storage. If there is no grid back up power to charge the PHI 2.7 Batteries on occasion, the inverter can slowly drain the batteries down. To have power on demand, after several weeks, please utilize that battery disconnect. This is especially important in off grid and remote power applications.

5.0 Programming

5.1 Operating Parameters per Warranty

Although the PHI 2.7 Batteries within the PowerBank are capable of performing at very high rates and depths of discharge within a very wide temperature range, in order to achieve extended life cycles and to comply with the Warranty, the operating parameters, indicated in Tables 3.0 and 4.0 below, must be adhered to.

Table 3.0 – Warranty Operation Parameters

Recommended Operating Conditions for PHI 2.7 Batteries for 10 Year Warranty			
Equivalent to 80% Retained Capacity	10,000 cycles	5,000 cycles	3,500 cycles
Discharge/Charge Rate[1,2]	C/2		
DoD[4]	80%	90%	100%
Operating Temperature °F (°C)	32 to 110 (0 to 43)	32 to 120 (0 to 49)	32 to 120 (0 to 49)
Programming Settings for Ancillary Equipment	**24V**	**24V**	**24V**
Absorb / High Cut-Off Voltage (V)[3]	28	28.8	28.8
Recharge / Low Cut-Off Voltage (V)[3]	25.1	24.8	24

Table 4.0 – Operating Limitations

Notes / Operating Limitations for PHI 2.7 Batteries	
[1] **Limitations by Model**	24V
Continuous Discharge Rate (A)	45
Continuous Charge Rate (A)	45

[2] 60A Discharge/Charge Rate (10 minutes maximum)
[3] Levels are typically @ 25°C and may need adjusting at temperature extremes.
[4] When performing rapid deep charge/discharge cycles, the PHI 2.7 Battery should be allowed to "rest" 15 mins in between.

CAUTION: Verify polarity at all connections before energizing system. Reverse polarity at the PHI 2.7 Battery terminals will void the Warranty and destroy the PHI 2.7 Batteries.

CAUTION: All SimpliPhi Power products are designed to work exclusively in parallel. Never connect in series to achieve higher voltages**.**

5.2 Magnum Energy ME-RC50 Wired Remote Settings

The Magnum Energy MC-RC50 inverter remote allows you to monitor and customize the operating parameters to your Magnum inverter/charger. The wired remote control has flash memory that saves the factory settings. You should not need to make any adjustments. In some instances, altering the inverter settings could cause harm to the PHI 2.7 Battery bank. If changes are made, it is advisable to return the PowerBank to the PHI factory settings.

5.3 Magnum Energy Inverter Settings

Listed below are the Magnum Energy Inverter settings for the PowerBank.

- Search Watts: Off
- Power-up Always: No
- Done Time: 1Hr.
- Max. Amps: 200A
- Chg. Volts: 28V
- Max. Time: 2Hr.
- Recharge: 24V
- Low battery cut-out: 20V

5.4 Magnum Energy Inverter Support

Hard Copies of the Magnum MM1524AE Inverter Charger Manual have been included with your PowerBank and should be stored in the drawer.

Hard Copies of the Magnum ME-RC Basic (wired) Remote Control Manual have been included with your PowerBank and should be stored in the drawer.

6.0 Maintenance and Troubleshooting

6.1 Recommended Care and Maintenance

The PowerBank is designed to offer many years of reliable service in a variety of environments. The PowerBank is resistant to most environmental elements but should be isolated from excessive water or moisture, extreme heat, solvents, flammable materials, or environmental hazards.

If the PowerBank becomes dirty or grimy, simply wipe it down as you would any kitchen cabinet. Do not use a pressure washer or hose to clean the PowerBank.

6.2 Troubleshooting Guide

Please reference Table 5.0 below for assistance with troubleshooting in response to PowerBank symptoms that may be encountered.

Table 5.0 – PowerBank Symptoms, Causes & Solutions

Symptom	Possible Cause	Solution
AC Outlet has stopped providing power and a *Low Battery CutOff* message is visible on the Remote Control	The PHI 2.7 Battery has reached a low charge state and needs to be recharged	Recharge PHI 2.7 Batteries using one of the following methods. - Connect the AC inlet to a qualified 120V AC source. Initiate Charge VIA the Remote Control. Allow the PHI 2.7 Batteries to charge. - Connect PV/Solar Panels to the PHI PowerBank. Allow the PHI 2.7 Batteries to charge.
AC Outlet does not provide AC Power	Inverter is not switched "ON"	Turn inverter on at Remote Control.
AC Outlet does not provide AC Power	AC Output Breaker has tripped	Disconnect load. Reset the main AC output Breaker. Loads Exceeding 15 Amps should not be connected to the PowerBank AC outlets.
AC Outlet does not provide AC Power	AC Breaker on the Magnum Inverter has tripped	Reset the Magnum 15A AC Output breaker.
AC Outlet does not provide AC Power	GFCI Detector on the AC outlet has tripped	Disconnect AC device. Reset the GFCI using the push button on the AC outlet. If the GFCI repeatedly trips, there is likely a fault with the equipment that is in use. Discontinue use of this equipment.
PowerBank will not power “ON”	Battery Disconnect Breaker is "OFF" or has tripped	Disconnect all devices. Turn the Battery Disconnect to the "ON" position. Initiate PowerBank Start Up Procedure.

7.0 References

For your reference:

- See PHI 2.7 kWh 24V Specifications sheet
- See PHI 2.7 kWh 24V 10-Year Warranty

8.0 SimpliPhi Technical Support

For technical support related to your PowerBank, please contact us as follows:

805.640.1874
techsupport@simpliphipower.com