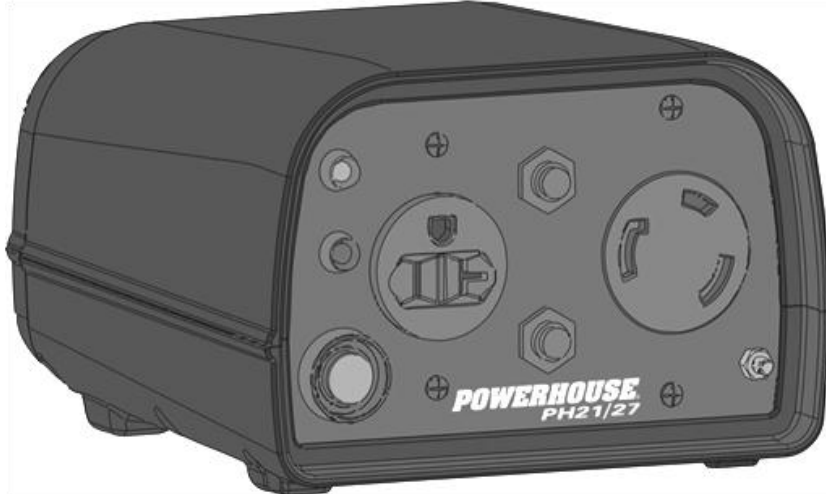


# PH21/27 POWERHOUSE® Dual Generator Parallel Kit Operating Instructions



PLEASE READ THIS MANUAL CAREFULLY  
BEFORE USING

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## 1. SAFETY INSTRUCTIONS:

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- Follow all safety and operating instruction for proper use of the generator.
- **Never Connect or Disconnect the parallel kit cables from the generators while running. Doing so will cause perminate damage not covered under warranty.**
- The load requirement of the electrical appliance cannot exceed the combined continual output of the paralleled generators.
- The special parallel cables for the PH2100PRi and PH2700PRi are specific to the parallel operation of two POWERHOUSE® generators. DO NOT use them for other brands of generators or other applications.
- This kit cannot be used for paralleling three or more generators or running two different brands of generators.
- **ONLY the POWERHOUSE® Dual Generator Parallel Kit and cables may be connected to the parallel signal port. DO NOT CONNECT TO OTHER ELECTRONICS OR USE OTHER CABLES. Permanent damage not covered by the warranty will occur.**

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## 2. Parallel Operating Features:

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1. Two PH2100PRi or PH2700PRi model generators can run in parallel to increase the total output to a maximum load of.
  - 4200 W (Continual output, 4000 W) with the PH2100PRi.
  - 5200 W (Continual output, 5000 W) with the PH2700PRi.
2. You can also run a PH2100PRi and a PH2700PRi in parallel. The maximum output will be 4200 W (Continual output, 4000 W).

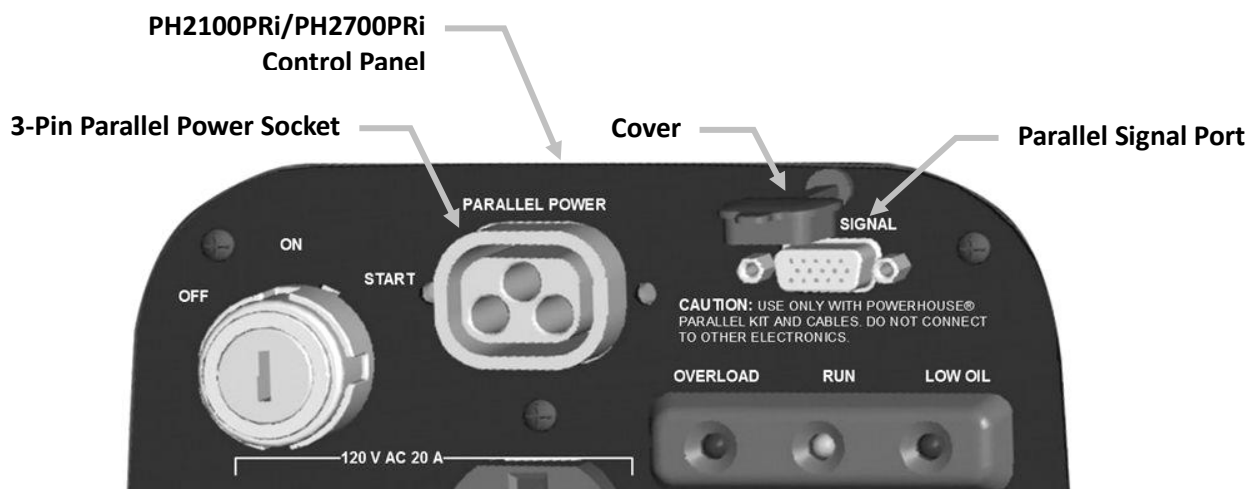
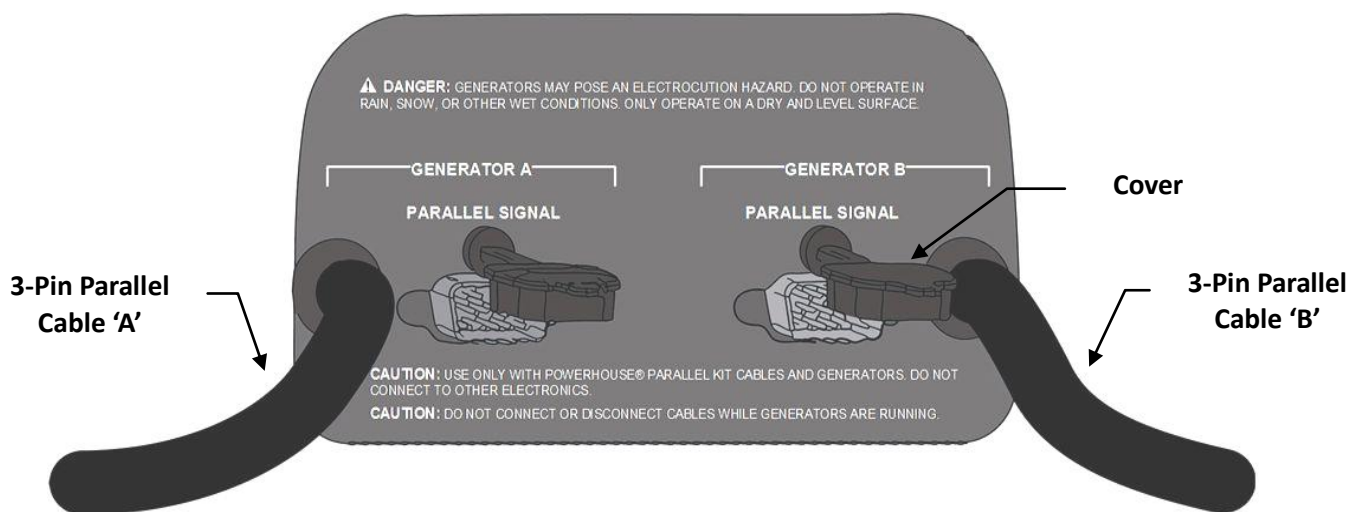
### 3 Parallel Operation Procedure:

1. Prepare two POWERHOUSE® generators for operation.
2. **Parallel power and signal connections MUST be done with the generator engine NOT running. DO NOT connect or disconnect the parallel power or signal cables while the engine is running. Irreparable inverter damage WILL result and is not covered under warranty.**
3. Connect the 15-pin signal cable between the parallel kit and each generator's signal ports and secure with the thumb screws. Do not over tighten.
4. Connect the 3-pin parallel power cable from the parallel kit into each generator's parallel power sockets making sure that the cables for generator 'A' and generator 'B' are not switched.
5. Start both generators and confirm that both green "RUN" lights are illuminated on the generators and on the front panel of the parallel kit.
6. Start both generators. The starting procedure is the same as the normal starting procedure.
7. Securely plug the electrical appliance plug into the appropriate receptacles and switch on the electrical appliance.

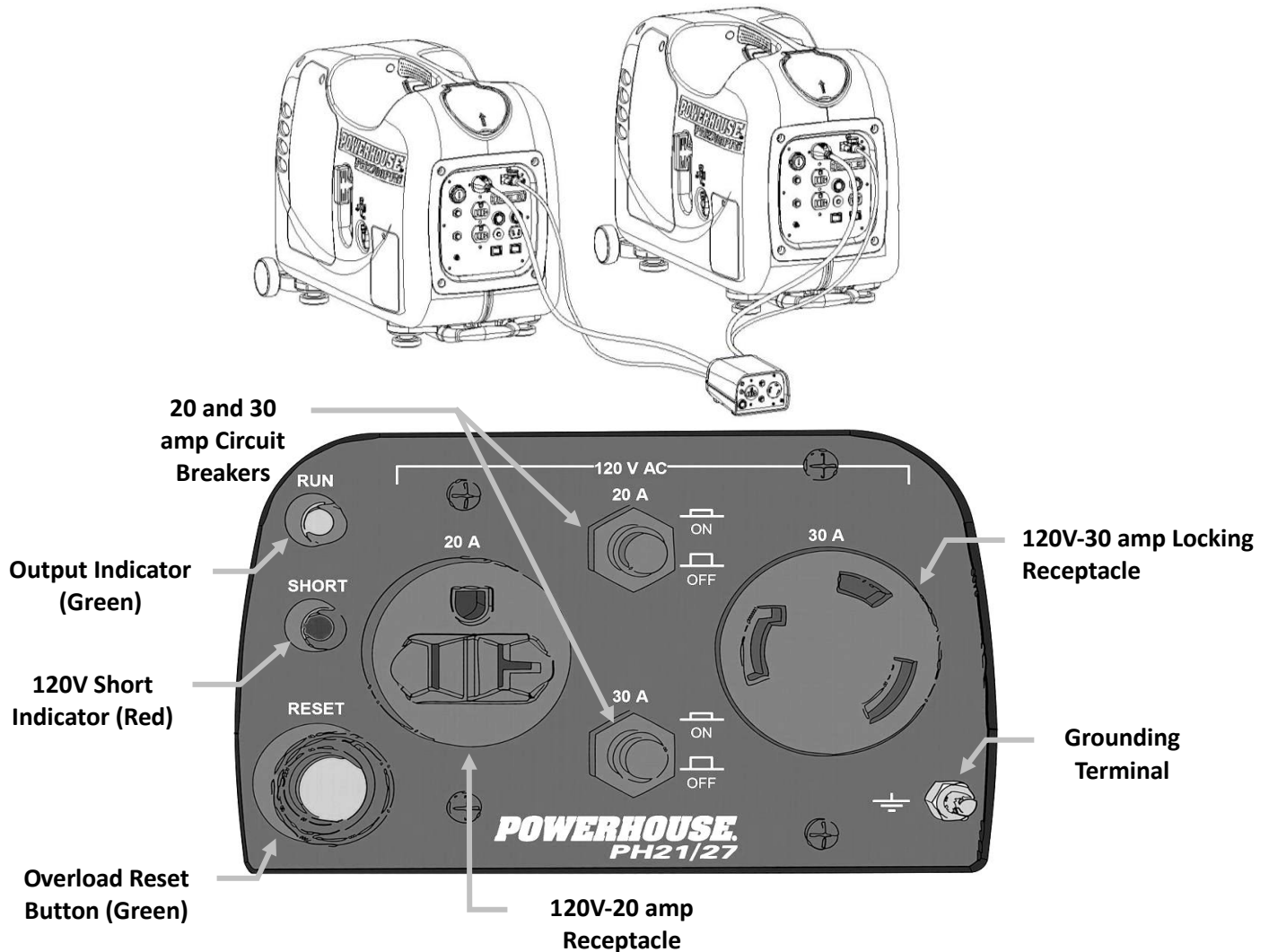


#### NOTE

- When running the generators in parallel, the economy function will automatically be turned off and both units will be running at the higher engine speed.



### 3.1 Parallel Output and Overload Lights



#### **⚠ WARNING**

- To prevent electrical shock from faulty appliances, the parallel kit should be grounded. Connect a length of heavy cable between the parallel ground terminal and an external ground source.

1. During normal operating conditions, the output indicator lights (Green) will remain illuminated.
2. If the generators are overloaded (in excess of 4200W when using two PH2100PRi units or 5200W when using two PH2700PRi units) the overload indicator light (red) will flash slowly on only one generator. The indicator lights on the other unit and the parallel kit will all be off.
3. At this time, there will be no electrical output from the parallel panel and the connected appliance or load will be shut off.
4. Remove all electrical loads from the generators and/or parallel kit and then determine and correct the cause of the overload.
5. To reset the overload condition (Red light), press and release the (Green) overload reset button on the parallel panel. The (Green) indicator lights should be illuminated on both generators and on the parallel panel within 15 seconds.

6. If there is a direct electrical short between either of the 120V receptacles on the parallel panel and the connected appliance or load, the output indicator light (green) will go out and the red short indicator will illuminate. The generators will continue to run although the indicator lights on both units and the parallel kit will all be off, and all electrical output will cease.
7. Remove all electrical loads from the 120V 20A and 30A receptacles and then determine and correct the cause of the short.
8. To reset the short light (red ) on the parallel panel, press the (green) overload reset button on the parallel panel. The (green) indicator light should be illuminated within 15 seconds.



- The 120 volt receptacles on each of the generator control panels can also be used in conjunction with the 20 and 30 amp receptacles on the parallel kit, as long as the combined loads from the parallel kit and the receptacle on the generator do not exceed the generator rating of a single unit. PH2100PRi (2000W) / PR2700PRI (2600W).

### 3.2 Shutting off the generators:

1. Turn off all electrical appliances.
2. Turn off both generators.
3. Unplug the appliance power cords from the receptacles.
4. Disconnect the power and signal cables from the parallel power and signal sockets of the two generators. **Make certain that the engines of both generators have been turned off, BEFORE disconnecting these cables.**

### 3.3 Air Conditioning Operation

1. When running in parallel, two PH2100PRi or PH2700PRi models can start and run most 15,000 BTU Air conditioners.
2. Bring the generators to normal operating temperatures before applying the air conditioning load. Always allow a 2 minute wait period when manually cycling an air conditioner off and on. A longer wait period may be required under unusually hot weather conditions. Additionally, all other loads should be turned off until the air conditioner has started and is performing normally.
3. It is also important to follow the air conditioner manufacturer's instructions for starting and restarting for proper operation. Some air conditioner manufacturers offer a start capacitor or rapid start kit as an extra cost option. The lack of a start capacitor can cause the air conditioner to draw too much starting current and overload the generator.

## 4 Troubleshooting Parallel Operation

Problem	Condition	Cause	Correction
<p><b>Flashing overload light.</b></p>	<p>The red overload light on one of the generators is flashing slowly. There are no indicator lights on the other generator or parallel panel. There is no AC output from either of the generators or parallel panel. Both engines are running at a slow idle.</p>	<p>The load (Wattage) has exceeded the capacity of one or both generators.</p>	<p>Remove all loads from the parallel panel and the generators and press the green reset button on the parallel panel. The green indicator light on both generators and the parallel kit should come on within 15 seconds.</p> <p>If the reset is pushed without correcting the cause for the overload, the system will try to reset briefly but the units will again shut down.</p> <p>Repeatedly pressing the reset button without correcting the overload condition may cause permanent damage to the generators and/or parallel kit.</p>
<p><b>Short indicator light on the parallel panel</b></p>	<p>The red (Short) indicator light on the parallel panel is on. The indicator lights on both generators are all off. There is no AC output from either of the generators or parallel panel. Both engines are running at a slow idle.</p>	<p>The hot and neutral output wires between the parallel kit and appliances are shorted, or there is a short in the appliance.</p>	<p>Remove all loads from the parallel panel and the generators and check the appliances for shorts. Repair or replace shorted appliances as needed.</p> <p>Press the green reset button on the parallel panel. The green indicator light on both generators and the parallel kit should come on within 15 seconds.</p> <p>Repeatedly pressing the reset button without correcting the short circuit may cause permanent damage to the generators and/or parallel kit.</p>

Problem	Condition	Cause	Correction
<p><b>No indicator lights (Red or Green)</b></p>	<p>There is no AC output from either of the generators or parallel panel. Both engines are running at a slow idle.</p>	<p>Loose or disconnected power cord between the parallel kit and parallel power socket on the generator.</p>	<p>Remove all loads from the parallel panel and the generators.</p> <p>Reconnect or plug in the power cord from the parallel kit to the power socket on the generator. The green indicator light should come back on in approximately 15 seconds. If not, press the green reset button on the parallel panel.</p>
<p><b>No AC output from parallel panel</b></p>	<p>The green light on both generators and parallel panel are on. The generators are running at high idle.</p>	<p>An excessive load is connected to either the 30A or 20A receptacle on the parallel panel.</p>	<p>Remove or reduce excessive loads.</p> <p>Reset circuit breakers.</p>