

# **PAIR OF PUMPS**

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# **Instruction Manual & Safety Warnings**

**Combination Primary and Backup Sump Pump System** Model PS-C11





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Scan the QR code for more information about the PS-C11 **Combination Sump** Pump System

IMPORTANT: Even if you have the Pro Series<sup>™</sup> PS-C11 Combination Sump Pump System installed by someone else, you must read and follow the safety information contained in this manual. Failure to do so could result in property damage, serious injury, or death.

## Important Safety Warnings & Instructions

**SAVE THESE INSTRUCTIONS.** This manual contains important SAFETY WARNINGS and OPERATING INSTRUCTIONS for the Pro Series combination sump pump system. Refer to it before attempting any installation or maintenance. **ALWAYS** keep these instructions with the unit so that they will be easily accessible.

Failure to read and follow these warnings and instructions could result in property damage, serious injury, or death. It is important to read this manual, even if you did not install the Pro Series combination sump pump system, since this manual contains safety information regarding the use and maintenance of this product. **DO NOT DISCARD THIS MANUAL**.

#### **ELECTRICAL PRECAUTIONS**

#### A WARNING

This installation must be in accordance with the National Electric Code and all applicable local codes and ordinances.

#### A DANGER

Risk of electrical shock and fire hazard. May result in death, serious injury, shock or burns. To help reduce these risks, observe the following precautions:

- **DO NOT** walk on wet areas of the basement until all power has been turned off. If the main power supply is in a wet basement, call an electrician.
- ALWAYS disconnect the pumps from the power source before servicing or making adjustments.
- **ALWAYS** unplug the control units and disconnect the cables from the battery before attempting any maintenance or cleaning.
- **NEVER** handle the pump or control unit with wet hands or when standing on a wet or damp surface while the pump is plugged into the power source.
- MAKE SURE THERE IS A PROPERLY GROUNDED RECEPTACLE AVAILABLE. This pump is wired with a 3-prong grounded plug. To reduce the risk of electric shock, be certain that it is only connected to a properly grounded 3-prong receptacle.

If you have a 2-prong receptacle, have a licensed electrician replace it with a 3-prong receptacle according to local codes and ordinances.

- **NEVER** bypass grounding wires or remove the ground prong from the plug.
- **DO NOT** use an extension cord. The electrical outlet should be within the length of the pump's power cord, and at least 4 feet above the floor level to minimize potential hazards from flood conditions.
- **DO** protect the electrical cord from sharp objects, hot surfaces, oil and chemicals. Avoid kinking the cord.
- **MAKE SURE** the supply circuit has a dedicated fuse or circuit breaker rated to handle the power requirements noted on the nameplate of the pump.

#### CAUTION

To reduce the risk of hazards that can cause injury or property damage, observe the following precautions:

- **DO NOT** use the power cord or strain relief to carry the pumps. Use the handle.
- **DO NOT** pull on the cord to disconnect the system or the pump. Pull the plug.
- **DO NOT** expose the control units to moisture, rain or snow.
- **DO NOT** operate the pumps or control units if they have been damaged in any way.
- **DO NOT** use pumps in pits handling raw sewage, salt water, or hazardous liquids. This product is rated for ground water use only.
- **DO NOT** disassemble the pumps or control units. When service is required, contact Glentronics' technical support at 800-991-0466. Return the product to the manufacturer for any repairs at the following address:

Glentronics, Inc. 645 Heathrow Drive, Lincolnshire, IL 60069

# BATTERY PREPARATION

Sulfuric acid can cause blindness or severe burns. Avoid contact with skin, eyes or clothing. In the event of accident, flush with

#### water and call a physician immediately. KEEP OUT OF REACH OF CHILDREN.

## To help reduce these risks, observe the following precautions:

- Someone should be within range of your voice or close enough to come to your aid when you work near a lead-acid battery.
- Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing or eyes.
- Wear eye and clothing protection and avoid touching your eyes while working with battery acid or working near the battery.
- If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters eye, immediately flood eye with running cold water for at least 15 minutes and get prompt medical attention.

▲ WARNING: Some battery posts and terminals contain lead, lead compounds or chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Wash hands after handling. See www.p65warnings.ca.gov for more information.

**WARNING:** Battery fluid can expose you to chemicals including strong inorganic acid mists containing sulfuric acid, which is known to the State of California to cause cancer. Go to www.P65warnings.ca.gov for more information.

### **BATTERY PRECAUTIONS**

#### A DANGER

Explosive gases could cause serious injury or death. Cigarettes, flames or sparks could cause battery to explode in enclosed spaces. Charge in well-ventilated area. Always shield eyes and face from battery. Keep vent caps tight and level.

## To help reduce these risks, observe the following precautions:

- **NEVER** smoke or allow a spark or flame in the vicinity of the battery.
- Use the Pro Series control unit for charging a LEAD-ACID battery only. **DO NOT** use the control unit for charging dry-cell batteries that are most commonly used with home appliances.

- Be sure the area around the battery is well-ventilated.
- When cleaning the battery, first fan the top of the battery with a piece of cardboard or another <u>nonmetallic</u> material to blow away any hydrogen or oxygen gas that may have been emitted from the battery.
- **DO NOT** drop a metal tool onto the battery. It might spark or short-circuit the battery and cause an explosion.
- Remove personal metal items such as rings, bracelets, watches, etc. when working with a lead-acid battery. A short circuit through one of these items can melt it causing a severe burn.
- **ALWAYS** remove the charger from the electrical outlet before connecting or disconnecting the battery cables. *Never allow the rings to touch each other.*
- When connecting the battery cables, first connect the large ring on the end of the RED wire to the POSITIVE (+) bolt and then the small ring on the end of the BLACK wire to the NEGATIVE (-) bolt of the battery. Never allow the rings to touch each other.



• **ALWAYS** keep the cover secured on the battery box by slipping the tabs through the fittings on the front and back of the box.

#### A DANGER

Do not use system to pump flammable or explosive fluids such as gasoline, fuel oil, kerosene, etc. This system is rated for ground water use only.

DO NOT use this system in pits handling raw sewage or other hazardous liquids.

### Introduction

The Pro Series combination system is designed to provide both primary and backup pumping capabilities. The primary pump will operate as long as it is receiving AC power. If the power is interrupted or more water is coming into the sump than the AC pump can handle, the backup sump pump will begin pumping automatically. The backup system has unique monitoring features that diagnose a problem and sound an alarm. A light on the display panel of the control unit will indicate the cause of the alarm and the corrective action. The two systems have been preassembled for easy installation.

For added reliability, the float switches have not one but two floats. Should one float fail to operate, the second float automatically activates the pump. The float switches are mounted on a %-inch PVC pipe called the float stick. The float stick allows the positioning of the float switch heights to be adjusted as needed.

# The Pair of Pumps Combination Sump Pump System includes:

- ½ HP primary pump with a caged dual float switch, and a blue piggyback controller that plugs into the wall outlet
- Blue backup pump
- Black control unit with a dual float switch and battery cables
- Battery charger
- Battery box
- No-hub coupling



#### You will also need to supply:

- A Pro Series B12-100 standby battery
- A surge protector (recommended)

**DO NOT** use an automotive battery with this system

The internal construction of some wet cell or maintenance free (AGM) batteries may not be compatible with this system. Glentronics,



Inc. cannot guarantee the compatibility of other brands of batteries. The use of a Pro Series battery is HIGHLY recommended.



## For some installations you may need additional items:

- 1½-inch rigid PVC pipe to connect to the existing plumbing
- A PVC pipe connector or a rubber union
- PVC pipe cleaner and cement

### **System Specifications**

Power supply requirements 115 volts, 60 Hz
AC pump pumping capacity 2,770 GPH @ 10'
DC pump pumping capacity 1,000 GPH @ 10'
17 GPM @ 10'
Overall dimensions 11" W x $16^{5}/8$ " H

### Installing the Pipe and Pump

The Pro Series combination system is compact and will fit in a sump pit as small as 12 inches wide. It measures  $15^{5}/_{8}$  inches from the bottom of the pump stand to the top of the wye connector where it will be attached to the discharge pipe.

|5<sup>5</sup>/8"

Use a pit that conforms to all local codes, and check the code to see if a gate valve or ball valve is required.

The path of the existing vertical discharge pipe to an exterior wall should have the shortest path with the fewest turns. More turns will reduce the pumping

capacity. The horizontal discharge pipe must be positioned in a downward slope when it exits the building so any remaining water will drain away. Failure to do this will prevent water from exiting the pit and damage the pump if the line freezes. (see diagram below)

The system should be placed on a flat surface free from dirt and debris. If the bottom of the



sump pit is not clean, remove as much of the debris as possible. The pumps are attached to a sump foot to raise them above any debris.

If you are replacing an old sump pump, **unplug the pump from the outlet.** 

- Remove the check valve or rubber union. Discard the check valve. The Pro Series system contains built-in check valves so the old check valve is not needed. If the existing system is installed without a check valve or rubber union, saw the pipe apart above the sump pit. (Refer to the diagram in Step 3.)
- 2. Remove the old pump from the pit and unscrew the pipe and pipe adapter from the pump. Use this pipe for the rest of the installation.
- Measure the distance from the bottom of the sump pit to the end of the discharge pipe. Subtract 16<sup>5</sup>/<sub>8</sub> inches (the height of the pump system + 1 inch). Cut a piece of 1½-inch rigid PVC pipe to that length.
- (a) Connect this piece to the discharge pipe by cementing the two pieces together with a 1½-inch PVC pipe connector. (Follow the instructions on the PVC pipe cleaner and cement.) OR, (b) connect the two pieces of pipe together with a no-hub coupling.
- 5. Remove the attached cords and controllers from the carton and place them next to the pump system. Be sure the cords and controllers do not fall into the sump pit.
- 6. Loosen the hose clamps on the no-hub coupling and slide the coupling up on the discharge pipe. Tighten the upper hose clamp.
- 7. Lift the combination system by the handle on the primary pump and lower it into the sump pit. Make sure it is level.
- 8. Inspect the two float switches. They should both be vertical.
- Inspect all of the screws on the hose clamps of the no-hub couplings (primary and backup pumps). They should be tight.
- 10. Position the top of the pump system pipe so that it is directly below the

discharge pipe. Connect the system with the nohub coupling, and tighten the upper and lower hose clamps. Make sure both the discharge pipe and the system have ample overlap within the no-hub coupling.





















#### **Battery Instructions**

The Pro Series B12-100 Maintenance Free Standby Battery has been designed to run this system for a minimum of 100 hours, based on a 10% duty cycle. However, most of the time the pump will turn on and off, and the battery will run the pump intermittently for days. In addition, the unique materials in the battery enable it to last longer in standby service.

Note: The battery will not run the primary pump.

#### CAUTION

- The use of automotive batteries is NOT recommended. Automotive batteries are not designed for this application. They will only run the pump for a short time and will have a shorter life than a standby battery.
- The internal construction of some batteries may not be compatible with this system. Glentronics, Inc. cannot guarantee the compatibility of other brands of batteries. The use of a Pro Series battery is <u>highly</u> recommended.

#### **System Connections**

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Risk of electrical shock or battery explosion, which can cause serious injury or death. Wear eye protection. Work in a wellventilated area. Do not smoke or allow a spark or flame in the vicinity of the battery. Avoid dropping metal tools on the battery. If battery acid contacts eyes, flush with water for 15 minutes. Review the safety instructions on page 2.

When you position the control unit on the discharge pipe, be sure the charger cord will

reach the AC power outlet, and the pump cable and the float switch will reach the bottom of the sump. Position the unit in a well-ventilated area. Do not place anything on top of the battery. (Diagram B)

- Mounting the control unit: (a) Thread one plastic cable tie through the two mounting brackets on the back of the control unit.
  (b) Secure the controller to the discharge pipe of the Pro Series pumps by wrapping the tie around the pipe and pulling it tight.
- 2. **Connecting the backup pump:** Remove the security tag from the pump and plug the pump wires into the pump connector on the back of the control unit.
- 3. **Connecting the battery:** Remove one bolt and washer from the plastic bag. Remove the safety tag from the battery cables. Slide the washer onto the bolt, then put the ring lug on the red wire onto the bolt. Remove the protective cap from the POSITIVE (RED) terminal on the battery. Screw the bolt into the terminal tightly. Remove the second bolt and one washer from the plastic bag. Repeat the process for the NEGATIVE (BLACK) terminal and black wire.
- 4. **Connecting the charger:** Immediately plug the charger into the charger hole on the back of the control unit, then into an AC outlet on the wall. (You should provide additional protection for the control unit by using a surge protector.)
- 5. If any of the alarms are sounding, press the RESET button on the front of the control panel to silence them.



- 6. Secure the cover on the battery box by slipping the tabs through the fittings on the front and back of the box.
- 7. **Connecting the primary pump:** Mount the controller to the wall through the 2 holes on the cabinet using proper mounting hardware for the application. The controller should be mounted at least 4 feet from the floor and 1 foot from the outlet. Plug the controller into a properly grounded 3-prong outlet. Then plug the primary pump into



the receptacle on the controller. Check to ensure the float switch wire is properly secured to the controller. The float switch wire includes a connector that can be separated from the controller when the wire needs to be threaded through small openings. The float switch connector has a safety locking pin. This pin will prevent the float switch from accidentally being disconnected from the controller. To remove the pin, push the pointed end of the pin into the float connector and pull it out from the other end. The float switch wire can now be disconnected. Make sure to reinstall the pin after the float switch is reconnected. Using a flathead screwdriver, adjust the dial on the front of the controller to select the number of seconds that the primary pump will run after the float drops. The dial can be adjusted from 5-45 seconds. The manufacturer default is about 10 seconds

8. For a neater installation, secure the cables from the controllers to the discharge pipe in several places with additional cable ties. Make sure the wires are not touching each



other or overlapping each other.

- After the initial installation, be sure to check the pump operation by filling the sump with water and observing the pump through one full cycle. The primary pump should run for 10 seconds after the lower float drops.
- 10. A pit cover is recommended for all installations as a safety measure and to prevent debris from falling into the pit. Place the cover on top of the pit, making sure not to pinch or crimp the pump wires with the cover. The pit cover usually has an existing hole that will allow the cords to be passed through it, or you can drill a hole in the cover.

### **Product Operation**

The dual float switch on the primary pump contains two large floating rings enclosed within a protective cage. Water will lift the bottom float by ¼ inch, which will activate the pump. If for any reason the lower float does not activate the pump, the water will rise to the second float, and it will activate the pump. As the pump evacuates the water from the pit, the floats will drop. The pump will run for an additional 10 seconds to extend the cycle after the lower float drops. The blue controller for the primary pump powers this switch.

During a power outage or if more water is entering the sump than the primary pump can handle, the backup pump will automatically begin pumping. It also has a dual float switch, so if one float fails to activate the pump the second float will activate the pump as soon as the water reaches that level. As the water recedes below the float switch, a timer in the control unit will run the pump an additional 45 seconds to empty the pit.



While the pumps are active, water will come out of the  $3/_{16}$ -inch hole that is drilled into the check valve. This is normal. The hole is needed to prevent an air lock within the system. Do not obstruct this hole or an air lock may prevent the pump from activating and the basement will flood.

Batteries and sump pumps need maintenance. The control unit on the backup system monitors the battery and power conditions, sounding an alarm when maintenance is required. Following is an explanation of the warning lights and alarms.

## Understanding the Warning Lights & Alarms

The Pro Series backup pump control unit features a series of warning lights that pinpoint potential problems. In addition, an alarm sounds to alert you to the problem. In some cases the lights and alarm will go off automatically when the problem has been solved. In others, the RESET button on the front of the control unit must be pushed to silence the alarm. Refer to the table below for a quick review of the features and their corresponding alarm status.

Warning	Alarm can be silenced before problem is corrected	Alarm shuts off automatically when problem is corrected
Power problem	Yes	Yes
Pump was activated	Yes	No
System is operating	No alarm	No alarm
Battery problem	No	Yes

### SILENCING THE ALARM DURING AN EMERGENCY

The Pro Series backup pump control unit is equipped with a switch that will silence the audible alarm during an extended emergency. The "AC power" (1) and "Pump" (3) alarms can be silenced during a power outage or during heavy rains when the pump is activated repeatedly.

To silence both the "AC power" and "Pump" alarms, slide the "Audible Alarm" switch to OFF. The "AC power" and/or the "Pump" light will remain on, but the audible alarm will not sound. When the emergency has ended, slide the switch to the ON position to resume the full monitoring capability, or you will not be warned the next time an emergency occurs.

The "Battery problem" ④ alarm <u>cannot</u> be silenced. It requires immediate attention.



## Unit is not receiving AC power

Power failure could have several causes. The most common is a power outage by your electric company. During this emergency, the Pro Series system will automatically switch to battery power and protect your basement from flooding.

You can silence the "AC power" alarm by sliding the "Audible Alarm" switch to OFF. The alarm will be silenced but the light will stay on. The system will continue to operate while the power alarm is silenced. **Be sure to slide the switch to the ON position when the power is restored to resume full monitoring capability.** 

1. If the power is on in the rest of the house, check the home circuit breaker or fuse box for failure, and correct the problem.

- 2. Check the charger. Make sure it is securely plugged into the wall outlet and that the outlet is working.
- 3. Check the charger plug that fits into the rear panel of the control unit. Make sure it is securely plugged into the control unit.



The control unit must receive 115 volts AC +/- 5% from the AC outlet. Any voltage lower than 110 volts will activate the "AC power" alarm. Lower voltages can be caused by utility company brownouts or a heavy power draw from other appliances on the same circuit. Reduce the number of appliances on the circuit.

If all the connections are secure and the wall outlet is operating, but the "AC power" warning light is still on, replace the charger unit with Pro Series part #1015003. Contact Glentronics at 800-991-0466 for parts.



When the water rises in the sump pit and activates the float switch, the pump will begin pumping, and the "Pump was activated" light and alarm will turn on. The alarm stays on to alert you to the fact that the standby system was used to empty water from the sump. Try to determine what caused the system to activate.

• Check the main AC pump for failure. It may not be working, the float switch may be stuck, the float switch wire may not be connected to the main AC controller, or the pump may be too small to handle the inflow of water.

- Make sure the discharge pipe is not clogged or frozen.
- If the power was out, the backup pump was automatically activated. You need to push the RESET button on the front of the control panel to reset the alarm.





During a power outage or times when the pump is activated repeatedly, you can temporarily silence the alarm by sliding the "Audible Alarm" switch to OFF. When the primary pump has resumed normal operation and the backup pump is no longer activating repeatedly, slide the switch to the ON position to resume the full monitoring capability. The alarm and pump light will still be on. Push the RESET button on the front of the control panel to silence the alarm.

### **REPLACING THE BACKUP PUMP**

Before you begin this process, you need a new backup pump. You also may want to change the check valves at this time. The check

valves have a 1½inch MPT on one end, and a 1½-inch SLIP on the other end. See page 12 for part numbers. You will also need two (2) new wire ties.



#### A DANGER

Risk of electrical shock or battery explosion, which can cause serious injury or death. Wear eye protection. Work in a well-ventilated area. Do not smoke or allow a spark or flame in the vicinity of the battery. Avoid dropping metal tools on the battery. Review the safety instructions on page 2.

# YOU WILL BE DISCONNECTING ALL THE WIRES. BE SURE THEY DO NOT FALL INTO THE SUMP PIT.

- 1. Unplug the primary pump, and its blue piggyback controller from the wall outlet. Unplug the charger for the backup pump control unit too.
- 2. Unplug the backup pump from the back of the black

control unit. 3. Remove the cover of the battery box and fan the area around the top of the battery with a



piece of cardboard (or another <u>nonmetallic</u> material) to remove any hydrogen or oxygen gas that may have been emitted from the battery.

- 4. Remove the battery wires from the battery terminals. Be sure they do not touch each other while one is connected to the battery.
- Slowly loosen the no hub coupling on the top of the combination pump assembly to separate the pipes. The water trapped in the pipe will pour out into the sump as the no hub coupling is loosened.
- 6. Separate the pump assembly from the no hub coupling and lift it out of the sump pit by the handle on the primary pump. Tip the assembly over the sump pit to drain away any remaining water.
- Lay the pumps down and remove the two (2) screws holding the backup pump to the sump foot.
- 8. (a) Squeeze the clamps on the elbow of the backup pump with a wrench to loosen them. (b) Then squeeze the clamps together with your fingers and pull the pump off of the elbow.



- 9. Remove the elbow from the new pump. You will not need it. Squeeze the clamps on the pump elbow and insert the elbow into the new pump.
- 10. Screw the base of the new backup pump into the sump foot.
- 11. (OPTIONAL) While you have the pump out of the sump pit, this would be a good time to replace the check valves. A check valve with 1½-inch MPT on one end, and 1½-inch SLIP on the other is commonly available, or you may order this part #1141007 from



Glentronics. (a) You will need to loosen the screws on the no hub couplings on both pipes. (b) Ease off the wye assembly. (c) The check valves can then be unscrewed from the pipes and new valves can be screwed into the pipes. (d) Replace the wye assembly and tighten the screws on the no hub couplings.

- 12. Lower the pumps into the sump pit by the handle on the primary pump.
- 13. Ease the wye assembly back into the no hub coupling on the discharge pipe and tighten the hose clamps.



- 14. Connect the backup pump to the back of the black control unit.
- 15. Connect the battery wires to the battery terminals, RED to the POSITIVE (+) post and BLACK to the NEGATIVE (-) post. Replace the cover on the battery box.
- 16. Plug the charger from the black control unit into the outlet. (Provide added protection for the control unit by using a surge protector.)
- 17. Plug the primary pump into the blue piggyback controller and then plug the controller into the wall outlet. Check to ensure the float switch wire is properly secured to the controller.
- 18. If any of the alarms are sounding, press the RESET button for 1 second.
- 19. Fill the sump with water to make sure the primary pump is working. When the pumping cycle is finished, lift the float switch on the backup pump to make sure it activates the backup pump.

### **REPLACING THE PRIMARY PUMP**

Before you begin this process, you will need a new primary pump. You may also want to change the check valves at this time. The check valves have

a 1½-inch MPT on one end, and a 1½-inch SLIP on the other end. See page 12 for part numbers. You will also need two (2) new wire ties.

#### 

Risk of electrical shock or battery explosion, which can cause serious injury or death. Wear eye protection. Work in a well-ventilated area. Do not smoke or allow a spark or flame in the vicinity of the battery. Avoid dropping metal tools on the battery. Review the safety instructions on page 2.

#### YOU WILL BE DISCONNECTING ALL THE WIRES. BE SURE THEY DO NOT FALL INTO THE SUMP PIT.

1. Unplug the primary pump, and its blue

piggyback controller from the wall outlet. Unplug the charger for the backup pump control unit too.

- 2. Unplug the backup pump from the back of the black control unit.
- Remove the cover of the battery box and fan the area around the top of the battery with a piece of cardboard (or another <u>nonmetallic</u> material) to remove any hydrogen or oxygen gas that may have been emitted from the battery.
- 4. Remove the battery wires from the battery terminals. Be sure they do not touch each other while one is connected to the battery.
- <u>Slowly</u> loosen the no hub coupling on the top of the combination pump assembly to separate the pipes. The water trapped in the pipe will pour out into the sump as the no hub coupling is loosened.

 Lift the pump assembly out of the pit by the handle on the primary pump. Tip the assembly over the sump pit to



drain any remaining water.

- 7. Remove the no hub coupling and check valve from the primary pump.
- 8. Lay the pumps down and remove the three (3) screws holding the primary pump to the sump foot. Save these screws or replace them with #14 x ¾-inch self-tapping stainless steel screws.
- 9. Loosen the hose clamp holding the float switch, cut the wire tie holding the switch, and remove the switch from the pipe. Note its position.

10. Attach the no hub coupling to the new



check valve and screw the check valve into the new pump.

- 11. (OPTIONAL) While you have the pump apart, this would be a good time to replace the check valves. A check valve with 1½inch MPT on one end, and 1½-inch SLIP on the other is commonly available, or you may order this part #1141007 from Glentronics. (a) Unscrew the check valve on the primary pump and screw in a new one. (b) To replace the other check valve, remove the other no hub coupling and the float switch and ease the wye assembly off of the pipe. Unscrew the old check valve and screw in the new valve.
- 12. Reconnect the pipes to the wye assembly



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and line up the pipe on the primary pump parallel to the pipe on the backup pump. Tighten the no-hub couplings.

- 13. The strainers on the pumps may vary slightly. If the new strainer does not line up with the holes on the sump foot, drill three holes through the foot into the strainer in the same positions where the screws were before. Use a #4 or a 3/16-inch drill bit. Screw the sump foot on to the pump with #14 x ¾-inch self-tapping stainless -steel screws.
- 14. Replace the float switches making sure they are vertical with the float for the primary pump lower than the float for the backup pump. You will need to secure them with a wire tie.
- 15. Lower the pump back into the pit by the handle of the primary pump.
- 16. Connect the top of the system to the no hub coupling and tighten the hose clamp.
- 17. Connect the backup pump to the back of



the black control unit.

- 18. Connect the battery wires to the battery terminals, RED to the POSITIVE (+) post and BLACK to the NEGATIVE (-) post. Replace the cover on the battery box.
- 19. Plug the charger from the black control unit into the outlet. (You should provide added protection for the control unit by using a surge protector.)
- 20. Plug the primary pump into the blue piggyback controller and then plug the controller into the wall outlet. Check to ensure the float switch wire is properly secured to the controller.
- 21. If any of the alarms are sounding, press the RED button for 1 second.
- 22. Fill the sump with water to make sure the primary pump is working. When the pumping cycle is finished, lift the float switch on the backup pump to make sure it activates the backup pump.



This green light should always be flashing. It will flash when there is power coming from either the battery or the AC outlet.



This light and alarm will come on when the control unit detects there is less than ½ hour of pumping power left in the battery, or that the battery is defective. The alarm cannot be

silenced, because action needs to be taken to protect your basement. If your battery is more than five (5) years old, replace it. If not, here are several situations that would cause the pump to run the battery for an extended time and discharge the battery: Check the list below before you replace the battery.

- If the top light on the controller is also on, it means that the unit is not receiving AC power. Either the AC power is out, the circuit breaker has blown, or the outlet is bad. When the problem is corrected, the battery should recharge.
- If the third light on the controller is also on, check your main pump for failure. The backup pump may have been activated repeatedly if your main AC pump is broken or you are experiencing heavy rains and your main pump cannot keep up with the inflow of water. You may need to upgrade or replace your main pump. When the problem is corrected, the battery should recharge.
- If no other lights are on, this means the terminals may be corroded, and the battery cannot charge properly. Unplug the charger from the wall outlet. Then, check the battery cables and the battery terminals for corrosion. Clean and tighten them as needed. The procedure is described on page 10.

If the battery terminals have been cleaned and the light is still on, there could be a problem with the controller or the battery. The best way to determine if the battery is the problem is to have it charged and load tested at any local car service station or auto supply store. If the battery is bad and less than one (1) year old, it can be returned to the place of purchase for a replacement (receipt required). If the battery is good, contact Glentronics' service department for further instructions. The phone number is 800-991-0466.

If the battery alarm goes on while the pump is running and the power is out, you will have a minimum of one-half (1/2) hour of continuous pumping time to replace the battery. (In most cases, the pump does not run continuously, and therefore, you actually have a longer time to replace it.) You will not be able to silence the alarm. Left unattended, the basement will flood. In a severe emergency, if a replacement battery is not available, you could temporarily use your car battery, or recharge this battery by connecting it to your car battery. Once the AC power is restored, the battery will recharge automatically, unless it is old or damaged. The alarm will turn off when the AC power is restored and the pumping energy reaches one-half ( $\frac{1}{2}$ ) hour or more.

In the event that your Pro Series backup sump pump system has pumped for an extended period of time, the battery may be very depleted. In this condition, when the AC power is returned to the unit, a battery alarm will continue to sound. The battery may need a longer period to recharge.

For a faster recharge, an automotive or marine battery charger can be used to recharge the battery. Follow the manufacturer's instructions and safety information included with the charger.

#### A WARNING

When another charger is used, first disconnect the Pro Series charger from the control unit, and then disconnect the control unit from the battery. Using another charger without disconnecting the control unit will destroy the control unit and void the warranty.

#### CLEANING THE BATTERY TERMINALS AND CABLES

#### 🛕 DANGER

Risk of electrical shock or battery explosion, which can cause serious injury or death. Wear eye protection. Work in a wellventilated area. Do not smoke or allow a spark or flame in the vicinity of the battery. Avoid dropping metal tools on the battery. If battery acid contacts eyes, flush with water for 15 minutes and get prompt medical

attention. Review the safety instructions on page 2.

1. Unplug the primary pump, and its blue piggyback controller from the wall outlet. Unplug the charger for the backup pump



control unit, too.

- 2. Remove the cover of the battery box by pushing in the tabs on the front and back, then lifting up.
- 3. Fan the area around the top of the battery with a piece of cardboard (or another nonmetallic material) to remove any hydrogen or oxygen gas that may have been emitted from the battery.
- 4. Unscrew the bolts or wing nuts. Remove the battery cables.
- 5. Clean the battery posts with a wire brush.
- 6. Clean any corrosion off of the ring connectors on the ends of the battery wires. Use a stiff brush or sandpaper. **DO NOT** apply corrosion resisting sprays or pads to the terminal rings after you have cleaned them, since this could prevent the system from charging properly.
- 7. Replace the battery cables, RED to the POSITIVE (+) post and BLACK to the NEGATIVE (-) post. Tighten the bolts. Replace the cover on the battery box.

8. Plug the primary pump into the blue



Remove

4



piggyback controller and then plug the controller into the wall outlet. Check to ensure the float switch wire is properly secured to the controller.

9. If any of the alarms are sounding, press the RESET button on the front of the control panel for one (1) second.

## **REPLACING THE BATTERY**

#### 🛕 DANGER

Risk of electrical shock or battery explosion, which can cause serious injury or death. Wear eye protection. Work in a wellventilated area. Do not smoke or allow a spark or flame in the vicinity of the battery. Avoid dropping metal tools on the battery. If battery acid contacts eyes, flush with water for 15 minutes and get prompt medical attention. Review the safety instructions on page 2.

1. Unplug the primary pump, and its blue

piggyback controller from the wall outlet. Unplug the charger for the backup pump control unit, too.

- 2. Remove the cover of the battery box by pushing in the tabs on the front and back, then lifting up.
- 3. Fan the area around the top of the battery with a piece of cardboard (or another nonmetallic material) to remove any hydrogen or oxygen gas that may have been emitted from the battery.
- 4. Unscrew the bolts or wing nuts and remove the battery cables.
- 5. Remove the old battery from the battery box and place the new battery in the box.
- 6. Clean any corrosion off of the ring

connectors on the ends of the battery wires. Use a stiff brush or sandpaper. **D0 NOT** apply c o r r o s i o n resisting sprays or pads to the terminal rings









- or posts after you have cleaned them, since this could prevent the battery from charging properly.
- 7. Replace the battery cables, RED to the POSITIVE (+) post and BLACK to the NEGATIVE (-) post. Tighten the bolts.
- 8. Replace the cover on the battery box.
- 9. Plug the primary pump into the blue piggyback controller and then plug the controller into the wall outlet. Check to ensure the float switch wire is properly secured to the controller.
- 10. If any of the alarms are sounding, press the RED button on the front of the control panel for one (1) second.



The TEST button may be used to check the backup pump and system. Push the TEST button. This will activate the pump for as long as you hold the button. It will stop as soon as you let go of the button.



While the pump is active, water will come out of the 3/16inch hole that

the

was drilled into backup pump check

valve. This is normal. This hole is needed to prevent an air lock within the system. **DO NOT** obstruct the hole or an air lock may prevent the system from activating.

If the "Pump was activated" alarm is sounding, press the button for one (1) second to reset the alarm.

#### **TESTING THE FLOAT SWITCH** FOR THE BACKUP PUMP

It is important to manually test the float switches periodically.

#### 

Unplug the main AC pump when installing or servicing the backup pump to avoid electric shock. Failure to do so could cause serious injury or death. Review the safety instructions on page 2.

Lift the float up and let go. This will activate the pump. The control unit will run the pump

for approximately 45 seconds so it can empty all the water in the sump pit. If there is no Lift water in the pit, the Float pump can run dry for this amount of time. The alarm

will sound and the "Pump was activated" light will go on. After the pump has stopped, push the RED button to silence the alarm. If the RED button is pressed before the pump has stopped, the alarm will go off temporarily. Wait for the pump to stop pumping, and then push the RED button on the front of the control unit to completely silence the alarm.

While the pump is active, water will come out of the 3/16-inch hole that is drilled in the backup pump check valve. This is normal. The hole is needed to

prevent an air lock within the system. DO NOT obstruct this hole or an air lock may prevent the pump from activating, and the basement will flood.

#### BE SURE TO PLUG IN THE MAIN AC PUMP WHEN YOU HAVE COMPLETED THE TEST.

### **TESTING THE FLOAT SWITCH** FOR THE PRIMARY PUMP

It is important to manually test the float switches after initial installation or after any maintenance.



Lift the float up with a pencil, or another nonmetallic item, and let it go to activate the pump. The pump will run an additional 10 seconds after the float returns to the original position. It will not damage the pump to run it for this short time if the sump pit is dry. However, do not hold the float up for an extended time without water in the sump pit.

While the pump is active, water will come out of the 3/16-inch hole that was drilled into the backup pump check valve. This is normal. The hole is needed to prevent an air lock within the system. DO NOT obstruct this hole or an air lock



may prevent the pump from activating, and the basement will flood.

#### MAINTENANCE CHECKLIST

Maintenance should be performed 1-2 times per year

- 1. Lift the float switch on both pumps as described at above
- 2. Remove all debris from the bottom of the pit and pump strainer.
- 3. Remove all debris from the water.
- 4. Remove all debris from the float switches.
- 5. Fill the pit with water. Make sure the pumps turn on at the intended level.
- 6. While the pumps are running, make sure they are evacuating water at a good pace and water is coming out of the 3/16-inch air bleed hole
- 7. Check battery fluid levels once every four to six months.
- 8. Check and clean battery terminals.

#### **PARTS & SERVICE INFORMATION**

You can receive technical support, parts, or service information by calling Glentronics, Inc. at 800-991-0466, or by visiting the Pro Series website at www.stopflooding.com. Send your unit to the following address if repairs are needed:

Glentronics, Inc., 645 Heathrow Drive, Lincolnshire, IL 60069-4205



## **Replacement Parts List**

BOTTOM \	/IEW
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PS -C11 Description	Part No.
Controller for backup pump	PHCC-1000-CONT
Dual float switch with controller for AC pump	DFC1.5
¹∕₃ HP AC sump pump	S1033-NS
PHCC 1000 backup pump	1011009
Battery box	1113003
PVC "wye" fitting	1120007
Sump foot	1143000
Stainless-steel screw, #14 x $^{3\!4}$ inch *	1100024
45° PVC pipe fitting, 1½ inch *	1200008
Pipe adapter for backup pump, 1½-inch FTP x 1½-inch slip *	1120009
Wire tie for float switch, 11" *	1122000
Stainless-steel hose clamp, 2½-inch diameter $\star$	1122002
Check valve, 1½-inch MPT x 1½-inch SLIP *	1141001
No-hub coupling, 1½ inch *	1142000

\*Stock items available in plumbing department

Call 800-991-0466 to order parts.



SIDE VIEW

# Primary Pump Troubleshooting Guide

Read safety warnings & instructions before attempting any repairs or maintenance.

Potential Cause	THE PUMP WILL	NOT START OR RUN	Solutions
Pump is not plugged in No AC power Poor power source Locked impeller Defective float switch Defective pump		Plug pump in properly (see instructions Check circuit breaker or fuse, and GFI in Check circuit line wires, cable and outle Remove strainer and clear obstruction Replace float switch with new float swit Replace pump with new pump	s) reset button et tch
Potential Cause THER	MAL PROTECTOR	<b>TRIPPING OR NOT FUNCTIONING</b>	Solutions
Locked impeller Incorrect power supply Pump running continuously with	no water present	Remove strainer and clear obstruction Check power supply source and voltag Check float switch	e
Potential Cause PU	MP STARTS AND	STOPS TOO FREQUENTLY	Solutions
Float switches mounted too low Water back flowing from pipe Malfunctioning float switch	·····	Raise both float switches Install or replace check valve Replace float switch with new float swi	tch
Potential Cause	PUMP WILL	NOT SHUT OFF	Solutions
Clogged or frozen discharge Blocked intake strainer One or both of the floats is obst drop down	ructed and cannot	Clear blockage or thaw frozen line Clear debris from intake strainer Clear debris from inside the float cage (I of float, then remove c-clip on bottom of debris. Tighten nut on top of float, then bottom of float.) When reassembling the strip on the inside of the float should be Replace float switch with new float swit Replace check valve.	Loosen nut on top f float. Remove replace c-clip on e float, the magnetic facing down. tch
Potential Cause	INSUFFICIENT OR	NO WATER VOLUME	Solutions
Check valve on secondary pump and water re-circulates within th Partially blocked impeller Clogged or frozen discharge pip Broken or leaking pipe Low power voltage. Check valve is stuck.	o will not close ne system	Replace the check valve on the second Remove strainer and clear obstruction Clear blockage or thaw frozen line Repair pipe Check power voltage, wires and cable of Replace check valve.	ary pump condition
Potential Cause	ABNORMAL SO	UND OR VIBRATION	Solutions
Check valve is broken Blocked intake screen Defective pump		Replace the check valve Clear debris from intake screen Replace pump	

If the listed solutions do not resolve the problem, follow the instructions within this manual to disconnect the system from the outlet and battery terminals, and then reconnect the system and push the RESET button. If the problem continues, contact customer service at 800-991-0466.

# Backup Pump Troubleshooting Guide

Read safety warnings & instructions before attempting any repairs or maintenance.

Potential Cause	BATTERY	PROBLEM	Solutions
Terminals are corroded		Clean terminals and cables Tighten bolts Replace battery if power is out. There continuous pumping power left. Batter power is restored	e is only 1 hour of ery will recharge when
Battery is old or damaged		Replace battery	
Potential Cause	POWER	FAILURE	Solutions
Power outage		None. The backup pump will run off of alarm switch to the off position to sill sure to flip it back to on when the pos	of the battery. Flip the ence the alarm. Be wer is restored.
An outlet, fuse, or circuit breaker has failed		Try another outlet, replace the fuse, o breaker	or reset the circuit
The charger is unplugged from the wall or the	he back of		
the controller The control unit is receiving less than 110 v	volts from	Make sure the power cord is plugged	in securely
the outlet		None, if the utility company has instig Otherwise, reduce the number of othe circuit	jated brown outs. er appliances on the
Potential Cause PUM	P WILL NO	T MOVE WATER	Solutions
Backup pump is unplugged		Make sure the pump is securely pluge the control unit	ged into the back of
Backup pump is clogged Backup pump is broken		Remove strainer from pump and clea Replace the pump	n out any debris
Potential Cause BACK	UP PUMP	WAS ACTIVATED	Solutions
The main AC pump failed because of a pov The water was coming into the sump faste	ver outage . r than the	None. The backup pump was activate	ed when needed
main pump could evacuate it	uck or	None. The backup pump was activate	ed when needed
defective	the inflow	Free the float switch on the main pun Replace the main AC pump	np or replace it
of water		None. The backup pump was activated recurring problem, install a higher capa	d as needed. If this is a acity main pump
The check valve is stuck and the water can through it	not pass	Replace the check valve	
cannot pass through it	if the float	Thaw, clean out the blockage, or replace	ce the discharge pipe
switch cord is wrapped around the AC pow	er cord	Move the float switch cord away from	n the AC power cord
Potential Cause ABNOR	MAL SOU	ND OR VIBRATION	Solutions
Check valve is broken Discharge pipe is clogged or frozen		Make sure check valve is functioning, Clear the discharge pipe	, or replace it

## **Limited Warranty**

By opening this package and using this GLENTRONICS, INC. product, you are agreeing to be bound by the terms of the GLENTRONICS, INC. limited warranty ("warranty") as set out below. Do not use your product until you have read the terms of the warranty. If you do not agree to the terms of the warranty, do not use the product and return it within the return period stated on your purchase receipt from the retail store or authorized distributor where you purchased it for a refund.

To the extent permitted by law, this warranty and the remedies set forth are exclusive and in lieu of all other warranties, remedies and conditions, whether oral, written, statutory, express or implied. GLENTRONICS, INC. disclaims all statutory and implied warranties, including without limitation, warranties of merchantability and fitness for a particular purpose and warranties against hidden or latent defects, to the extent permitted by law. GLENTRONICS, INC. will not be liable for any incidental, special or consequential damages for breach of any express or implied warranties on this product. In so far as such warranties cannot be disclaimed, GLENTRONICS, INC. limits the duration and remedies of such warranties to the duration of this express warranty and, AT GLENTRONICS, INC. Soption, the repair or replacement services described below. Some states (countries and provinces) do not allow limitations on how long an implied warranty (or condition) may last, so the limitation described above may not apply to you.

Any and all causes of action arising from, filed as a result of or in reference to, this warranty or the products described under this warranty shall be governed by and construed under the laws of the State of Illinois. Any cause of action arising from, filed as a result of or in reference to, this warranty or the products described under this warranty shall be filed only in the Circuit Court of the 18th Judicial District, Lake County, Waukegan, Illinois, or in the Northern District of Illinois if filed in Federal Court. The maximum liability for any product described in this warranty shall be the cost of product replacement only.

If any term is held to be illegal or unenforceable, the legality or enforceability of the remaining terms shall not be affected or impaired.

#### What is Covered by this Warranty?

GLENTRONICS, INC. warrants to the end purchaser that its pumps, switch and control unit products are free from defective materials and workmanship for the periods indicated below:

All parts and labor (excluding installation) for a period of:

· 3 years from the date of installation, when used intermittently as a sump pump

The defective product must be returned directly to the factory, postage prepaid with the original bill of sale or receipt to the address listed below. GLENTRONICS, INC., at its option, will either repair or replace the product and return it postage prepaid.

#### What is NOT Covered by this Warranty?

This warranty does not cover the cost or value of damaged property, including expressly any property that has been affected by water overflow, seepage or flooding. If GLENTRONICS, INC. determines that a product is deemed defective under this warranty agreement, it will repair or replace the PRODUCT ONLY. GLENTRONICS, INC. will not cover the cost to reinstall the product, nor will GLENTRONICS, INC. pay the cost of having a plumber or contractor repair or replace the product.

GLENTRONICS, INC. will not repair or replace a product that was installed incorrectly. A product shall be considered "installed incorrectly" when it deviates in any way from the instructions described in this manual.

This warranty does not cover product problems resulting from handling liquids hotter than 104 degrees Fahrenheit, handling inflammable liquids, solvents, strong chemicals or severe abrasive solutions; user abuse; misuse, neglect, improper maintenance, commercial or industrial use; improper connection or installation, damages caused by lightning strikes; excessive surges in AC line voltage; water damage to the controller; other acts of nature, or failure to operate in accordance with the enclosed written instructions.

#### How to Obtain Warranty Service

Within thirty (30) days of the product's defective performance, the unit must be shipped, freight prepaid, or delivered to GLENTRONICS, INC. to provide the services described hereunder in either its original carton and inserts, or a similar package affording an equal degree of protection. Products not received by GLENTRONICS, INC. at the address indicated below within thirty (30) days of the product's defective performance will not be considered for warranty service. Products received after three (3) years from the date of purchase, fall outside of the timeframe for warranty service and will not be eligible for warranty service. The product must be returned to GLENTRONICS, INC. for inspection in order to be considered for warranty service. If the product is not returned to GLENTRONICS, INC. or the product is inspected by any person, plumber, contractor or business other than GLENTRONICS, INC., this warranty shall no longer be valid. Prior to defective operation, the unit must not have been previously altered, repaired or serviced by anyone other than GLENTRONICS, INC., or its agent; the serial number on the unit must not have been altered or removed; the unit must not have been subject to accident, misuse, abuse or operated contrary to the instructions contained in the accompanying manual. The dealer's dated bill of sale, or installer's invoice must be retained as evidence of the date of purchase and to establish warranty eligibility.

#### Where are Products Sent for Warranty Service?

Glentronics, Inc., 645 Heathrow Drive, Lincolnshire, IL 60069

#### How Can I Obtain More Information?

By calling 800-991-0466

# **Additional Products to Help Protect Your Basement**

## Maintenance Free Battery B12-100



#### Compatible with:

 All current Pro Series backup and combo systems

## Pro Series Maintenance Free/AGM Standby Batteries are designed to:

- Provide dependable service without having to add battery fluid or distilled water
- Run the pump longer for more hours per charge
- Work with all backup and combination systems
- Last longer in standby operation



Clenit<sup>™</sup> Pump and Pit Cleaner



#### FEATURES AND BENEFITS:

- Removes iron ochre, the red slime buildup, from your sump system and pit
- Helps to keep your pump and pit healthy
- Great solution for periodic pit maintenance

#### Easy to Use:

- Pour Clenit<sup>™</sup> into your sump system
- Allow the proprietary powder to attack the iron ochre
- Fill your pit with water so that your pump evacuates the pit and expels the iron ochre

## Pro Series CONNECT™ WiFi2 Module

PS-WIFI2



#### FEATURES AND BENEFITS:

- Sends emails, texts or in-app notifications and status alerts to your phone, tablet or computer
- NO MONTHLY FEE
- Connect using home Wi-Fi
- Simple setup
- Pro Series CONNECT free mobile app allows you to see your backup pump status and receive updates

## Sewage Pump E7040



#### FEATURES AND BENEFITS:

- 4/10 HP
- 4,440 GPH (74 GPM) at 10-foot lift
- Cast-iron/stainless-steel construction
- Energy-efficient permanent split capacitor (PSC) motor
- Handles 2-inch solids through a 2-inch discharge
- Continuous-duty rated
- Dual carbon/ceramic seals plus (1) Buna-N-Seal
- Upper and lower sealed ball bearings
- Stainless-steel fasteners
- Cast-iron impeller
- 3-year warranty

# Water Alarms & Accessories

# Water Alarm



#### FEATURES AND BENEFITS:

- Minimizes the risk of water damage
- Detect leaks before they become bigger problems by placing a Pro Series water alarm wherever water damage is a risk
- 110 db alarm sounds when as little as <sup>1</sup>/<sub>32</sub>" of water reaches the sensor
- Helps keep MOLD away by alerting to its major cause—water
- Includes 6' of sensor wire for remote monitoring
- Wire can be extended to over hundreds of feet
- Standalone water alarm has built-in accessory jack for optional add-on accessories

## 360° Sensor

**PS-WS360** 



#### FEATURES AND BENEFITS:

- Patented 360° sensing technology detects water when placed on any side, top or bottom
- Use with the Pro Series Water Alarm (PWA2)
- When water reaches the 360° water sensor, an audible alarm will sound on the connected device
- 360° water sensor is only ½" thick, making it perfect for monitoring in tight spaces such as on the floor, or anywhere water damage is a risk
- Can monitor multiple locations by connecting additional sensors with no extra hardware
- Includes 20' cord

## 360° Water Alarm PWA-360



#### **FEATURES AND BENEFITS:**

- Patented design allows the device to sense water on any side
- Detects as little as <sup>1</sup>/<sub>32</sub>" of water
- Small size (2<sup>3</sup>/<sub>8</sub>" x 1" x 3 <sup>1</sup>/<sub>4</sub>") fits in tight spaces
- Loud 110 dB alarm easy to hear anywhere in the house
- Waterproof to ensure the device works when it counts
- Save money by detecting leaks early, heading off costly water damage and mold
- Solid-state circuitry is both very sensitive and reliable
- Only extracts power from the battery when the alarm is sounding, extending battery life

## Pro Series CONNECT™ High Water Accessory Ps-ws



#### FEATURES AND BENEFITS:

- Will activate a warning light, an audible alarm, send a signal to the remote terminal, and send information through the USB port when water reaches the sensor
- Use with the Pro Series Deluxe Float Controller (DFC2, VSC2 and TSC2) and Water Alarm (PWA2)
- Attaches to the discharge pipe with included mounting hardware
- 10' cord with plug



## 20-Ft. Extension



#### FEATURES AND BENEFITS:

- For use with 360° Sensor (PS-WS360) and Water Sensor (PS-WS)
- 20' cord
- Rubber gasket and sleeve for waterproofing the connection between the extension and sensor