

Sumplicity

“When it pours, we reign”

JMI-POM

SMART Battery Backup System

for

PEACE OF MIND

Assembled & Tested in Germantown, WI



Owner's Manual

Effective 12-23-2025



JMI PUMP SYSTEMS

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Installation Guide



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Before Getting Started

Read and follow safety instructions. Refer to product data plate(s) for additional operating instructions and specifications.

WARNING RISK OF ELECTRIC SHOCK - This product is supplied with a grounding conductor and grounding type attachment plug. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type receptacle. Disconnect power before working on or around the sump pump or battery backup system.

This equipment should be installed by technically qualified personnel. Failure to install in compliance with national, state and local electrical codes, and within the Company recommendations may result in electrical shock or fire hazard, unsatisfactory performance, or equipment failure. Installation information is available through pump manufacturers and distributors, or directly from the Company.

This equipment must not be used by children or persons with reduced physical, sensory or mental abilities, or lacking in experience and expertise, unless supervised or instructed. Children may not use the equipment, nor may they play with the equipment or in the immediate vicinity.

If the power cord is damaged, it must only be replaced by qualified personnel.

- Keep work area clean, well-lit, and uncluttered.
- Keep safety labels clean and in good condition.
- Wear safety glasses while installing or performing maintenance on pump.
- Do not run pump dry or pump will be damaged.
- Make sure all **ELECTRICAL POWER IS OFF** before connecting any electrical wires. Wire sump pump system for correct voltages. Follow all pump wiring instructions provided in the "Wiring" section of this manual.

CAUTION

- Keep work area clean, well-lit, and uncluttered.
- Keep safety labels clean and in good condition.
- Wear safety glasses while installing or performing maintenance on pump.
- Do not run pump dry. Fill pump with water before starting or pump will be damaged.
- Make sure all **ELECTRICAL POWER IS OFF** before connecting any electrical wires. Wire sump pump system for correct voltages. Follow all pump wiring instructions provided in the "System Wiring Diagram" and "Electrical Connections" sections of this manual.

Before Getting Started

This manual provides you with the information required to safely own and operate your JMI-POM Smart Battery Backup System. Retain these instructions for future reference. The JMI-POM Smart Battery Backup System you have purchased is of the highest quality of workmanship and material. It has been engineered to give you long and reliable service. JMI-POM Smart Battery Backup System is carefully tested, inspected, and packaged to ensure safe delivery and operation. Please examine your pump carefully to ensure that no damage occurred during shipment. If damage has occurred, please contact the place of purchase. They will assist you in replacement or repair, if required.

WARNING READ THESE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO INSTALL, OPERATE, OR SERVICE YOUR SMART POWER BACKUP SYSTEM, KNOW THE PUMP'S APPLICATION, LIMITATIONS, AND POTENTIAL HAZARDS. PROTECT YOURSELF AND OTHERS BY OBSERVING ALL SAFETY INFORMATION. FAILURE TO COMPLY WITH THESE INSTRUCTIONS COULD RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE!

Description

The JMI-POM Smart Battery Backup System is designed as a backup to work in conjunction with a primary sump pump providing operation during temporary power outages or if the primary pump fails to function due to a blown fuse, tripped circuit breaker, defective switch, debris clogging the primary pump, or for any other reason.



DANGER Do not use to pump flammable or explosive fluids such as gasoline, fuel oil, kerosene, etc. Do not use in explosive atmospheres. Pump should only be used with liquids compatible with pump component materials. Do not handle pump or Charger/Controller Unit with wet hands or when standing on a wet or damp surface, or in water.

WARNING To reduce risk of electric shock which can result in personal injury, death or major property damage if ignored, be certain that the 115 VAC pump and the Charger/Controller Unit are connected to outlets which comply with all national, state and local electrical and plumbing codes when installing this unit. Do not use the same 115 VAC outlet for primary pump and Battery Charger/Controller Unit. Do not use an extension cord.

WARNING A spark near the battery may cause an explosion. Always unplug Charger/Controller Unit prior to making connections to or disconnections from the battery. Take care to prevent accidental shorting across battery terminals during handling. Do not leave the battery uncovered.

CAUTION The battery required to operate this unit contains acid and proper precautions must be taken when handling. Refer to battery manufacturer's safety guidelines. Failure to use proper personal protective equipment or electrical caution can result in hazards that will or can cause personal injury or major property damage if ignored.

CAUTION If a Carbon Monoxide (CO) sensor is installed near the battery backup system, battery, or Charger/ Controller Unit, nuisance or false alarms could result. CO detectors should be a minimum of 15 feet from the systems. Refer to the manufacturer of CO detector for additional instructions or information.

NOTICE The Charger/Controller Unit emits an audible alarm when running the 12 VDC backup pump. An additional (not supplied in this kit) audible high-water alarm on the sump system is recommended in any installations where property damage and/or personal injury might result from an inoperative sump system due to long term power outages, discharge line blockage, or any other reason.

Specifications

Item Number	Model Description								
OEM-148	Description								
Charging Unit	Model Description	Volts	Hz	Max Input Amps at 115 VAC	Max Output Amps at 12 VDC	Watts	Cord (ft)	Weight (lbs)	Battery Leads (ft)
390	12V Charger Controller 10A	115 VAC	60	3	10	345	6	5	6
Relay Box	Model Description	Volts	Fuse					Battery Leads (ft)	
391	Relay Box	12VDC		25A					2.5
Backup Pump Switch	Model Description	Volts	Switch On / Off Range					Cord (ft)	
405	Diaphragm Switch	12 VDC		4.5"			6		
Backup Pump	Model Description	Volts	Amps					Cord (ft)	
KT918	12 VDC Pump	12 VDC		FLA 18		275	6		

IMPORTANT ELECTRICAL SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

THIS SECTION CONTAINS IMPORTANT SAFETY AND OPERATING INSTRUCTIONS

- 1 **WARNINGS** - RISK OF EXPLOSIVE GASES WORKING IN VICINITY OF A LEAD-ACID BATTERY IS DANGEROUS. EXPLOSIVE GASES DEVELOP DURING NORMAL BATTERY OPERATION. IT IS IMPORTANT YOU READ THIS MANUAL AND FOLLOW THE INSTRUCTIONS EXACTLY.
 - 1.1 To reduce the risk of battery explosion, follow these instructions and those published by battery manufacturer and manufacturer of any equipment connected in the system. Review all the cautionary marking on these products.
 - 1.2 Do not expose the charger to rain, snow, or liquids.
 - 1.3 Do not use in explosive areas/atmospheres.
 - 1.4 Use of an attachment not recommended or sold by the battery charger manufacturer may result in a risk of fire, electric shock, or injury to persons.
 - 1.5 To reduce the risk of electric shock, unplug the charger from AC outlet before attempting any maintenance or cleaning.
 - 1.6 An extension cord should not be used unless absolutely necessary. Use of improper extension cord could result in a risk of fire and electric shock. If extension cord must be used, make sure that pins on the plug of extension cord are the same number, size and shape as those of plug on charger and that the extension cord is properly wired and in good electrical condition and that the wire size is large enough for A.C. ampere rating of charger as specified in the following table:
 RECOMMENDED MINIMUM AWG SIZE FOR
 EXTENSION CORDS FOR BATTERY CHARGERS
 Length of cord (feet): 25 50 100 150
 AWG size of cord: 16 16 14 14
 - 1.7 If the charger is equipped with an input power cord, do not operate the charger with damaged cord or plug - replace the cord or plug immediately.
 - 1.8 Do not operate the charger if it has received a sharp blow, been dropped, or otherwise damaged in any way; take it to a qualified service technician.
 - 1.9 Do not disassemble the charger; take it to a qualified service technician when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire.
 - 1.10 Appliances incorporating batteries contain materials hazardous to the environment:
 - 1.11 Batteries contain lead and sulfuric acid. Dispose of the battery in accordance with federal, state, and local regulations. Do not dispose of the battery in a landfill, lake or other.
 - 1.12 Scrap and replace the battery at or before the time indicated on the battery or in the battery user's manual. Usage beyond the required time of service can cause fluid leakage due to damage to the container, or cause fire due to power leakage.
 - 1.13 Do not open. No serviceable parts inside. Electrocution hazard.

2 PERSONAL PRECAUTIONS

- 2.1 The appliance is not intended for use by young children or infirm persons without supervision; young children should be supervised to ensure that they do not play with the appliance.
- 2.2 Do not handle Charger/Controller with wet hands or when standing on a wet or damp surface or standing in water.
- 2.3 If the supply cord is damaged, the manufacturer or its service agent or similarly qualified person must replace it to avoid a hazard.
- 2.4 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 complete eye and clothing protection. Avoid touching eyes while working near battery.
- 2.5 If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters eye, immediately flush eye with running cold water for at least 10 minutes and get medical attention immediately.
- 2.6 Be extra cautious to reduce the risk of dropping a metal tool onto battery. It might spark or short-circuit battery or other electrical part that may cause explosion.
- 2.7 When working with a lead-acid battery, remove personal metal items such as rings, bracelets, necklaces, watches, etc. A lead-acid battery can produce a short-circuit current high enough to weld a ring or the like to metal, causing a severe burn.
- 2.8 Use the charger for charging a 12 Volt Lead-Acid or AGM Battery. The rated capacity of the battery should be 250 ampere-hours maximum. This charger can charge LEAD ACID or AGM batteries only. It is not intended to supply power to a low voltage electrical system other than in a backup sump pump application. Do not use battery charger for recharging dry cell or non-rechargeable batteries commonly used with home appliances. These batteries may burst and cause injury to people and damage to property.
- 2.9 NEVER charge a frozen battery.
- 2.10 NEVER charge the incorrect type of battery.
- 2.11 NEVER charge battery with wrong Voltage.
- 2.12 NEVER block off the ventilation louvers of the charger.

3 GROUNDING AND AC POWER CORD CONNECTION INSTRUCTIONS

- 3.1 Charger should be grounded to reduce risk of electric shock. Charger is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all national, state and local codes and ordinances. Never alter AC cord or plug provided-if it will not fit outlet, have proper outlet installed by a qualified electrician. Improper connection can result in a risk of an electric shock.
- 3.2 This battery charger is for use on a nominal 120-volt circuit and has a grounding plug.
- 3.3 This battery charger should be connected to a grounded, metal, permanent wiring system; or an equipment-grounding conductor should be run with circuit conductors and connected to equipment-grounding terminal or lead on battery charger. Connections to battery chargers should comply with all national, state and local codes and ordinances.
- 3.4 It is recommended to power the charger and AC pump from separate circuits.
- 3.5 This battery charger surface temperature can be hot (above 25C (77F)), and should be installed so that it is not likely to be touched by people or pets.

4 CHARGER LOCATION / INSTALLATION

- 4.1 Never place charger directly above battery being charged; gases from battery will corrode and damage charger.
- 4.2 Never allow battery acid to drip on charger when reading gravity or filling battery.
- 4.3 Do not operate a charger in a closed-in area or restrict ventilation in any way.
- 4.4 Do not set the battery on top of charger.
- 4.5 The battery charger should be placed vertically on the wall in a well-ventilated area or tabletop.
- 4.6 Do not install charger with vents up.
- 4.7 Do not directly expose charger to rain, snow, or other water sources.

5 OPERATING INSTRUCTIONS

- 5.1 If battery connection reversed the alarm (buzzer) will sound.

6 SPECIFICATIONS

- 6.1 Input: 90V-265V 50/60Hz 3.0A
- 6.2 Charging starting conditions: Battery not less than 5V
- 6.3 Rating output: 14.4V 10A
- 6.4 Charging output voltage: 14.4V +/- 0.2V
- 6.5 Float output voltage: 13.0V to 13.8V hysteresis control
- 6.6 Weight: 5 Lbs. approx.
- 6.7 Dimensions: L210 x W66 x H122mm

7 Automatic Battery chargers

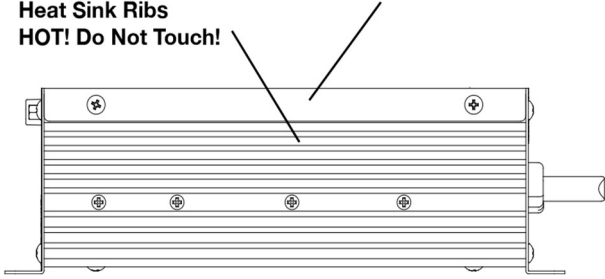
- a. Achieve and maintain the battery at full charge capacity.
- b. Reduce gas formation or evaporation of the electrolyte.
- c. Maintain the temperature of the electrolyte or battery case below 49°C (120°F).

8 Charger Maintenance

- a. Do not clean with wet cloth.
- b. Occasionally, clean the case and cords with a dry cloth.

CAUTION

Heat Sink Ribs
HOT! Do Not Touch!



9 Wi-Fi Dongle Model #: 300

Instructions for Wi-Fi Dongle are covered in a separate owner's manual.



10 Relay Box Model #: 391



Installation of Backup System on Separate Discharge



WARNING Comply with all national, state and local electrical and plumbing codes when installing this unit. Disconnect power from all electrical equipment housed within the sump system before working on or around the sump pump or battery backup system beginning with 115 VAC powered pumps, level switches, and charger controllers, followed by DC powered items. Includes all items such as pumps, level control switches, Charger/Controller Unit, and battery systems.

Included in the #OEM-148 Kit:

1. Battery charger/controller
2. Relay Box
3. Battery case
4. (1) 1-1/2" 90° street elbow near 12 VDC pump
5. Diaphragm switch to control 12 VDC pump
6. 12 VDC backup pump

Customer required to purchase separately:

1. 12 VDC deep cycle battery – BCI Group 27, rated 85 – 140Ah, lead-acid or AGM
2. 115 VAC Primary Pump
3. (2) Check valves, one (1) for 115 VAC pump and one (1) for 12 VDC pump
4. 1-1/2" pipe as required
5. Fittings, cable ties, etc. – as required

Installation of Backup System on Separate Discharge

Figure #1

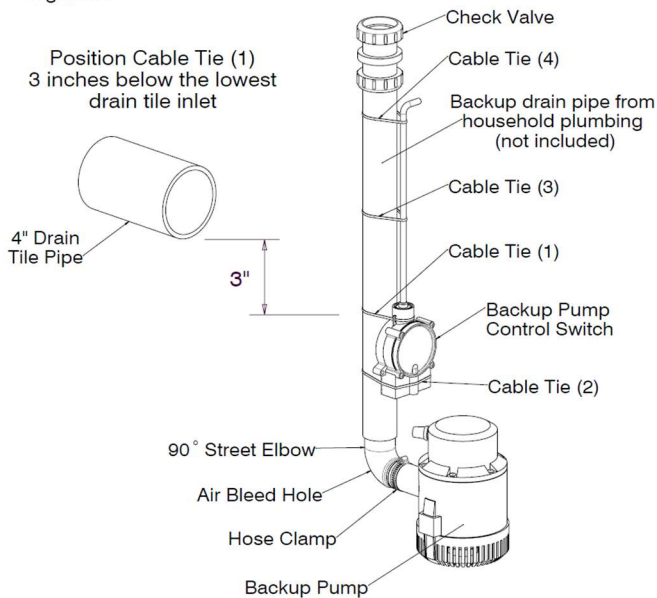
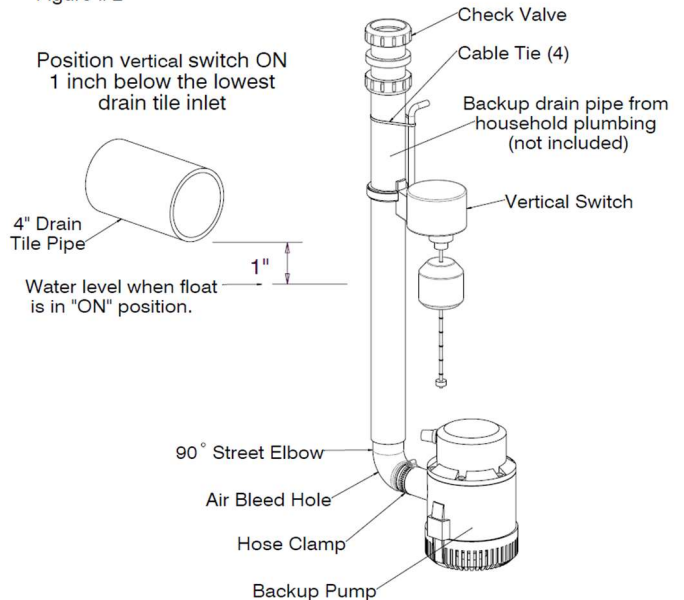


Figure #2



CAUTION Reduction of plumbing sizes from what is used for the discharges of the primary 115 VAC pump and 12 VDC pump can result in system under performance. Discharge piping that is of insufficient size can result in premature pump and/or system operation failure.

NOTICE: Do not glue any parts until the entire assembly, including primary pump, has been dry assembled to verify fits. Fitting plumbing and routing wiring away from control floats will be much easier on a bench rather than working down inside a sump pit.

Step 1

- a. Install street elbow onto 12 VDC pump discharge (if not already installed). Position hose clamp on discharge.
- b. Tighten the elbow hose clamp connection to securely fasten it to the 12 VDC pump discharge.
- c. A 3/16" diameter air bleed hole has been drilled in the 90° street elbow that is provided with the kit. (NOTICE: Air bleed hole must be located between the check valve and the 12 VDC pump to prevent the 12 VDC pump from air-locking.) The bleed hole is located so that the water flow through it will be at a downward angle to prevent splashing from the basin/pit.

Step 2

NOTICE: A check valve is required for the backup pump's discharge plumbing. This check valve must be installed in the discharge plumbing between the backup pump and the connection joining the backup pump's discharge to the separate backup pump drain piping from the home.

Step 3

- a. Position two hose clamps in the grooved recesses of the flexible coupling on the check valve installed in the elbow.
- b. Tighten the lower hose clamp to secure the flexible coupling to the check valve body.
- c. Loosely tighten the upper hose clamp so it does not fall off. This clamp will be used to secure the check valve to the separate backup pump drain piping from the home.

Step 4

- a. Review the discharge plumbing of the 115 VAC primary pump.

NOTICE: A check valve is required in the discharge plumbing of the 115 VAC primary sump pump. This check valve must be installed in the discharge plumbing between the primary pump and the separate primary pump drain piping from the home. A 3/16" diameter air bleed hole must be located between the check valve and the 115 VAC pump to prevent the 115 VAC pump from air-locking. Locate the bleed hole so that the water flows through it will be at a downward angle to prevent splashing from the basin/pit.

- b. The 1-1/2" PVC pipe used in making the separate backup pump drain piping from the home must be cut so as to ensure that the 12 VDC backup pump rests flat on the floor of the sump basin when the plumbing is completed. Dry-fit the assembly to confirm prior to gluing.
- c. Once dry fit confirms that the 12 VDC backup pump rests flat on the sump basin floor and aligns with the separate backup pump drain piping from the home, secure all connections by applying approved waterproof adhesive to all necessary joints and confirm that all flexible coupling hose clamps are fully engaged with plumbing and fully tightened.

Step 5

- a. Cable ties will be used to attach the 12 VDC pump control switch housing and power cord to the discharge pipe. Installing both cable ties to 12 VDC pump control switch is critical for proper operation of 12 VDC pump. (See Figure 1, above)
- b. Thread cable tie through the eyelets on the 12 VDC pump control switch housing.
- c. Position the 12 VDC pump control switch on the discharge pipe such that cable tie (1) is 3" below the lowest point of the invert (incoming water) and above the "ON" point of the 115 VAC primary pump control switch.
- d. If SJE VMII DC control switch is used position vertical switch "ON" 1" below the lowest drain tile inlet. (See Figure 2, above)
- e. Tighten cable tie to secure the 12 VDC pump control switch to the discharge pipe.
- f. Install Cable Tie around both the power cord of the 12 VDC pump control switch and the discharge pipe such that the power cord is securely routed away from any control floats.
- g. Use electrical tape to further secure the power cord of the 12 VDC pump control switch to the discharge pipe.

Use only with 12 VDC deep cycle battery rated 85 – 140Ah, lead-acid or AGM.

NOTICE: Diaphragm switch cord contains a breather tube. Be sure switch cord is not pinched so that the breather tube is obstructed. Non-restrictive air flow in breather tube is required for proper diaphragm switch operation.

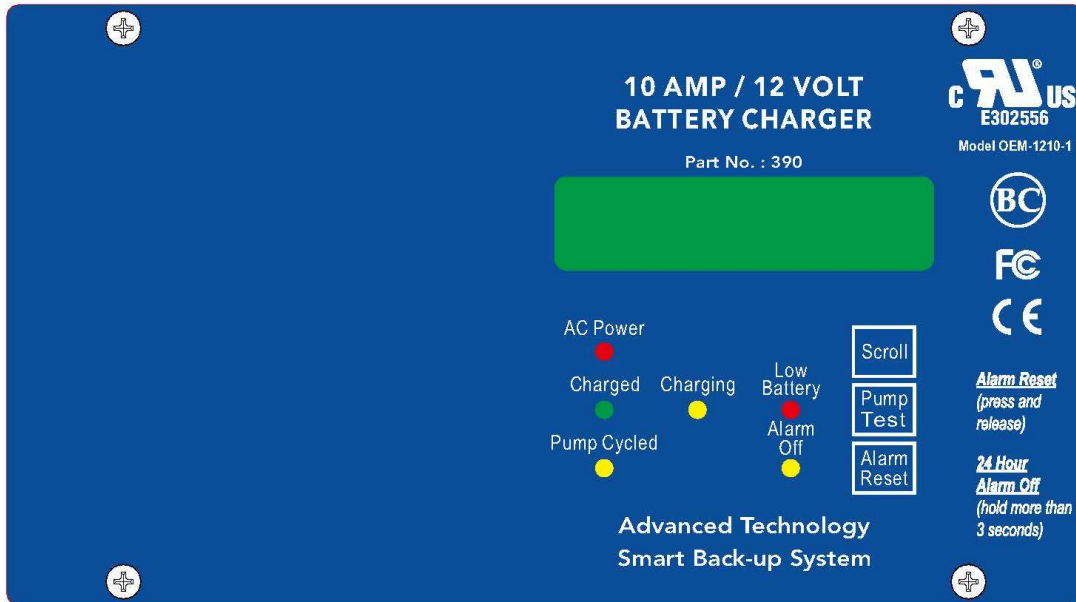
NOTICE: For proper pump operation the exit point of all drain piping from the home must be lower, or sloping away, from the discharge plumbing's highest point. Improper water drainage can allow freezing within the line leading to system or component damage or failure.

CAUTION Ensure all hose clamp connections are tight, and that all plumbing slip fit connections are properly glued prior to starting the sump pump system. Failure to do so can result in damage to the pump system and/or cause property damage due to flooding.

CAUTION Do not install or store the pump where it will be exposed to the weather or to temperatures below freezing or damage to the pump will occur.

Battery Charger Functional Description

Front Panel Operations and Description



LED Descriptions

LED Name	Color	Functional Description
AC Power	Red	ON if AC power present
Charging	Yellow	ON if battery is charging bulk or absorption mode
Charged	Green	ON if battery is fully charged, maintenance mode
Pump Cycled	Yellow	Indicates backup pump was activated and / or is currently active
Low Battery	Red	Discharged battery
Alarm Off	Yellow	Indicates the alarm sound was disabled. Self-Resets in 24 hours

Button Descriptions

ITEM	Action	Functional Description
Scroll	Click	Cycles information on the top line of the LCD display. Service provider name and phone number. Alarms: Low battery, DC Pump fail. Pump run count. How many times AC power failed.
Pump Test	Hold	Causes the DC pump to run.
Alarm Reset	Click & Hold	Hold disables alarm sound and displays service provider information. Click resets alarms and enables sound

WARNING Do not use in explosive atmospheres. Do not handle Charger/Controller Unit with wet hands or when standing on a wet or damp surface, or in water.

WARNING To reduce risk of electric shock which can result in personal injury, death or major property damage if ignored, be certain that the 115 VAC pump and the Charger/Controller Unit comply with all national, state and local electrical and plumbing codes when installing this unit. Do not use the same 115 VAC outlet for primary pump and Battery Charger/Controller Unit. Do not use an extension cord.

WARNING A spark near the battery may cause an explosion. Always unplug Charger/Controller Unit prior to making connections to or disconnects from the battery. Take care to prevent accidental shorting across battery terminals during handling. Do not leave the battery uncovered. Attach cover securely on battery box when completing installation.

CAUTION The battery required to operate this unit contains acid and proper precautions must be taken when handling. Refer to battery manufacturer's safety guidelines. Failure to use proper personal protective equipment or electrical caution can result in hazards that will or can cause personal injury or major property damage if ignored.

CAUTION If a Carbon Monoxide (CO) sensor is installed near the battery backup system, battery, or Charger/Controller Unit, nuisance or false alarms could result. CO detectors should be a minimum of 15 feet from the systems. Refer to the manufacturer of CO detector for additional instructions or information.

CAUTION The backup pump relies on a sufficiently charged battery to operate the pump. The charger is designed to charge the battery and maintain charge level when the backup pump is not in use.

NOTICE: The Charger/Controller Unit emits an audible alarm when running the 12 VDC backup pump. An additional (not supplied in this kit) audible high water alarm on the sump system is recommended in any installations where property damage and/or personal injury might result from an inoperative sump system due to long term power outages, discharge line blockage, or any other reason.

Charger/Controller Unit & Relay Box Installation

Step 1 – Mounting the Charger/Controller Unit

NOTICE: Do not expose the charger to excessive moisture. Install charger in a dry location. Indoor use only.

- a. Complete all plumbing, pump installation and pump control switch installation before installing the Charger/Controller Unit and before beginning work on the electrical connections to the Charger/Controller Unit or the battery.
- b. Charger/Controller Unit is designed to be installed on the wall, but not directly to concrete, in a visible location. The LED lights on the front of the charger as well as the switches on the face of the unit should be accessible and clearly visible.
- c. Select a location for the Charger/Controller Unit and the battery relative to the sump basin such that all the provided wiring will reach their respective connections with some slack remaining in the wiring. Locate the Charger/Controller Unit as far away from battery as the provided wiring reasonably permits. Charger/Controller Unit should not be installed directly over the battery. Gases from the battery may corrode and damage the Charger/Controller Unit. Battery should be positioned away from the wall to allow adequate ventilation of any fumes that may be given off during charging.
- d. Using the Charger/Controller unit's 390 mounting template, mark the hole location on the concrete wall or stud. Note: Do not mount directly to concrete to improve ventilation and keep the unit away from damp walls.
- e. Install the Charger/Controller Unit on the wall or onto a board, then the wall, if suitable. Installer to confirm suitability of the mounting surface, method, and hardware.

CAUTION The long ribs on the Charger/Controller Unit should be on top. The battery cord with leads exits downward when the Charger/Controller Unit is installed on the wall. The long ribs are heat sinks and may become hot in normal operation. Do not allow these surfaces to become covered in combustible materials and do not touch these during normal operation. All combustible materials should be kept away from the hot surfaces of the Charger/Controller Unit, and the Charger/Controller Unit should be well away from other sources of heat such as space heaters, radiators, boilers, furnace, etc...

CAUTION The Charger/Controller Unit has a 115 VAC power supply cord and a cord exiting to the battery. The relay box has one cord with leads to the battery, 1 plug receptacle for the DC pump, and 1 plug receptacle for the DC pump switch, as labeled on relay box. If the cord is damaged, or the Charger/Controller Unit itself becomes damaged, immediately un-plug the Charger/Controller Unit and remove it from service. Always disconnect 115 VAC power supply cord before doing any service of the product and allow the Charger/Controller Unit to cool. Disconnect 115 VAC before disconnecting battery leads. Relay box plug receptacles are specific for each component.

CAUTION Power is being supplied to the 12 VDC backup pump when the "PUMP TEST" indicator is on or the "PUMP TEST" test button is held down. Do not disconnect the pump cable while the power is going to the 12 VDC backup pump.

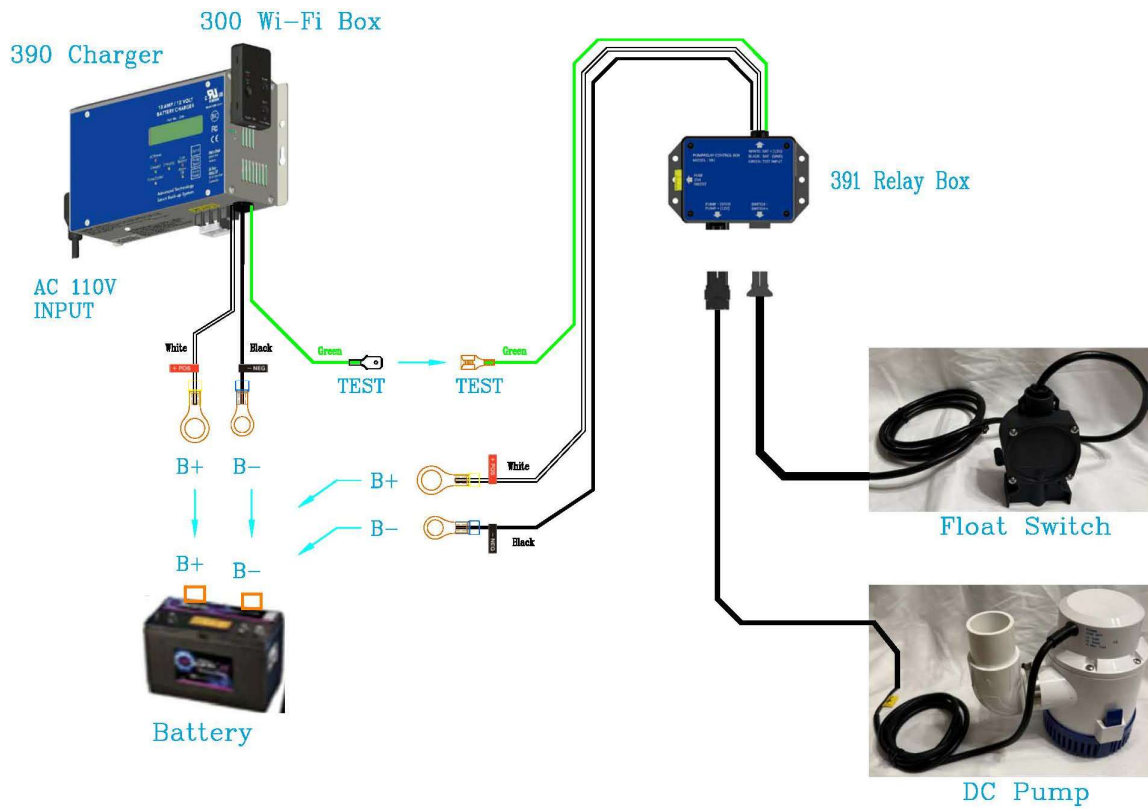
CAUTION There are no serviceable parts inside the Charger/Controller Unit body. Do not open or attempt any repairs inside the Charger/Controller Unit body. Hazardous voltage exists inside the enclosure.

CAUTION Do not try to charge non rechargeable batteries.

NOTICE: 12 VDC backup pump fuse is located on the relay box. The replacement fuse should be automotive type 32 V, 25A type ATC.

Charger / Controller & Relay Box, Electrical Installation Diagram

System Installation



Charger/Controller Unit & Relay Box Installation

Step 2 – Electrical Connections



WARNING Comply with all national, state and local electrical and plumbing codes when installing this unit. Disconnect power from all electrical equipment housed within the sump system before working on or around the sump pump or battery backup system beginning with 115 VAC powered pumps, level switches, and charger controllers: followed by DC powered items. Includes all items such as pumps, level control switches, Charger/Controller Unit, and battery systems.

NOTICE: Installation of the 115 VAC electrical supply circuit to the battery charger is to be done by a certified licensed electrician in accordance with national, state and local codes.

- a. Verify that Charger/Controller Unit is not connected to power supply source.
- b. Connect the plug of the DC pump to the mating plug as marked on the relay box. Proper connection is required to ensure correct polarity.
- c. Connect the plug of the DC pump switch to the mating plug as marked on the relay box.
- d. Connect the green sensor wire terminal from the relay box to the mating green sensor wire terminal of charger/controller.
- e. Verify that all plumbing is complete per instructions.
- f. Connect both black wires from the charger/controller and relay box to the negative battery post.
- g. Connect both white wires from the charger/controller and relay box to the positive battery post.
- h. Correct polarity is marked on the cord as well as the battery. In case of reverse connection, the Charger/Controller Unit will sound an alarm.
- i. Do not connect this Charger/Controller Unit to the same circuit as is used for the primary pump. The AC outlet used for the Charger/Controller Unit requires separate 3A, 115 VAC circuit.
- j. Verify that all wiring is per instructions. Once all plumbing and electrical connections are complete and verified, plug 115 VAC power supply cord (supplied) for the Charger/Controller Unit into the charger/controller unit, then to a 115 VAC electrical outlet.
- k. Press the “PUMP TEST” button and observe that the 12 VDC pump is running.
- h. Review Charger/Controller Operation section.
- i. Perform testing per the Sump System Operation Testing Section.

NOTICE: The Charger/Controller Unit has provisions for connection to auxiliary Class 2 alarm system or phone dialer (not included). This circuit is normally open and closes when the 12 VDC pump switch circuit closes. Once closed, the circuit remains closed until “RESET” button is pushed on the Charger/Controller Unit. This circuit requires Class 2 wiring. If used, route this wiring away from the Charger/Controller Unit power supply cord, battery cord, and pump cord. Follow the manufacturer’s instructions for dialer or alarm system.

Sump System Operation Testing

WARNING Always disconnect the electrical power before touching the pump or discharge when water is present around the pump. Failure to do so can result in hazardous electrical shock.

CAUTION Ensure all hose clamp connections and threaded connections are tight and that all plumbing slip fit connections are properly glued prior to starting the sump pump system. Failure to do so can result in damage to the pump system and/or cause property damage due to flooding.

CAUTION Do not allow the pump to run dry or damage to the pump will occur. Do not allow the sump basin to overflow during this testing.

Step 1

- a. Verify that all wiring is per instructions and that primary pump and controller are connected to power.
 - i. The red "Power" indicator light should be lit on the Charger/Controller Unit.

Step 2

- a. Run water into the sump basin until the primary pump is activated.
 - i. Do not attempt to run the pump without water; this could result in permanent damage to the pump.
 - ii. Confirm that the primary pump and its control switch are functioning as intended.
 - iii. Confirm that ON-OFF levels are within specification and confirm that no potential obstructions exist that could inhibit switch operation.
 - iv. Confirm that there are no leaks in the primary pump discharge plumbing and main home drainpipe plumbing.
 - a) **It is normal for a stream of water to spray from the air bleed hole in the primary pump's plumbing.** Confirm that this spray is captured within the sump basin.

Step 3

- a. After the primary pump function has been confirmed, disconnect power to primary pump.
 - i. This is typically done at an electrical connection box or a plug receptacle.

Step 4

- a. Run water into the sump basin until the backup pump is activated.
 - i. Confirm that the backup pump and its control switch are functioning as intended. Do not attempt to run the pump without water; this could result in permanent damage to the pump.
 - ii. Confirm that the backup pump and its control switch are functioning as intended.
 - iii. Confirm that the Charger/Controller Unit emits an audible alarm when running the backup pump. Note: Press the SILENCE button on the Charger/Controller Unit to silence the audible alarm. Press and hold for 3 seconds will silence alarm for 24 hours.
 - iv. Confirm that ON-OFF levels are within specification and confirm that no potential obstructions exist that could inhibit switch operation. Note: The #405 switch will activate the 12 VDC backup pump when water is approximately 6 inches above the bottom of the #405 switch.
 - v. Confirm that there are no leaks in the backup pump discharge plumbing and main home drainpipe plumbing. **Note: It is normal for a stream of water to spray from the air bleed hole in the backup pump's plumbing.** Confirm that this spray is captured within the sump basin.

Step 5

- a. After the backup pump function has been confirmed, disconnect power to the Charger/Controller Unit to confirm proper battery function. This is typically done at an electrical connection box or a plug receptacle.

Step 6

- a. After primary pump, backup pump and Charger/Controller Unit function has been confirmed, reconnect power to the Charger/Controller Unit and the primary pump
 - i. Confirm that primary pump activates and evacuates the remaining water from the sump basin down to the normal OFF level of the primary pump. Primary pump should deactivate when the OFF level is reached.

Step 7

- a. Charger/Controller Unit LCD screen should provide status of battery's charge.
 - i. See Charger/Controller Unit Operation section for details.

Step 8

- a. Confirm that the battery is in working condition according to the battery manufacturer's instructions and is fully charged.

Step 9

- a. The primary and backup pumps are now ready for operation.

System Maintenance



WARNING Disconnect power from all electrical equipment housed within the sump system before working on or around the sump pump or battery backup system beginning with 115 VAC powered pumps, level switches, and charger controllers; followed by DC powered items. Includes all items such as pumps, level control switches, Charger/Controller Unit, and battery systems.

CAUTION The backup pump and the primary pump are designed for pumping clear water only. Do not use the pumps in applications where effluent (grey water), sewage or any other debris (gravel, sand, floating debris, etc.) is present.

CAUTION Do not allow the sump basin to overflow during this maintenance.

NOTICE: Inspect and test the sump system condition and operation every 3 months (more frequently in heavy use applications).

Step 1

- a. Refer to the battery manufacturer's instructions to confirm that battery is in working condition and is fully charged.
- b. Clean any corrosion from the battery posts and terminals.

Step 2

- a. Remove all debris (gravel, sand, floating debris, etc.) from the sump basin.
- b. Review sump system components for any build-up (minerals, etc.) that would inhibit functionality of the components. If significant, remove build-up or replace affected components.

Step 3

- a. Confirm that all flexible coupling hose clamps are fully engaged with plumbing and fully tightened.
- b. Test operation of the sump system following the instructions outlined in the Sump System Operation Testing section of this manual.

Troubleshooting

TROUBLESHOOTING INFORMATION

PROBLEM	PROBABLE CAUSES	115 V	12 V	CORRECTIVE ACTION
Pump does not turn on or turn off.	Bad connection	X	X	Plug-in pump
	Blown fuse		X	Reset circuit breaker or replace fuse
	Bad battery		X	Replace battery
	Pump impeller obstructed	X	X	Pull pump and clean
	Pump control switch		X	Replace switch (DC pump), replace AC pump
Pump does not deliver rated capacity.	Low battery		X	When power is restored, the charger will charge the battery
	Check valve installed backwards	X	X	Check flow indication arrow on check valve body to ensure it is installed properly
	Low voltage, speed too slow	X	X	Check for proper supply voltage to make certain it corresponds to name plate voltage.
	Impeller or discharge pipe is clogged	X	X	Pull pump and clean. Check pipe for scale or corrosion
Pump cycles continually.	Defective battery		X	Replace battery
	No check valve in long discharge pipe allowing liquid to drain back into sump.	X	X	Install a check valve in discharge line
	Check valve leaking	X	X	Inspect check valve for correct operation
	Sump pit too small for inflow	X	X	Install larger sump pit
Pump will not shut off. NOTE: Before troubleshooting automatic control, check to see that pump operates on manual control. To do this, create a slight vacuum on breather tube (near plug), then close off tube with thumb, plug into wall outlet. If pump works, proceed to check switch; if not, fault is in pump or power supply.	Pump control switch	X	X	Replace switch DC pump, replace AC pump
	Plugged vent tube		X	Clear vent tube of any obstruction
	Dirt or sediment lodged between retainer ring and rubber diaphragm causing contacts to remain closed		X	Clean area around rubber diaphragm
	Pump is air locked		X	Shut power off for approximately 1 minute, then restart. Repeat several times to clear air from pump. If system includes a check valve, a 3/16" air bleed hole should be in the discharge pipe between the pump discharge and the check valve, check and remove any debris/ blockage.
	Liquid inflow matches pump capacity	X	X	Larger pump required
Pump runs but does not discharge liquid.	Check valve installed backwards	X	X	Check flow indicating arrow on check valve body to ensure it is installed properly.
	Check valve stuck or plugged	X	X	Remove check valve and inspect for proper operation
	Lift too high for pump	X	X	Check pump performance as compared to the vertical distance needed to evacuate the sump water
	Inlet to impeller plugged	X	X	Pull pump and clean

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WARRANTY DOES NOT APPLY TO ANY OF THE FOLLOWING:

1. Any product that is not installed, applied, maintained, and used in accordance with the Company's published instructions, applicable codes, applicable ordinances and/or with generally accepted industry standards.
2. Any product that has been subject to misuse, misapplication, neglect, alteration, accident, abuse, tampering, acts of God (including lightning), acts of terrorism, acts of war, fire, improper storage or installation, improper use, improper maintenance or repair, damage or casualty, or to an excess of the recommended maximums as set forth in the product instructions.
3. Any product that is operated with any accessory, equipment, component, or part not specifically approved by the Company.
4. Use of replacement parts not sold by the Company, the unauthorized addition of non-Company products to other Company products, and the unauthorized alteration of Company products.
5. Products damaged by normal wear and tear, normal maintenance services and the parts used in connection with such service, or any other conditions beyond the control of the Company.
6. Any product that has been used for purposes other than those for which it was designed and manufactured.
7. Any use of the product where installation instructions and/or instructions for use were not followed.

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