Safety Instructions

Read and save these instructions. This manual contains important instructions. Failure to heed safety instructions and warnings could result in injury or death.

Read all the instructions before installing or using the StormPro® 2100DC. Always disconnect batteries and disconnect StormPro® 2100DC from the AC power source before storing, handling, or making any adjustments to the unit.

Use StormPro® 2100DC only as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, or injury to persons.

CAUTION: Do not sit or stand on StormPro® 2100DC. Keep children away.

CAUTION: Do not place objects on StormPro® 2100DC or allow vents to become blocked.

CAUTION: Do not smoke, use sparkable electrical devices, or open flame when working on this unit!

CAUTION: Do not install StormPro® 2100DC in locations classified as hazardous per N.E.C., ANSIINFPA 70 - 1984.

WARNING: Electrical shock hazard. This unit has not been evaluated for use outdoors. Never operate StormPro® 2100DC outdoors.

Never operate StormPro® 2100DC with battery enclosure open.

Never operate StormPro® 2100DC in a wet location.

Never operate StormPro® 2100DC in a location where liquid or moisture will come in contact with, splash on, or drip on unit.

Do not insert or allow foreign objects to enter any ventilation or exhaust opening as this may cause electric shock, and/or a fire hazard.

WARNING: Risk of electrical shock. In the event of a short circuit, grounding reduces the risk of shock by providing an escape wire for the electrical current. The StormPro® 2100DC must be properly grounded.

The StormPro® 2100DC is equipped with a cord having a grounding wire with an appropriate grounding plug. The plug must be used with an outlet that has been installed and grounded in accordance with all local codes and ordinances. The outlet must be the same configuration as the plug. Where a two-prong wall outlet is encountered, it must be replaced; contact a qualified electrician. To reduce the risk of electric shock, the grounding plug must not be cut off the plug. Do not use the three-prong plug with a two-prong adapter. Do not attempt to defeat this safety feature.

Use the StormPro® 2100DC only with adequate wiring that is up to code. Connect to properly grounded outlets only.

WARNING: Risk of electrical shock. The StormPro® 2100DC is capable of and intended to generate electrical current when unplugged from the wall outlet or when the AC power is shut off.

Because the StormPro® 2100DC uses a battery to generate power during the loss of AC current, both the battery and the power cord must be disconnected to neutralize the StormPro® 2100DC. Failure to disconnect both the batteries and the power cord could result in electrical shock sufficient to cause injury or death.

Battery Precautions

WARNING: Important safety instructions. Save these instructions.

Servicing of batteries should be performed or supervised by personnel knowledgeable of batteries

and the required precautions. Keep unauthorized personnel away from batteries.

When replacing batteries, use only models conforming to Battery Council International (BCI) 27 DC specifications for Group 27 deep cycle marine batteries. At the time of this publication, the following model batteries are recommended. At the time of purchase, verify that these models, or any other model, conform to Battery Council International (BCI) 27DC specifications for Group 27 deep cycle marine batteries:

Die Hard	Model 27524
Exide	Model NC-27
Interstate	Model SRM-27
Metropolitan AGM	Model P20233H
NAPA	Model 8270

CAUTION: Do not dispose of batteries in a fire. The batteries may explode.

CAUTION: Do not open or mutilate the batteries. Released electrolyte is harmful to the skin and eyes. It may be toxic.

CAUTION: A battery can present a risk of electrical shock and high short circuit current. The following precautions should be observed when working on batteries.

1. Remove watches, rings, or other metal objects.
2. Use tools with insulated handles.
3. Do not lay tools or metal objects on top of batteries.
4. Wear safety goggles and a face shield.

CAUTION: The electrolyte is a dilute sulfuric acid that is harmful to the skin and eyes. It is electrically conductive and corrosive. The following procedures should be observed:

1. Wear full eye protection and clothing.
2. If electrolyte contacts the skin, wash it off immediately.
3. If electrolyte contacts the eyes, flush thoroughly and immediately with water. Seek medical attention.
4. Spilled electrolyte should be washed down with a suitable acid neutralizing agent. A common practice is to use a solution of approximately one pound (500 grams) bicarbonate of soda to approximately one gallon (4 liters) of water. The bicarbonate of soda solution can be added until the evidence of reaction (foaming) has ceased. The resulting liquid should be flushed with water and the area dried.

CAUTION: Lead acid batteries can present a risk of fire because they generate oxygen and hydrogen gas. The following procedures should be followed.

1. Do not smoke when near batteries.
2. Do not cause flame or spark in battery area.
3. Discharge static electricity from body before touching batteries by first touching a grounded metal surface.
4. See battery manufacturers' installation manual for additional installation maintenance, and safety instructions.

Tools & Materials Needed

A pipe wrench, pliers, adjustable wrench, pipe cutter, and a screwdriver will be needed. PVC Pipe, appropriate PVC fitting, PVC glue and primer, non restrictive 1-1/2" check valve, and a tape measure.

Pump Installation

1. Connect the 90 degree elbow to the pump's dicharge pipe using the included coupling. Orient the elbow so that the discharge is pointing straight up.
2. Screw in the 1-1/2" PVC male adapter fitting into the 90 degree elbow on the pump.
3. Place the pump into the basin in a suitable position next to the primary pump and away from the drain tile if possible.

4. Begin to rough in your PVC piping. If you are using a single discharge pipe for both pumps, make sure your PVC Y or 90 degree connection is above the primary check valve. Do not glue any fittings at this point.

5. Make sure to include a separate 1-1/2" check valve for the backup pumps discharge pipe. Do not use spring loaded or any type of resistance check valve.

6. Once all of your PVC piping is roughed in and all pipe connections fit flush, begin to glue the piping together starting from the pump up. Use only PVC cement and primer.

Float Switch Installation

1. The backup float switches turn ON point must be above the primary pump float switches ON point and below the top of the basin.

2. Once the backup pump is installed properly, attach the backup float switch by tightening the switch clamp securely to the backup pump's discharge pipe.

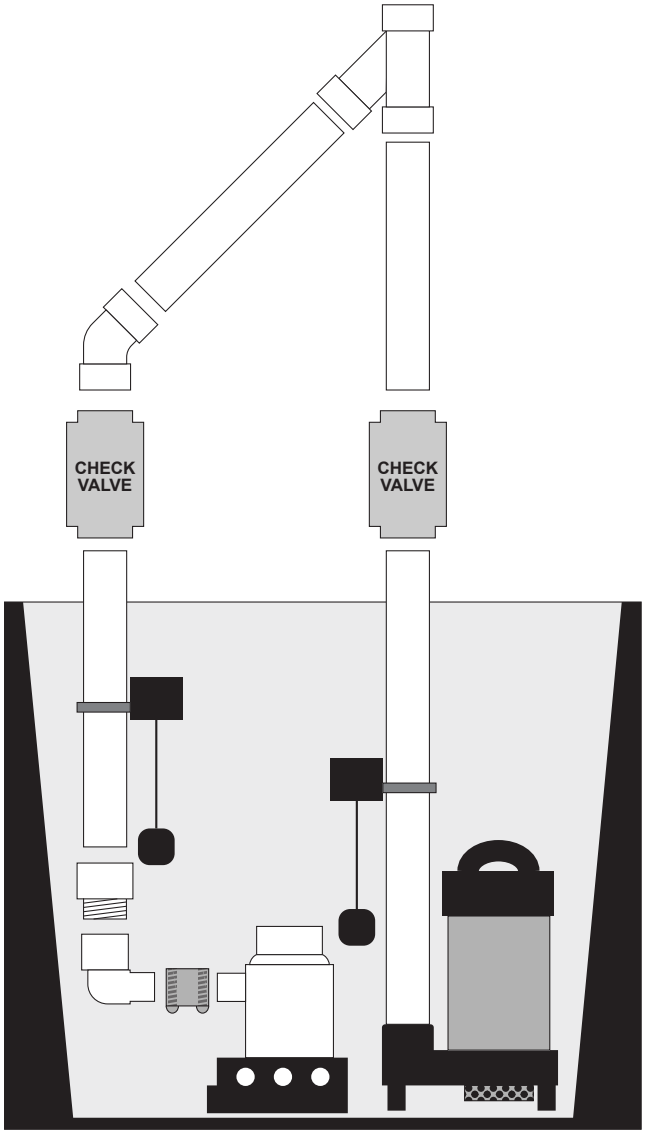
3. Make sure that the float ball on the backup switch will not get caught or hung up on the primary pump or any other object that will restrict the switch from turning on.

Charger Unit Installation

WARNING: Be sure that the charger unit is not plugged into the wall outlet before connecting the terminals.

The backup pump, backup float switch, and battery will all connect into the back of the charger unit. Make sure to use correct polarity.

Pump
Start with the backup pump wires, the terminals are different sizes to ensure correct polarity, do not force the terminal onto the plug. Connect the backup pumps negative (-) black wire to the charger units negative (-) pump post and connect the pumps positive (+) brown wire to the charger units positive (+) pump post.



Float
Connect the float switches positive (+) white wire to the chargers positive (+) float post. Connect the float switches negative (-) black wire to the chargers (-) float post.

Battery
The battery should be placed inside its protective battery box before being connected to the charger unit. Make sure that the charger unit is not plugged into the wall outlet.

1. Take the negative (-) black battery wire and fasten the ring terminal securely to the negative (-) battery post on top of the battery.

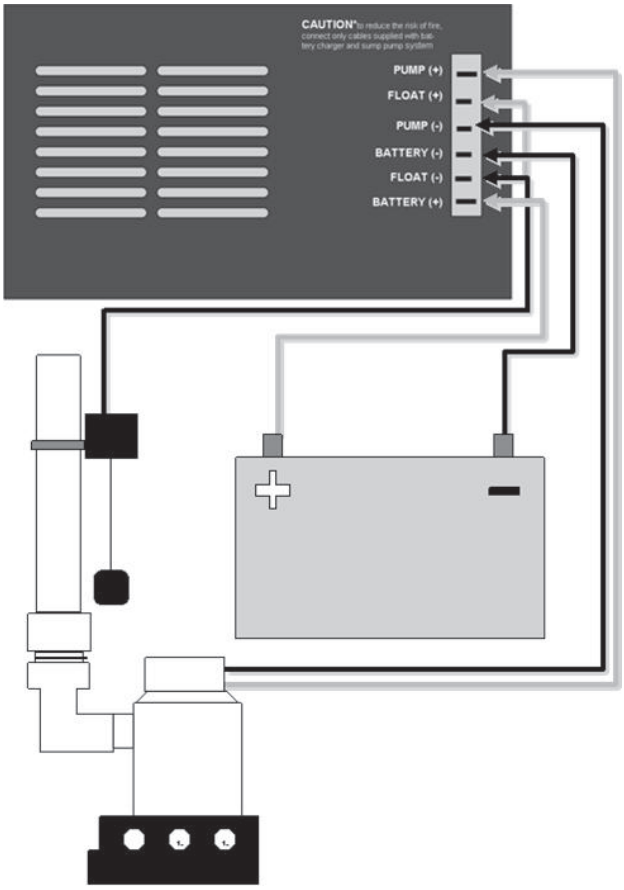
2. Take the positive (+) red battery wire and fasten the ring terminal securely to the positive (+) battery post on top of the battery.

3. The battery terminals are different sizes to ensure correct polarity. Do not force the terminal on to the plug if it does not fit. Connect the negative (-) black wire to the charger units (-) battery post and connect the positive (+) red wire to the charger unit's positive (+) battery post.

4. After all the terminals have been installed, properly plug the charger unit into a dedicated 115V wall outlet.

5. To insure proper installation, unplug both the Primary pump and backup charger. Fill the basin to let the backup system go through an On/Off cycle. Make adjustments, if necessary. Be sure to plug the Primary pump and back-up charger back in once testing of the back-up

Note: There is a 3 - 5 second delay from the time the backup float is engaged to when the backup pump turns on.



Error Description	Possible Causes	Fix
The battery failed pre-qualification test	The battery is highly sulfated The charger is connected to a six-volt battery	Replace the battery with a 12-volt deep-cycle marine battery Replace the battery with a 12-volt deep-cycle marine battery
Battery over-voltage	The charger is connected to a 24 volt battery	Replace the battery with a 12-volt deep-cycle marine battery
Charge time monitor	Battery took too long to complete its charge: A. Load applied (e.g. the pump motor started) during charging B. The battery ampere-hour rating is too large (max. 130 ampere-hours)	A: Be sure the pump cannot start during charging; reset the charger B: Replace with correct size battery
Excessive battery drain	Pump motor ran during charging (that is, with the main A.C. power ON), causing the system to shut down	Check primary sump pump. The BBU generally runs only when the main A.C. power is out. If there has not been any power outage and the BBU has run, the primary pump itself may have failed
Reverse battery connection	Charger is connected backwards to the battery. (That is, charger (+) to battery (-) and vice versa)	Reconnect charger (+) to battery (-)/(-) to (-)
Battery overheated	Cells in an old battery may deteriorate with age	Replace the battery with a 12-volt deep-cycle marine battery
Charging error	An internal error occurred in the charger during one of the charging states	Unplug the charger for 10 seconds and then plug it in again. If error occurs again, refer to table below

Error Light Indications

Note: This chart identifies light codes indicating various charger error modes. It only applies when the 'Charger Mode' light flashes yellow/green alternately. The light codes listed here do not relate.

"Silence Alarm/Reset" Rocker Switch:
Push the left side of the rocker switch on the front of the charger to silence the alarm.

Note: This will not silence the alarm when the battery is below 8.2 volts or the system is in error mode.

The front of the charger has the LED status lights: A.C. Power, Pump Run Status, Alarm Silence, Battery Status and Charger Mode. The status lights only apply when the 'Charger Mode' light is not flashing yellow/green. The 'Pump System Status' LED stays lit after the back-up pump has cycled. To reset an error light, push the right side of the rocker switch, located under the LED legend, to the right. When you reset the system, the charger will start its diagnostic procedure (pre-qualification test, etc.) from the beginning. If the cause of the error mode is not corrected, the system will go into the error mode again.

LED Status				
A.C. Power Status	**Pump Run Status**	**Alarm Silence**	**Charge Mode**	**Error Mode**
Flashing	Off	Off	Flashing Yellow/Green	Battery Overheated
Flashing	Off	Flashing	Flashing Yellow/Green	Charge Time Monitor
Flashing	Flashing	Off	Flashing Yellow/Green	Excessive Battery Drain
Flashing	Flashing	Flashing	Flashing Yellow/Green	Failed Pre-Qualification Test
Off	Off	Flashing	Flashing Yellow/Green	Battery Over-Voltage
Off	Flashing	Off	Flashing Yellow/Green	Reverse Battery Connection
Off	Flashing	Flashing	Flashing Yellow/Green	Output Over-Current

Charger Light	On/Off/Flashing	Alarm Buzzer	Indicates
All LEDs	Flash ONCE	Off	Connected system to AC power or to battery; or, pressed 'Reset' when in ERROR mode
AC Power Status	On	Off	System is receiving AC power
	Very Slow Flash	Off	System is not receiving AC power
Pump Run Status	Fast Flash (2x/second)	Beep in synch with LED Flash	Pump is running. Press LEFT side of rocker switch to silence alarm
	Slow Flash (1x/2 seconds)	Off	Pump has run, but is not running now
	Off	Off	Pump has not run
Alarm Silence	On		Alarm is silenced
	Off		Alarm is active
Battery Status	On	Off	System is not connected to a battery or is connected to a battery charged to less than 1 volt DC
	Slow Flash	On	Battery voltage less than 10.9 volts. Alarm can be silenced
	Fast Flash	On	Battery voltage is less than 8.2 volts. Alarm CANNOT be silenced
	Off	Off	System is properly connected to a battery
Charger Mode	Slow YELLOW Flash	Off	System is in "pre-qualification" stage. This will last from 1 minute to 5 hours, depending on the condition of your battery
	Solid YELLOW Flash	Off	System is in the "Constant Current Charge" stage. This will continue until the battery voltage reaches approximately 14.3 volts
	Fast YELLOW Flash	Off	System is in the "Constant Voltage Charge" stage. This could last up to 14.5 hours
	Solid GREEN	Off	Battery is fully charged
	Flashing alternately YELLOW/ GREEN	On - Beeping	System is in ERROR mode. Alarm will beep in synch with one or more of the 'AC Power Status', 'Pump Run Status', or 'Alarm Silence' LEDs.

Audio Alarm Indications

Audio Alarm	Mode	Indicates	Action
On - Beeping	Slow beep in synch with 'Battery Status' LED	Battery is down to about 10.9 volts	Investigate cause; battery is very low. You have limited pump run time left. Press and release LEFT side of toggle switch to silence alarm.
On - Beeping	Fast beep in sync from 'Battery Status' LED	Battery is down to about 8.2 volts	Investigate cause; battery is nearly dead. You have almost no pump run time left. Alarm CANNOT be silenced
On - Beeping	Fast beep in synch with one or more of the 'AC Power Status', 'Pump Run Status', or 'Alarm Silence' LEDs and with the 'Charger Mode' LED flashing alternately YELLOW/GREEN	System is in ERROR mode	Refer to ERROR Mode Charts
On - Beeping	Fast beep in synch with 'Pump Run Status' LED	Pump is running	None. Alarm will stop when pump stops running. To silence alarm, press and release LEFT side of toggle switch

Warranty is VOID if...

1. Using an extension cord.

2. Power cord has been cut, the grounding prong removed or using an adapter fitting.

3. Any of the components have been disassembled or tampered with.

4. Any tags or labels have been removed.

Notes

3 Year Residential Warranty

1. Coverage and Term. Metropolitan Industries, Inc. ("**Metropolitan**") warrants to the original purchaser (the "Buyer") of each StormPro/Sumpro product (the "product"), that any part thereof which proves to be defective in material or workmanship within three (3) years from date of manufacture, will be replaced at no charge with a new or remanufactured part, F.O.B. factory. Buyer shall be responsible for all freight charges and all costs of field labor or other charges incurred in the removal and/or reinstallation of any product, part or component thereof.

2. Exclusions. **THE WARRANTY IS SUBJECT TO THE FOLLOWING CONDITIONS AND EXCLUSIONS:**

(a) The Warranty excludes products or workmanship which becomes defective as a result of: (i) earthquake, fire, storms, the elements or any other acts of God; (ii) normal wear and tear from use; (iii) accident, misuse, abuse or neglect; (iv) modifications made by Buyer or any third party, other than **Metropolitan**; and (v) Buyer's failure to properly install, maintain, service and/or operate the product under normal conditions and according to manufacturer's instructions.

(b) **Metropolitan** shall not be responsible for, and the Warranty shall not cover, extended damage which occurs because of Buyer's failure to notify **Metropolitan** promptly in writing of apparent defects.

(c) Any part or component designated as manufactured by anyone other than **Metropolitan** shall be covered only by the express warranty of the manufacturer thereof.

(d) The Warranty shall lapse upon Buyer's failure to fully comply with the terms and conditions of its contract with **Metropolitan**, including Buyer's failure to pay the purchase price for the product or any portion thereof. Buyer's subsequent compliance with the terms and conditions of any such contract, will not cause the term of the Warranty to extend beyond the time period set forth above.

(e) No actions taken by **Metropolitan** to correct a defect in a product shall extend the Warranty beyond the period set forth above. **Metropolitan** shall not be obligated to remedy any defect, where otherwise required pursuant to the Warranty unless and until Buyer notifies **Metropolitan** in writing of the defect and then only if such notification is made prior to the expiration of the period set forth above.

3. Process of Claims and Repairs. **Metropolitan** agrees that if the product or any part or component thereof shall fail to conform to the terms of this Warranty, **Metropolitan** shall replace such nonconforming product, part or component at the original point of delivery and furnish instruction for its disposition. Any transportation charges involved in such disposition and all costs of field labor or other charges incurred in the removal and/or reinstallation of any product, part or component thereof shall be the responsibility of Buyer.

4. Limitation on Liability. Notwithstanding any provision to the contrary, **Metropolitan's** entire liability under this Warranty shall not in the aggregate exceed, and Buyer's exclusive and sole remedies are, to the extent permitted by law, shall be to secure replacement of the defective product. **UNDER NO CIRCUMSTANCES SHALL METROPOLITAN BE LIABLE UNDER THE WARRANTY FOR ANY INDIRECT, PUNITIVE, SPECIAL, EXEMPLARY, CONSEQUENTIAL OR INCIDENTAL DAMAGES (INCLUDING LOST PROFITS, REVENUE, USE OR ECONOMIC ADVANTAGE).**

5. Express Waiver of Any Other Warranties. **THE EXPRESS WARRANTY SET FORTH IN THIS WRITTEN WARRANTY IS THE ONLY WARRANTY MADE BY METROPOLITAN, OR ANY OTHER PARTY, IN CONNECTION WITH ANY PRODUCT PURCHASED FROM METROPOLITAN. NEITHER METROPOLITAN, NOR ANY OTHER PARTY, MAKES ANY OTHER EXPRESS OR IMPLIED WARRANTY WHICH IS NOT SET FORTH HEREIN, AND METROPOLITAN HEREBY DISCLAIMS AND BUYER HEREBY WAIVES ALL IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.**

6. Not Transferable. The Warranty may not be transferred and shall be void on the sale or other transfer of the product.

7. Products and Warranty Subject to Change. **Metropolitan** reserves the right to make revisions to its products and their specifications, and to revise this Warranty and related information without notice.

Introduction

Thank you for purchasing an Ion Technologies BA Series sump pump. Take the time to read the instructions carefully before using this appliance. We strongly recommend that you keep this instruction manual in a safe place for future reference.

Check the nameplate for your pump's specification, refer to the table list.

Be careful not to exceed the given specifications in the use of your pump.

Marks & Meanings

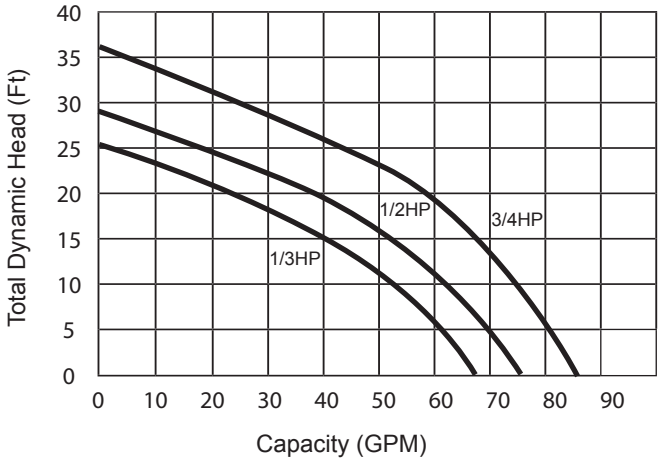
DANGER: Keep the pump equipment out of the reach of children! Warns that the failure to follow the directions given could cause serious risk to individuals or objects.

WARNING: This sign warns the operator that the failure to follow an instruction may damage the pump and/or the system.

Limitations

This pump series is suitable to pump water and also can be used both for permanent and temporary installation.

The pump can be placed in a sump pit that means it could pump rain water containing suspended solid particles no larger than ¼" in diameter.



Model	Output		Discharge (inch)	Rated		Maximum		Dimensions L x W x H	Weight (lbs)
	HP	Amp		Head (feet)	Flow (GPM)	Head	Flow		
BA33	1/3	4.5	1.5	10	50	0 GPM @ 25'	68 @ 0'	7-5/8 x 5-1/2 x 12-1/2"	16
BA50	1/2	5.8	2	10	61	0 GPM @ 29'	78 @ 0'	8-3/4 x 5-3/4 x 13-5/8"	24
BA75	3/4	7.5	2	10	74	0 GPM @ 37'	98 @ 0'	8-3/4 x 5-3/4 x 14-1/2"	25

Available Ion™ Switch, suffix i, or SPI switch, suffix spi, configurations. *Add 3-13/4" to width for Ion™ Switch.

WARNING: The pump can be used for sea water but not inflammable, corrosive, explosive or dangerous liquids.

Installation

Drill a 1/8" inch hole into PVC pipe 4 inches above the pumps discharge.

Do not work on pump until power is unplugged. Do not cut off ground pin or use an adapter fitting. Do not use an extension cord.

The pump power cord should be connected to a separately fused, grounded line with a minimum capacity of 15 amps.

It can be connected to non-fused breaker at the recommended amperes. Never touch the pump when it is connected to electrical power.

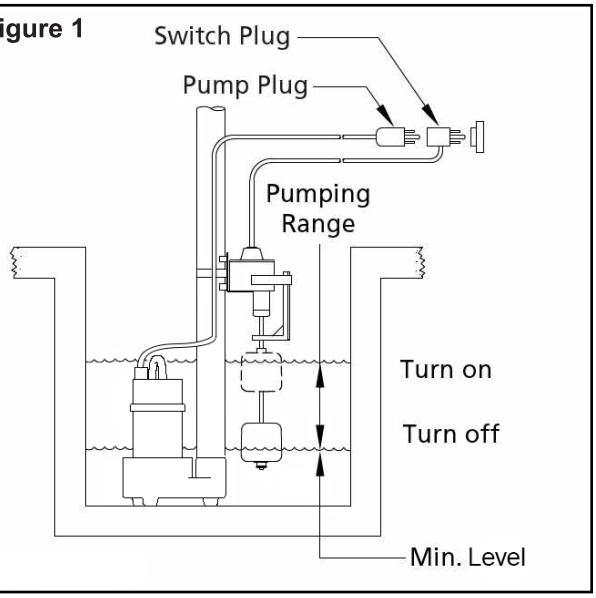
1. Before installing or servicing this pump, be certain pump power source is disconnected.
2. Installation and electrical wiring must adhere to state and local codes and must be completed before priming pump. Check appropriate community agencies or contact local electrical and pump professionals.
3. Call an electrician when in doubt. Pump should be connected to a separate 15 amps circuit breaker or 15 amp fuse block. Note that plugging into existing outlets may cause low voltage at motor, causing blown fuses, tripping of motor overload, or burned out motors.
4. A permanent ground connection from pump to the grounding bar at the service panel is mandatory, BA Series sump pumps come with a grounding conductor and a grounding-type attachment plug. Do not connect pump to a power supply until permanently grounded. For maximum safety, connect pump to a circuit equipped with a fault interrupter device when you position the pump's grounding wire.
5. Voltage of power supply must match the voltage of the pump.
6. Piping: Plastic PVC pipe could be installed in the outlet piping, but drain hose, galvanized steel or copper pipe may be used if desired. All piping must be clean and free of all foreign matter to prevent clogging. Use thread compound on all threaded joints unless specified otherwise. Be sure to seal the thread connection with tape when using the pipe fitting to connect the flange.
7. Before installing pump, clear sump basin of any water, debris or sediment.

WARNING: Sump basin must be vented in accordance with local plumbing codes. BA Series sump pumps are not designed for, and can not be installed in locations classified as hazardous.

8. Position vertical switch on discharge pipe, making sure that off level is not lower than minimum level. **See Figure 1.**

Note: If you purchased your pump with an Ion™ Digital Level Control switch, please refer to its manual for installation instructions.

Figure 1

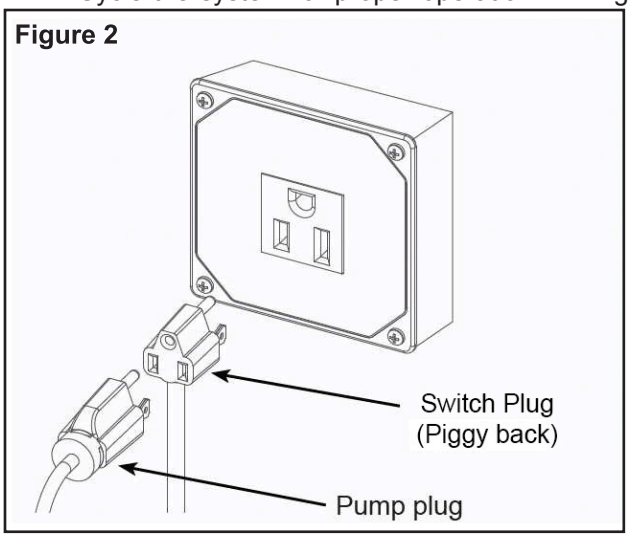


9. Tighten pipe clamp around pipe and through mounting bracket slots.
10. If needed, on and off stops on switch can be adjusted. **See Figure 1.**
11. Plug piggyback plug into a grounded outlet,

then plug pump into the piggyback plug. **See Figure 2.**

12. Cycle the system for proper operation. Filling the basin may require a bucket or garden hose to cycle. Make adjustments if needed and cycle system again to ensure proper operation.

Figure 2



13. Make sure that float is free and unobstructed.

14. Secure all excessive and loose cord to avoid future problems.

Electrical Wire Connection

DANGER: Before servicing a pump, always shut off the main power breaker and then unplug the pump. Make sure you are not standing in water and are wearing insulated protective sole shoes, under flooded conditions. Contact your local electric company or a qualified, licensed electrician for disconnecting electrical service prior to pump removal.

WARNING: Verify that the voltage and frequency of the pump shown on the nameplate correspond to those available on the mains.

1. The installer must make sure that the electric system is grounded in accordance with the law in force.

2. The plug and connections should be protected from water splashes. Before using the pump, always inspect it visually (especially power cable and plug).

3. Do not use the pump if it is damaged.

4. If the pump is damaged, have it inspected by an authorized service center only.

5. Make sure that electric connections are protected from inundation. Protect the plug and the power cable from heat, oil or sharp edges.

WARNING: The power cable must be replaced by qualified personnel only.

Grounding
The plug of the power cable has a double grounding contact, so that grounding can be performed by simply inserting the plug

Overload Protection:
This pump series has a built in thermal protection switch. The pump stops if an overload condition occurs. The motor restarts automatically after it has cooled down.

Troubleshooting

DANGER: Shut off power to pump.

A. If pump does not run and hums, check the following:

1. Check line circuit breaker is off, or fuse is burned or loose.

2. Check water level in sump has not reached turn-on level.

3. Check pump cord is not making contact in receptacle.

4. Check float is stuck. It should operate freely in basin.

5. Check if all of the above are OK, then the motor could be malfunctioning.

B. If pump runs but does not deliver water, check

the following:

1. Check valve is installed backwards. Arrow on valve should point in direction of flow.
2. Discharge shut-off valve (if used) may be closed.
3. Impeller or volute openings are fully or partially clogged. Remove pump and clean.
4. Pump is air-locked. Start and stop several times by plugging and unplugging cord. Check for clogged vent hole in pump case. Drill a 1/8 inch hole into PVC discharge pipe.
5. Inlet holes in pump base are clogged. Remove pump and clean the openings.
6. Vertical pumping distance is too high. Reduce distance or change the discharge fittings of the pump.

C. If pump runs and pumps out sump, but does not stop, check the following:

1. Float is stuck in up position. Be sure float operates freely in basin.
2. Defective float switch. Replace with float switch.
3. Defective vertical switch. Replace with vertical switch

D. If pump runs but only delivers a small amount of water, check the following:

1. Pump is air-locked. Start and stop several times by plugging and unplugging cord. Check for clogged vent hole in pump case. Drill a 1/8 inch hole into PVC discharge pipe.
2. Vertical pumping distance is too high. Reduce distance or change the discharge fitting of the pump. Inlet holes in pump base are clogged. Remove pump and clean the strainer and openings.
3. Impeller or volute openings are fully or partially clogged. Remove pump and clean.
4. Pump impeller is partially clogged, causing motor to run slow and overload Remove pump and clean.

E. If fuse blows or circuit breaker trips, check the following:

1. Pump impeller is partially clogged, causing motor to run slow and overload. Remove pump and clean.
2. Motor stator may be defective.
3. Fuse size or circuit breaker may be too small. (Must be 15 amps).
4. Impeller or volute opening are fully or partially clogged. Remove pump and clean

F. If motor runs for a short time then stops, check the following:

1. Inlet holes in pump base are clogged. Remove pump and clean the openings.
2. Pump impeller is partially clogged, causing motor to run slow and overload. Remove pump and clean.
3. Motor stator may be defective.
4. Impeller or volute openings are fully or partially clogged. Remove pump and clean also clean the strainer if you had installed.

Warranty VOID if...

The following may cause severe damage to pump and will void the warranty:

1. Using an extension cord.
2. Power cord has been cut or altered.
3. Cutting off the ground pin or using an adapter fitting.
4. Working on pump or switch while plugged in.
5. Removing motor housing, unscrewing impeller, or otherwise removing impeller seal
6. Running the pump continuously.
7. Pumping chemicals or corrosive liquids.
8. Pumping gasoline or other flammable liquids.
9. Removing cord tags.
10. Pump will be inadequate if suspension liquids contain solid particles larger than the strainer's holes.

Warranty Registration Card

Please fill out and send back to: Metropolitan Ind. Warranty Department P.O. Box 7266 Romeoville, IL 60446. Or to register online, go to www.sumpro.com

Ion Technologies BA Series Warranty Registration Card

To register your purchase, please fill in the following information:

Name: _____ Date: _____

Address: _____

City _____ State: _____ Zip: _____

Purchased From: _____

Installed By: _____ Phone: _____

Patent pending

Features

1. First of its kind, solid-state sensing technology with no moving parts.
2. Space age design with no mechanical contact points.
3. Multipoint sealing mechanism that supersedes single surface seals.
4. Inverter rated for use with any battery back-up system.
5. Standard piggy back connection for use with any pump.
6. Suitable for sump and sewage applications.

Pipe Mounting Bracket (optional)

1. Determine bracket mounting position (Figure A).
2. Mount bracket to Ion® switch with screw already provided in Ion® switch (Figure B).
3. Mount hose clamp with switch around pipe at predetermined level. Cable should remain outside hose clamp (Figure C).
4. Tighten hose clamp.

Note: The Ion® switch is available in a 6" range. The range of the switch is the distance between the On and Off levels. The Off level is at the bracket mounting screw of the switch. From this point, measure up 6" to find the On level. Please refer to the Installation Drawing.

CAUTION: Bottom of switch should not be mounted lower than suction inlet of pump. When installing the Ion® switch with the pipe mounted bracket be sure not to set the switch too low or too high on the pipe. The Ion® switch must be installed above the inlet of the pump to prevent air-locking as shown in the installation drawing.

To prevent flooding do not set the on point of the switch higher than the top of the basin.

Model	Cord	Range
IN-006-010	10	6
IN-006-020	20	6

Piggy-Back Installation

Electrical outlet must not be located in pump pit.

Electrical outlet voltage, piggy-back plug voltage and pump voltage must all be the same voltage.

DO NOT CUT plug off unit.

Ensure vent tube on plug is protected from moisture, dirt and insects and other items that could plug or block tube.

1. Insert the Ion® switch's piggy-back plug into the outlet.
2. Plug pump into piggy-back plug as (Figure E).
3. Allow system to cycle to ensure proper installation.

Please note this product may not work in conjunction with other controllers.

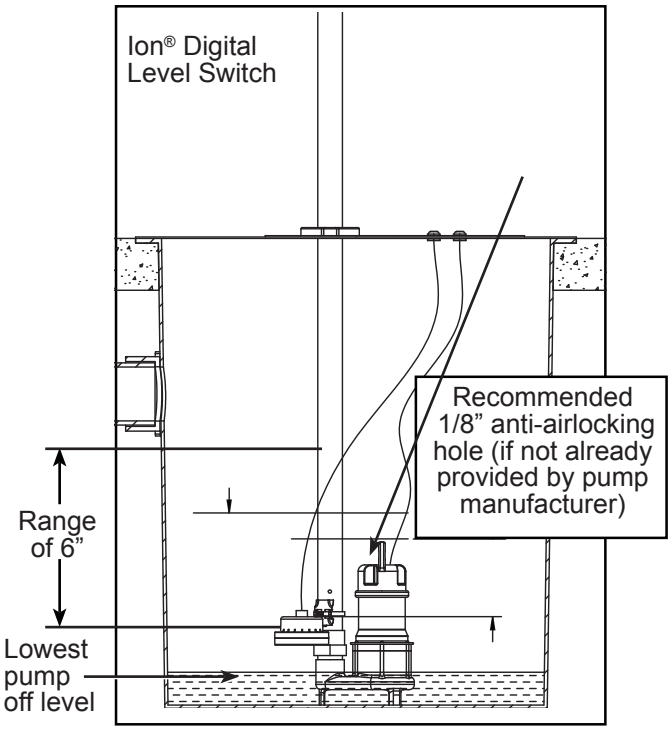
Safety Precautions

CAUTION: To prevent electric shock, ensure product is connected to a grounded outlet. The electrical outlet should be properly wired to a dedicated 15A circuit breaker. Proper short-circuit and overload protection must be provided at the distribution panel. Install in accordance with all local

and national electrical codes.

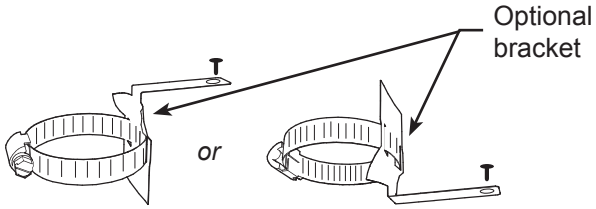
WARNING: Electrical outlet must not be located in pump pit. For best performance, do not use electrical extension cords.

Installation Drawing



BE SURE TO MOUNT THE ION SWITCH AT PROPER LEVEL.

FIGURE A



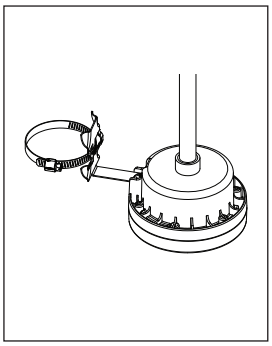


FIGURE C

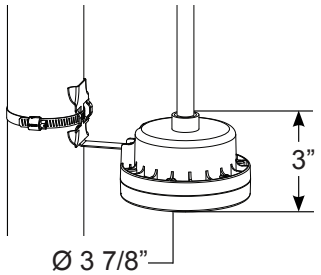
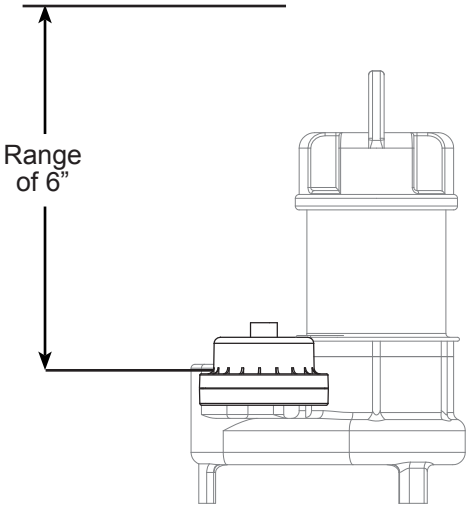
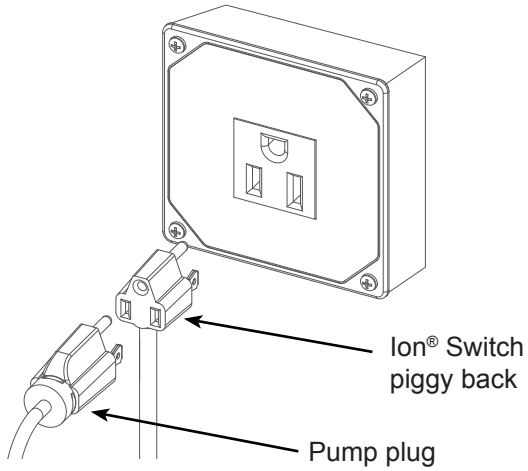


FIGURE D



NOTE: If you purchased a pump with the Ion switch hard-mounted to the pump **(Figure D)** and the installation requires the switch to be mounted to the pipe, the pipe-mount bracket is sold separately, PN: IN-SPB1-1.

FIGURE E



Troubleshooting

Switch Does Not Turn On Pump

1. Test the pump without the Ion® switch
    a. Plug the pump directly into the wall outlet, without plugging it into the switch plug.
    b. If pump still does not run, see the troubleshooting section in the pump manual.
    c. If the pump does run, continue to the next step.
2. Test the switch with the pump
    a. Plug the pump into the Ion® switch and plug the Ion switch plug into the wall.
    b. Push up on the sensing plate through the diaphragm surface. Please don't use any sharp object to push against the diaphragm. You may hear a small click sound when the pump is turned on.
    c. If the pump does not turn on, the switch will have to be replaced.
    d. If the pump does turn on, continue to the next step.
3. Verify the range of the switch
    a. The part number can be found on the switch cord tag.
        i. IN-006… = 6" range
    b. For a pipe-mounted switch, see Page 2, Installation Drawing to verify that the On level is appropriate for your basin.
        i. Lower the switch on the pipe so the On level is at a point within the basin, insuring that the Off level does not fall below the minimum level shown in the Installation Drawing.
        ii. If the On level is still too high, the switch will have to be replaced with a lower range Ion® switch.
    c. For a pump-mounted switch, see Page 2, Figure D to verify that the On level is appropriate for your basin.
        i. If the On level is too high, the switch will have to be replaced with a lower range Ion switch.

Switch Does Not Turn Off Pump

1. Unplug the pump from the Ion® plug and then unplug the Ion plug from the wall outlet.
2. Plug the pump back into the Ion® plug and plug the Ion plug back into the wall outlet.
    a. If the pump does not turn on right away, and the water level is not at the On level, let the pump go through an On / Off cycle a few times to insure that the switch is functioning properly. The basin may need to be filled with a garden hose or bucket.
    b. If the pump turns on right away, and the water level is not at the On level, the switch will have to be replaced.

Warranty is VOID if...

1. Using an extension cord.
2. Power cord has been cut or the grounding prong removed or using an adapter fitting.
3. The switch has been disassembled or tampered with.
4. Any tags or labels have been removed.
5. Used in a heavy grease application
6. Used in applications exceeding the designed temperature range of 32 - 104 degrees F.

Notes

Notes

Notes

3 Year Residential Warranty

1. Coverage and Term. Metropolitan Industries, Inc. ("**Metropolitan**") warrants to the original purchaser (the "Buyer") of each StormPro/Sumpro product (the "product"), that any part thereof which proves to be defective in material or workmanship within three (3) years from date of manufacture, will be replaced at no charge with a new or remanufactured part, F.O.B. factory. Buyer shall be responsible for all freight charges and all costs of field labor or other charges incurred in the removal and/or reinstallation of any product, part or component thereof.

2. Exclusions. **THE WARRANTY IS SUBJECT TO THE FOLLOWING CONDITIONS AND EXCLUSIONS:**

(a) The Warranty excludes products or workmanship which becomes defective as a result of: (i) earthquake, fire, storms, the elements or any other acts of God; (ii) normal wear and tear from use; (iii) accident, misuse, abuse or neglect; (iv) modifications made by Buyer or any third party, other than **Metropolitan**; and (v) Buyer's failure to properly install, maintain, service and/or operate the product under normal conditions and according to manufacturer's instructions.

(b) **Metropolitan** shall not be responsible for, and the Warranty shall not cover, extended damage which occurs because of Buyer's failure to notify **Metropolitan** promptly in writing of apparent defects.

(c) Any part or component designated as manufactured by anyone other than **Metropolitan** shall be covered only by the express warranty of the manufacturer thereof.

(d) The Warranty shall lapse upon Buyer's failure to fully comply with the terms and conditions of its contract with **Metropolitan**, including Buyer's failure to pay the purchase price for the product or any portion thereof. Buyer's subsequent compliance with the terms and conditions of any such contract, will not cause the term of the Warranty to extend beyond the time period set forth above.

(e) No actions taken by **Metropolitan** to correct a defect in a product shall extend the Warranty beyond the period set forth above. **Metropolitan** shall not be obligated to remedy any defect, where otherwise required pursuant to the Warranty unless and until Buyer notifies **Metropolitan** in writing of the defect and then only if such notification is made prior to the expiration of the period set forth above.

3. Process of Claims and Repairs. **Metropolitan** agrees that if the product or any part or component thereof shall fail to conform to the terms of this Warranty, **Metropolitan** shall replace such nonconforming product, part or component at the original point of delivery and furnish instruction for its disposition. Any transportation charges involved in such disposition and all costs of field labor or other charges incurred in the removal and/or reinstallation of any product, part or component thereof shall be the responsibility of Buyer.

4. Limitation on Liability. Notwithstanding any provision to the contrary, **Metropolitan's** entire liability under this Warranty shall not in the aggregate exceed, and Buyer's exclusive and sole remedies are, to the extent permitted by law, shall be to secure replacement of the defective product. **UNDER NO CIRCUMSTANCES SHALL METROPOLITAN BE LIABLE UNDER THE WARRANTY FOR ANY INDIRECT, PUNITIVE, SPECIAL, EXEMPLARY, CONSEQUENTIAL OR INCIDENTAL DAMAGES (INCLUDING LOST PROFITS, REVENUE, USE OR ECONOMIC ADVANTAGE).**

5. Express Waiver of Any Other Warranties. **THE EXPRESS WARRANTY SET FORTH IN THIS WRITTEN WARRANTY IS THE ONLY WARRANTY MADE BY METROPOLITAN, OR ANY OTHER PARTY, IN CONNECTION WITH ANY PRODUCT PURCHASED FROM METROPOLITAN. NEITHER METROPOLITAN, NOR ANY OTHER PARTY, MAKES ANY OTHER EXPRESS OR IMPLIED WARRANTY WHICH IS NOT SET FORTH HEREIN, AND METROPOLITAN HEREBY DISCLAIMS AND BUYER HEREBY WAIVES ALL IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.**

6. Not Transferable. The Warranty may not be transferred and shall be void on the sale or other transfer of the product.

7. Products and Warranty Subject to Change. **Metropolitan** reserves the right to make revisions to its products and their specifications, and to revise this Warranty and related information without notice.