



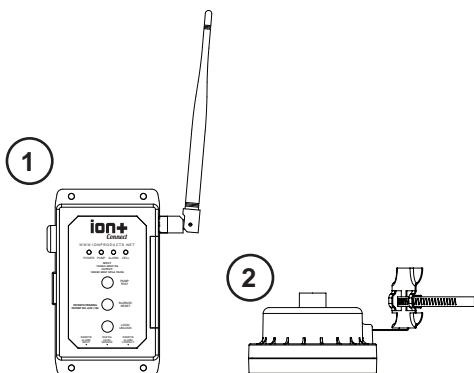
INTRODUCTION

The Ion+ Connect is a residential sump/sewage ejector pump controller equipped with the revolutionary Ion® level sensor and integrated cellular texting module. The device will run a manual pump up to 12 FLA, can sense up to 72" of water, has customizable start/stop/alarm levels, and provides alarm notifications via SMS text for alarms like high water, pump fail, power fail, and many more.

WHAT'S IN THE BOX

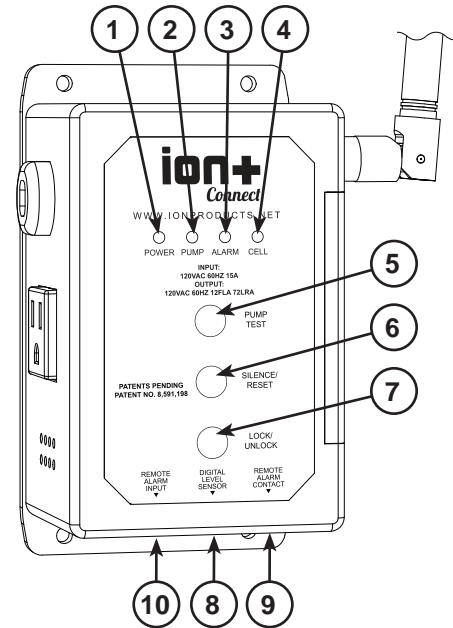
The Ion+ Connect comes with:

1. **Ion+ Connect**
Pump Controller equipped with 10' 115 VAC 15A cord
2. **Ion Sensor with pipe clamp**
Connects to Ion+ Connect to provide level signal



FEATURES

The following illustration describes the physical features of your Ion+ Connect.



1. **Power LED**
Indicates the power status of unit
Refer to the LED section for details
2. **Pump LED**
Indicates the pump status
Refer to the LED section for details
3. **Alarm LED**
Indicates alarm status
Refer to the LED section for details
4. **Cell LED**
Indicates cellular status
Refer to the LED section for details
5. **Pump Test**
Hold down button for 5 seconds to manually run pump
6. **Silence / Reset**
Momentarily push for Alarm Silence
Hold to reset unit
7. **Lock / Unlock**
Press for approximately 3 seconds to unlock unit to accept SMS/text configuration commands

Ion+® Connect

Digital Level Control Switch With Alarm

OPERATION MANUAL

Dated: 07/18/2017

Document Name: Ion+Connect_OM

Page 2 of 12

Press again after unlock to lock unit from accepting SMS/text configuration commands

8. Digital Water Level Sensor

Connection for Ion Sensor

9. Remote Alarm Contact

Normally closed, dry contacts via 6P2C (RJ14) jack

10. Remote Alarm Input

Aux alarm input connection via 6P2C (RJ14) jack

f. Plug pump and Ion Sensor into Ion+ Connect.

Note: The included Ion digital water level sensor has a 72" range. The range of the sensor is the distance between the pump on and off levels. The off level is at the bracket mounting screw of the sensor.



CAUTION: Bottom of sensor should not be mounted lower than suction inlet of pump. When installing the Ion sensor with the pipe mounted bracket be sure not to set the sensor too low or too

INSTALLATION

NOTE: IF YOU ARE INSTALLING THE ION+ CONNECT WITH AN EXISTING SUMPRO MODEL 75, PLEASE CONTACT MANUFACTURER FIRST.

1. Install Ion+ Connect and Ion Sensor

- Mount Ion+ Connect unit to wall with appropriate screws (not included).
- Determine bracket mounting orientation (Figure A).
- Mount bracket to Ion sensor with screw already provided in Ion sensor (Figure B).
- Mount hose clamp with switch around pipe at predetermined level. Cable should remain outside hose clamp (Figure C). Tighten hose clamp.
- Pull pump power cord and Ion sensor cord through pit lid.

FIGURE A

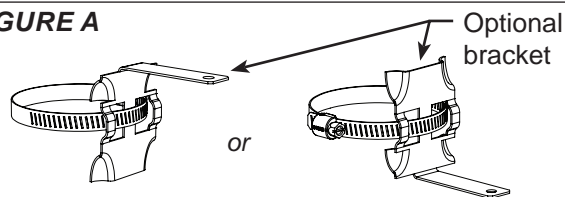


FIGURE B

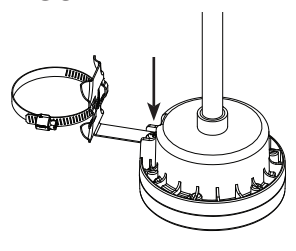


FIGURE C

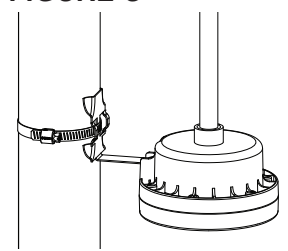
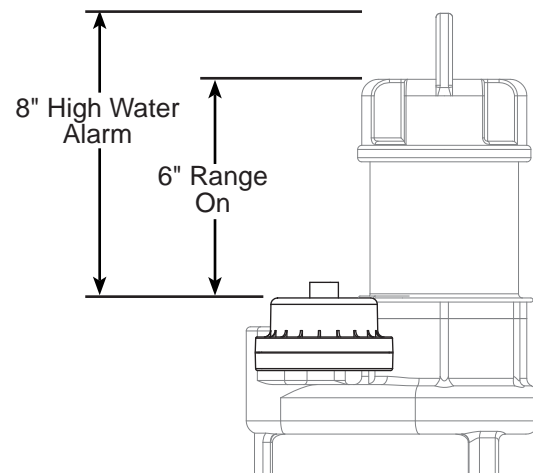
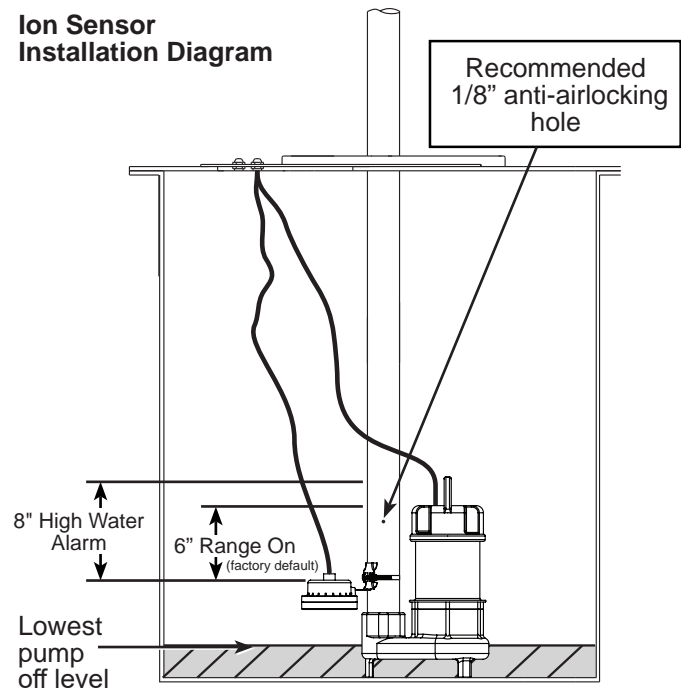


FIGURE D

Factory default settings
User adjustable up to 72"



**Ion Sensor
Installation Diagram**



Ion+® Connect

Digital Level Control Switch With Alarm

OPERATION MANUAL

Dated: 07/18/2017

Document Name: Ion+Connect_OM

Page 3 of 12

high on the pipe. The Ion sensor must be installed above the inlet of the pump to prevent air-locking as shown in the installation diagram.

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

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

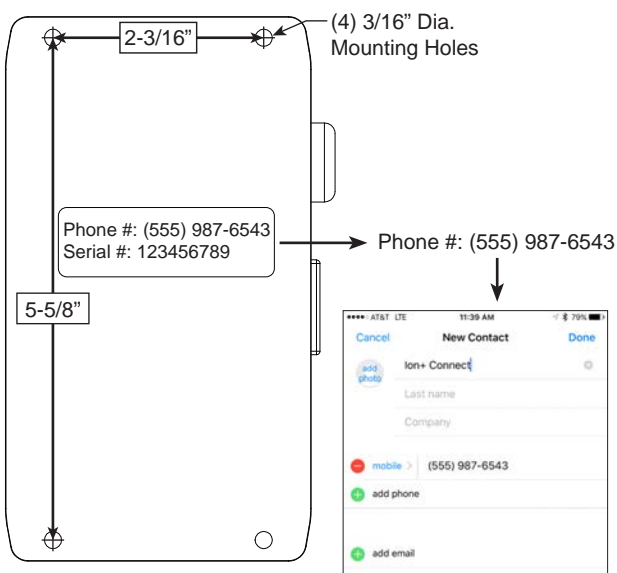
2. Setup Your Cell Phone

The Ion+ Connect has a phone number associated to it and its number should be added to your phone's contacts.

- Take note of the Ion+ Connect's phone number located on the housing.
- Add the phone number of your Ion+ Connect's to the contact list of your cell phone.

Refer to the user's manual of your cell phone for more details on how to add a new contact:

- Create a new contact.
- Enter a name for the contact such as "Ion+ Connect".
- Enter the phone number of the Ion+ Connect for the contact.



CONFIGURATION

NOTE: Do not install the lithium ion battery until the Ion+ Connect unit has been plugged into AC power and is powered on.

1. Power On, Configure, Test

Plug the Ion+ Connect into a dedicated AC outlet.

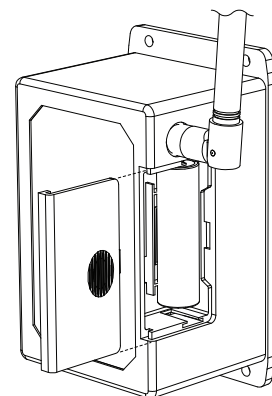
Once it is powered on, the Ion+ Connect will attempt to connect to the cellular network.

- Wait for the Cell light to turn solid green; this can take up to 1 minute.
- The Cell light may briefly turn red. If the Cell light turns red for more than 1 minute, refer to the Troubleshooting section of this manual.

2. Install Lithium Ion Battery

The Ion+ Connect comes with a rechargeable lithium ion battery to provide backup power in times of power loss in order to continue to send out alarm notifications and operate the beeper. **NOTE:** This battery will not run your pump.

- Remove the slide cover on right edge of unit.
- Install battery as shown, observing proper orientation/polarity (positive battery terminal/button toward top).



3. Unlock the Ion+ Connect

The Ion+ Connect must be unlocked each time before it will allow you to configure it via its Administrator Settings (see the Commands Summary section).

Ion+® Connect

Digital Level Control Switch With Alarm

OPERATION MANUAL

Dated: 07/18/2017

Document Name: Ion+Connect_OM

Page 4 of 12

- a. Press and hold the “Unlock/Lock” button for approximately 3 seconds until it beeps twice.
- b. The Cell LED will begin to blink red and amber.

NOTE: The Ion+ Connect will stay in configuration mode for up to 5 minutes, or until you press the “Unlock/Lock” button.

4. Configure Notification Phone Numbers

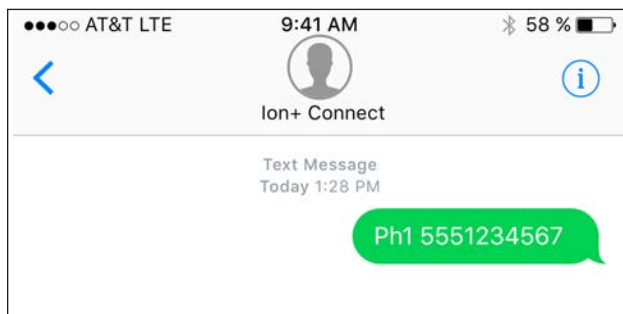
The Ion+ Connect will send notifications to up to 10 different phone numbers. The phone numbers are configured by sending the Ion+ Connect text messages from your cell phone. You must configure at least one phone number for text messaging notifications.

- a. Using your cell phone, compose a new text message to the Ion+ Connect contact added earlier.
- b. Send a text message to your Ion+ Connect formatted as follows:

Ph1 [Your Cell Phone Number]

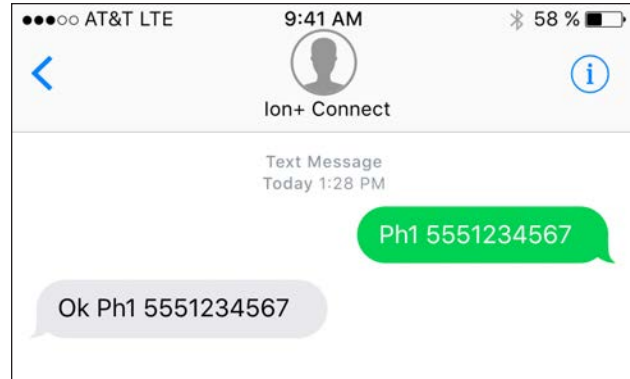
Example: Ph1 5551234567

NOTE: The phone number must be 10 digits long, which includes the area code.



- c. When the Ion+ Connect receives the message, it will respond with a text message confirming that the phone number was successfully added.

You should wait for the text message response on your phone before proceeding.



- d. Repeat these steps for up to nine other phone numbers:

Ph2 [Phone Number To Add]

Ph3 [Phone Number To Add]

Ph4 [Phone Number To Add]

Ph5 [Phone Number To Add]

Ph6 [Phone Number To Add]

Ph7 [Phone Number To Add]

Ph8 [Phone Number To Add]

Ph9 [Phone Number To Add]

Ph10 [Phone Number To Add]

NOTE: These commands must be individual text messages -- you cannot combine multiple commands in one text message.

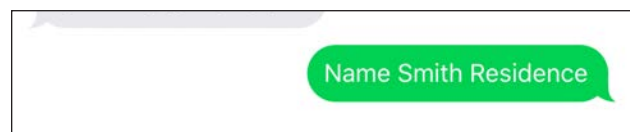
5. Configure the Name of Your Ion+ Connect

You can give your Ion+ Connect a name that it uses in the notification messages it sends.

- a. On your cell phone, compose a new text message to your Ion+ Connect’s phone number.
- b. Send a text message to your Ion+ Connect formatted as follows:

Name [Name]

Example: Name Smith Residence



Ion+® Connect

Digital Level Control Switch With Alarm

OPERATION MANUAL

Dated: 07/18/2017

Document Name: Ion+Connect_OM

Page 5 of 12

3. When the Ion+ Connect receives the message, it will respond with a text message confirming that the name was set.

You should wait for the text message response on your phone before proceeding.



6. Exit Configuration Mode

Configuration is complete, so you can exit configuration mode.

- a. Press the “Unlock/Lock” button.
- b. The Cell light will stop blinking red and amber.

TESTING YOUR ION+ CONNECT

1. Test Your Pump

You can test your Ion+ Connect at any time by pressing the “Pump Test” button.

- a. Holding Pump Test will manually run pump.
- b. Holding it for 3 seconds will send a notification to those in the list.

2. Test Your Ion Sensor

- a. Fill the sump pit with water.
- b. Confirm the water is pumped out of the pit. No alarms or text messages should be initiated.

3. Test Your Backup Battery

- a. Unplug the AC power adapter from the 120 VAC outlet.
- b. Once the Ion+ Connect detects that power was lost, each phone number you configured will receive a notification text message.



- c. Plug the AC power adapter back into the 120 VAC outlet.

NOTE: The backup battery requires approximately 6 hours to fully recharge. The battery has a lifespan of up to 3 years and should be replaced regularly.

4. Testing is Complete

- a. Your Ion+ Connect has been tested and is working properly.
- b. You should periodically perform these tests on the Ion+ Connect to ensure you are always protected.

COMMANDS SUMMARY

These are the commands accepted by the Ion+ Connect. Note that the commands under the Admin Settings section will only be accepted if the unit is first unlocked by holding the UNLOCK button on the faceplate until it beeps twice. To see the current numeric value of an administrator setting, unlock the unit, then send the command with a question mark at the end of it (e.g., *pump start?*).

| Command | Syntax | Description |
|------------------------------------|-------------------------|---|
| ph list | ph list | Responds with list on phone numbers in list |
| settings | settings | Responds with settings |
| status | status | Responds with status |
| pump test | pump test | Run pump test and send result SMS to the phone number which sent the command only |
| water | water | Responds with current water level in inches above sensor |
| temp | temp | Responds with room temperature in degrees Fahrenheit |
| batt | batt | Responds with Ion+ Connect's battery's voltage |
| ADMIN SETTINGS | | |
| name | name Wayne's Basement | Sets description of unit location |
| ph1 | ph1 7778889999 | Sets first phone number to notify |
| | ph1 clear | Clears phone number |
| Same as above for 10 phone numbers | | |
| alert mode | alert mode alert | Notifies all phone numbers at once - no acknowledgments |
| | alert mode dialer | Notifies phone numbers one at time - acknowledgements* |
| alert delay | alert delay 5 | In alert mode - Sets time in Minutes between sending alerts |
| | | In dialer mode - Sets time in Minutes before sending alert to next ph in list. Allows time for user acknowledgment. |
| alert suppress | alert suppress 12 | In dialer mode - Sets time in Hours to reactivate a previously acknowledged alarm that has yet to clear |
| | alert suppress 0 | In dialer mode - Disable suppression timer feature (acknowledged alarms stay acknowledged) |
| alarm delay | alarm delay 15 | Sets the time in Seconds that alarm must exist for before sending alert |
| pump start | pump start 6.0 | Sets the value in inches for level to start the pump running |
| pump stop | pump stop 2.0 | Sets the value in inches for level to stop the pump running |
| alarm current high | alarm current high 10 | Sets the value in Amps that will trigger pump fail alarm |
| alarm current low | alarm current low 1 | Sets the value in amps that will detect pump as being on or disconnected |
| alarm power restore | alarm power restore 30 | Sets the value in Secs for before power fail clears and power is deemed to be restored |
| alarm batt critical | alarm batt critical 3.5 | Sets the value in volts for critical low battery threshold (unit is about to die) |

*When the text alert mode is set to "dialer", simply replying to incoming alerts with a copy of the received alert will acknowledge it, silencing the alarm and preventing others from receiving the same text alert.

| Command | Syntax | Description |
|---------------------|---|---|
| alarm batt low | alarm batt low 3.9 | Sets the value in volts for low battery threshold |
| alarm level high | alarm level high 8 | Sets the value in inches for high level threshold |
| alarm level low | alarm level low 0 | Sets the value in inches for low level threshold |
| alarm temp low | alarm temp low 45 | Sets the Value in Fahrenheit for low temp alarm threshold |
| alarm temp high | alarm temp high 110 | Sets the Value in Fahrenheit for high temp alarm threshold |
| alarm comm attempt | alarm comm attempt 10 | Sets the value of attempts to make to cell provider before issuing alarm (LED) |
| alarm comm cloud | alarm comm cloud 10 | Sets the value of for number of ACKs missed from cloud before alarm (LED on device, alert from cloud) |
| alarm relay out | alarm relay out common (default) | Relay output based on common alarm |
| | alarm relay out run | Relay output based on pump running |
| | alarm relay out pump | Relay output based on pump fail |
| | alarm relay out level | Relay output based on level related alarm conditions |
| | alarm relay out temp | Relay output based on temp related alarm conditions |
| | alarm relay out batt | Relay output based on battery related alarm conditions |
| | alarm relay out power | Relay output based on power related alarm conditions |
| | alarm relay out loss | Relay output based on communication related alarm conditions |
| | alarm relay out unlock | Relay output based on device being unlocked |
| | alarm relay out input | Relay output based on remote input |
| | alarm relay out nc | Change relay output to normally closed |
| | alarm relay out no | Change relay output to normally open |
| alert en/dis | alert en common (default) | Enable / Disable common alert |
| | alert en run / alert dis run | Enable / Disable pump running |
| | alert en pump | Enable / Disable pump fails |
| | alert en level | Enable / Disable level alerts |
| | alert en temp | Enable / Disable temp alerts |
| | alert en batt | Enable / Disable battery alerts |
| | alert en power | Enable / Disable power alerts |
| | alert en unlock | Enable / Disable unlock alert |
| | alert en input | Enable / Disable remote input alerts |
| alarm relay in | alarm relay in no | Change remote input to normally open |
| | alarm relay in nc | Change remote input to normally closed |
| alarm relay in desc | alarm relay in desc Remote alarm is on | Changes description in SMS message related to alarm input |
| factory default | factory default | Set all settings to their factory default values |

LED EXPLANATIONS**Power LED**

| Condition | |
|-------------------------|--|
| Normal | |
| battery ok, AC ok | Solid GREEN |
| battery charging, AC ok | Blinking GREEN (1s on, 1s off) |
| Trigger alarm | |
| Loss of power | Blinking AMBER (0.1s on, 0.9s off) |
| battery low | Alternate blinking AMBER and RED (RED ON, GREEN 0.5s on, 1.5s off) |
| battery critically low | Blinking RED (0.1s on, 0.9s off) |

Pump LED

| Condition | |
|---------------|------------------------------------|
| Normal | |
| pump off | Off |
| pump on | Solid AMBER |
| Trigger alarm | |
| no pump | Blinking AMBER (0.5s on, 0.5s off) |
| pump fail | Blinking AMBER (1s on, 1s off) |

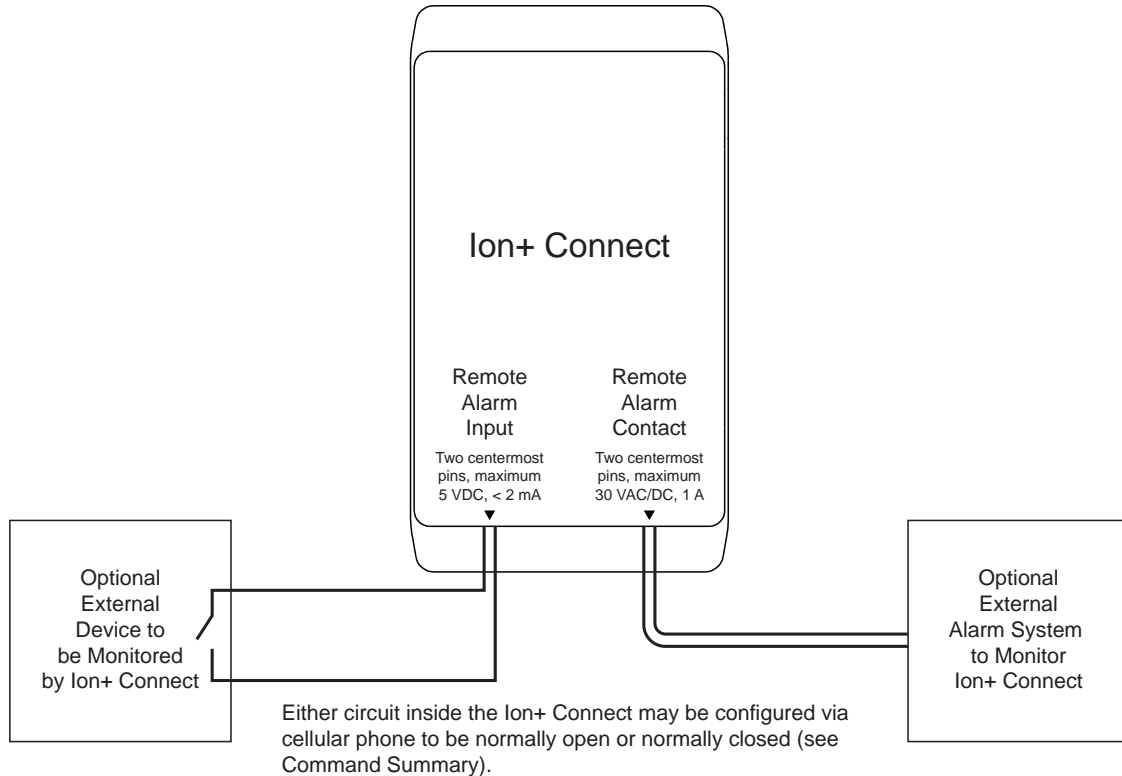
Alarm LED

| Condition | |
|-----------------|---|
| Normal | |
| no alarm | Off |
| Triggered alarm | |
| alarm | Fast-blinking RED (0.3s on, 0.3s off) w/ Buzzer |
| silence | Slow-blinking RED (1s on, 1s off) w/o Buzzer |

Buzzer interval same as fast-blinking RED (0.3s on, 0.3s off)

Cell LED

| Condition | |
|------------------------------|--|
| Normal | |
| locked, good signal strength | Solid GREEN |
| Triggered alarm | |
| locked, low signal strength | Solid AMBER |
| locked, not in network | Solid RED |
| unlocked | Alternate Blinking AMBER and RED (RED LED on, GREEN 1s on, 1s off) |

OPTIONAL EXTERNAL CONNECTIONS**15.21 INFORMATION TO USER**

Changes or modifications not expressly approved by Metropolitan Industries will void the user's authority to operate the equipment.

15.105 INFORMATION TO USER

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

1 Year Residential Warranty

1. Coverage and Term. Metropolitan Industries, Inc. (“**Metropolitan**”) warrants to the original purchaser (the “Buyer”) of each Ion Technologies product (the “product”), that any part thereof which proves to be defective in material or workmanship within one (1) year 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.